

**COUNTERTRADE AS A DEVELOPMENT TOOL – A COMPARATIVE
ANALYTICAL APPROACH**

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COUNTERTRADE AS A DEVELOPMENT TOOL – A COMPARATIVE ANALYTICAL APPROACH

By

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Co-Supervisor: Professor Geoffrey Wood.

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I dedicate this to my loving wife, Dolores, to my dearest children, Lizelle and Werner Visser, Johan and Francois van Dyk, my grandchildren Chenique and Logan Visser and my dear old mother, Sarie van Dyk.² Last but not least, to my cocker spaniel Jody who kept me company by lying faithfully at my feet during all those long, lonely hours of doing research and writing this thesis.

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In Memoriam

In fond memory of 'Madiba' - Nelson Rorihlahla Mandela, whom I had the privilege to have met in person. He died at the age of 95, on 5 December 2013. Exactly one year prior to the completion of this thesis at the University carrying his name.



'Respice, Adspice, Prospice - Omnia causa fiunt – DEO Volente'³

¹ Meaning: 'God be with you'

² Rest in Peace: My dearest beloved Mother died at the age of 78 on 22 January 2015, before the results of my thesis were known

³ Free translation: 'Considering the Past, the Present and the Future, everything happens for a reason - God willing'

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**TITLE OF PROJECT: THESIS ON ‘*COUNTERTRADE AS A DEVELOPMENT
TOOL – A COMPARATIVE ANALYTICAL APPROACH*’⁴**

DECLARATION:⁵

I, Johannes Jacobus van Dyk, hereby declare that this thesis is my own work and that it has not previously been submitted for assessment or completion of any post graduate qualification to another University or for another qualification.

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Abstract

This study explores the consequences of defence countertrade arrangements for national development based on the South African experience in comparative perspective. Although defence countertrade has been controversial in many contexts, it is concluded that it may play a positive developmental role. This is premised on the central role governments can play in ensuring that countertrade's role in national economic development – global pressures and neo-liberalism notwithstanding – remains an important tool through which active industrial policy may be pursued. This can include developing and maintaining a defence industrial base (DIB) in those countries that have such capabilities.

Countertrade occurs under two kinds of market conditions. The one is where there is a natural need for trading but it is constrained in some way, for example, by an absence of currency or an oversupply. Under these conditions countries can resort to bartering, which involves a commodity for commodity exchange and no money. The second market condition is one where countertrade is purposefully structured to secure reciprocal benefits as a condition of a commercial sales transaction - defence or civil in nature. This is referred to as leveraged procurement and manifests primarily as defence offsets involving the defence industrial base, which is the concern of this study.

Around 40 per cent of countries, including South Africa, use various purposely structured government procurement programmes when procuring goods and services abroad. These programmes apply the principle of reciprocity through the use of internationally accepted countertrade practices that manifest in many diverse ways. Although '*countertrade*' is the collective term, it is regularly referred to as '*offsets*'. Procurement leverage is used to secure some reciprocal benefit from the foreign seller (benefits sought vary from country to country). Countertrade-related practices occur widely despite the fact that the World Trade Organisation's (WTO) Agreement on Government Procurement (GPA⁶) rules out the use of offsets. Their use is viewed as a discriminatory procurement practice that interferes with free trade.

⁶cf. <http://www.wto.org/english/tratop_e/gproc_e/gp_gpa_e.htm> – although the WTO website refers to this as the 'Agreement on Government Procurement' – its acronym reads as the 'GPA'

However, the WTO allows for exceptions in the case of developing countries and also for national security and public health contracts. It is important to note that countertrade (and offset) practices, valued in billions of US Dollars, are applicable mostly to defence contracts, although becoming increasingly relevant in non-defence (i.e. civil) government procurements.

This research systematically interrogated and investigated issues surrounding the origins and subsequent popular and increased use of countertrade since the 1980s. The purported negative impact of defence-related offsets on the defence industrial base (i.e. the loss or gain of jobs, technology and market share) of both the exporting and receiving countries is of particular concern to the US government and the European Union (EU).

My exploratory mixed method research, together with practitioner (insider) and reflexive research approaches, culminated in a primarily descriptive, qualitative, analytical narrative. The research is further founded on structured survey questionnaires. These specific research approaches are known to be subjective and biased and I thus needed to take extra care to prevent emotive subjectivities, primarily through triangulating my findings against a variety of other views and arguments pertaining to the research question. This was done to provide for a holistic overview, and in consideration of the case study, in particular.

It must be noted that South Africa has two sets of industrial participation policies and practices. One is Defence Industrial Participation (DIP) managed exclusively by Armscor, South Africa's acquisition agency, which favours pursuing defence industry development objectives. The other is the National Industrial Participation Programme (NIPP), managed independently by the Department of Trade and Industry (DTI). The NIPP is primarily focused on the civil industry with a bias towards manufacturing, investments and exports. The DIP is the focus of the case study element of this research.

Since its inception in 1968, Armscor has been tasked with establishing a DIB. Until the late 1980s, this DIB made huge strides in developing unique defence equipment to cater for the harsh Southern African environment and its military operational

conditions. The DIB's development was enhanced further by the various UN embargoes imposed on the former South African apartheid government. Owing to these embargoes, Armscor dealt with all its defence imports (and exports) in a clandestine manner. Armscor was the only government entity that applied countertrade from around 1988 until 1996 when the DTI introduced NIPP. During the latter part of 1996, Armscor redrafted its countertrade policy with the new DIP policy approved in early 1997. This policy was applied during the biggest arms transaction in South Africa's history, namely, the Strategic Defence Package (SDP).

A DIP commitment of *circa* R15 billion resulted from the equipment bought under the SDP. This study investigated how the DIP manifested in practice from 2000 to 2012 within the DIB that involved numerous South African Defence Industry (SADI) entities. The study considered the DIB, its growth and decline, and to what extent the DIP assisted it to retain its capabilities and capacities, including the retention of jobs.

Hence, parts of the case study cover issues related to the South African military complex and the SDP's selection process. Subsequent investigations into alleged acts of misconduct and maladministration in the selection process, fraud and corruption are also covered, although not in detail, since this matter is *sub judice* the outcome of the 2011 presidential appointed Arms Procurement Commission (APC) of inquiry that is anticipating completing its investigations in 2015. Although there are many derivative views on the actual defence equipment needs of the South African National Defence Force (SANDF), the study did not endeavour to analyse these views in depth as they are adequately covered in the 1996 Defence Review. Similarly, there are views expressed that South Africa paid much more for its equipment compared with similar types of equipment bought by other countries. A cost comparative analysis was not performed as the exact configuration of each type of equipment can differ substantially due to the unique operational needs of the various defence forces – the exact configuration of such equipment is not in the public domain, since it is a sovereign security concern.

Despite many opposing views, it is concluded that DIP (also referred to as defence offsets) has worked for South Africa: in many ways the South African DIP practice compares favourably with internationally accepted best practices. The research's

postulation that countertrade can be used as a possible development mechanism is therefore supported by the findings of this study that showed that DIP had a positive retention impact on the DIB, and jobs, and made a positive contribution to Gross National Product (GNP⁷).

The study found that the 1997 DIP policy needed to be much better aligned with the broader strategic national industrial development aims and objectives, including better corroboration with the NIPP. In this respect critical inferences are made that the DIP policy primarily focused on the SADI and its capabilities, without considering its wider application in a broader industrial sense. However, in the context of the Armscor legal mandate (i.t.o. Act 57 of 1968) ensuring the establishment of a DIB in South Africa, the DIP policy was clear in its intent to specifically further the interests of only the SADI. However, the 2014 Defence Review recommends that the DIP policy should be much more focused and even prescriptive when considering specific strategic defence needs. Although DIP policy directives contain requirements for establishing strategic local capabilities and capacities that could adequately cater for logistic support, repair and maintenance of foreign produced defence equipment, this aspect was not well contracted in the 1999 SDP. There is also general consensus that foreign obligors should in future not be allowed the freedoms of choice evident in the SDP's DIP process, which resulted in numerous smaller companies not benefitting as was generally anticipated. Future defence contracts should not be signed without an appropriate DIP business plan. Hence, all indications are that the DIP regime in South Africa is set to become much more stringent in its application and subsequent discharge administration.

Key words:

contemporary development theory, world systems theory, neo-liberalism, military complex, economic rent, power elite, defence spending, leveraged procurement, international countertrade and offsets, reciprocity, SDP, DIP, evaluation, assessment, defence industrial base, arms deal, fraud and corruption.

⁷GNP is a measure of a country's economic performance, or what its citizens produced (i.e. goods and services) and whether they produced these items within its borders

I) Acronyms⁸

The reader's attention is drawn to the fact that although many of these acronyms are not used frequently in this thesis, they are used frequently across literature covering development theory, the military and defence industrial complex, defence acquisition and procurement, international trade and the countertrade and offsets discourse. It is thus a useful reference guide for other researchers, scholars and/or interested parties.

AAAC:	Armcor Acquisition Authorisation Committee
AAC:	Armaments Acquisition Council of the South African MoD
AASB:	Armaments Acquisition Steering Board
ACA (1):	American Countertrade Association
ACA (2):	Arms Control Association, USA ⁹
ACECO:	<i>Association pour la Compensation des Echanges Commerciaux</i> , Paris
AHRLAC:	Advanced High Performance Reconnaissance Light Aircraft
AICP:	Australian Industry Capability Programme, formerly known as the 'Australian Industry Involvement Programme (AIIP)'
AIIP:	The former Australian Industry Involvement Programme – now known as the AICP
AG:	Auditor General (of South Africa)
AGOA:	African Growth and Opportunity Act of 18 May 2000 ¹⁰
ANC:	African National Congress ¹¹
ANZCERTA:	The Australia and New Zealand Closer Economic Relations Treaty (including 'Closer Economic Partnership' (CEP))
AoS:	Arms of Service (i.e. the Army, Navy, Air Force and Medical Core of the SANDF)
APCA:	Asian Pacific Countertrade Association ¹² (Singapore-based)
APP:	Annual Performance Plan (used by all central and provincial government entities – South Africa)
ARMSCOR:	Armaments Corporation of South Africa Ltd ¹³

⁸It is accepted that there may be acronyms in use which have a different meaning than those covered in this thesis. The more commonly known ones were included

⁹The Arms Control Association, USA, founded in 1971, is a national nonpartisan membership organization dedicated to promoting public understanding of and support for effective arms control policies – www.armscontrol.org.

¹⁰The Act offers tangible benefits for African countries to continue efforts to open their economies and built free trade markets – managed by the International Trade Administration. cf. < <http://trade.gov/agoa/>...>

¹¹The ANC was formed on 8 January 1912 – cf. <www.anc.org.za/show.php?id=206>

¹²The Asia Pacific Countertrade Association Pte Ltd, formed in 1994, to represent and serve the countertrade, offsets and structured finance community in the Asia Pacific Region. It was decided unanimously to (a) dissolve the association following its 10th annual general meeting in 2003, (b) allow the privatisation of some of its activities and (c) keep alive the APCA brand name. The dissolution was formally completed in December 2004. cf. <<http://www.apca.net>>

¹³Armcor is the official defence equipment (matériel) and related services, acquisition and procurement, defence technology, research, and development agency of the Department of Defence (DOD), initially established in terms of the Armaments Development and Production Act, 1968 (Act No. 57 of 1968), as amended – the latter act was replaced by the Armaments Corporation of South Africa, Limited Act, 2003 (Act No. 51 of 2003). Armcor also occasionally attends to some of the

BBBEE:	Broad Based Black Economic Empowerment
BEE:	Black Economic Empowerment
BIS:	Bureau of Industry and Security (USA)
BOOT:	Build, Operate, Own and Transfer
BOT:	Build, Operate-Transfer
BLT:	Built, Lease and Transfer
BRICS:	The South African economic coalition with Brazil, Russia, India and China
CAAT:	Campaign against Arms Trade ¹⁴
C² / ³ / ⁴:	Command and control / plus communication / plus computer
C⁴I³RS:	Command, communication, computer, control, intelligence, information, infrastructure, reconnaissance and surveillance.
CDA:	The Coalition for Defence Alternatives ¹⁵
CEO:	Chief Executive Officer
CFE¹⁶:	<i>Comisión Federal de Electricidad</i> (Mexico's national electric company)
CMEA:	The Council for Mutual Economic Assistance (the former COMECON)
CoD:	Council of Defence (South Africa)
COMECON:	The Council for Mutual Economic Assistance formerly used by the East Bloc countries under auspices of the former USSR
COTS:	Commercial off-the-shelf
CSDP:	Competitive Supplier Development Programme ¹⁷ (South Africa)
DA:	Democratic Alliance (official political opposition party in South Africa)
DIP:	Defence Industrial Participation (South Africa)
DIOA:	Defense Industry Offset Association of America ¹⁸
DKF:	<i>Deutsches Kompensations Forum e.V.</i> (of Germany) ¹⁹
DMA:	Defence Manufacturer's Association (UK)
DOD:	Department of Defence
DTI:	Department of Trade and Industry (South Africa) – also ' <i>the dti</i> '

procurements for the South African Police Services. Act 51 of 2003 specifically covers Armscor's responsibility in respect of defence industrial participation

¹⁴The Campaign Against Arms Trade (**CAAT**) in the UK works to end the international arms trade. CAAT considers that security needs to be seen in much broader terms that are not dominated by military and arms company interests. A wider security policy would have the opportunity to reallocate resources according to actual threats and benefits, including addressing major causes of insecurity such as inequality and climate change - cf. <<http://www.caat.org.uk/about/...>>

¹⁵The CDA is creatively to challenge existing defence and military policies and to develop alternative pragmatic visions of security, based on a just distribution of national resources and an understanding of security in terms of human security instead of military security - cf. <<http://www.quacker.org/capetown?...>>

¹⁶Please note that the acronym '**CFE**' in terms of Armscor acquisition practices means 'Customer Furnished Equipment' – not covered in this thesis though – cf. Armscor VB1000/KB1000/A-POL-1000

¹⁷Please note that '**CSDP**' also stands for the Critical Skills Development Programme of the Department of Higher Education – not relevant to this thesis – cf. <<http://www.dhet.gov.za>>

¹⁸The **DIOA** is open to US defence companies only - The Genesis of the Defense[sic] Industry Offsets Association, or DIOA, occurred on July 22, 1982 when representatives of 12 U.S. Defense Contractors met at Hughes Aircraft in Torrance, California. The purpose of the meeting was to discuss and share information on how each company was organized for dealing with offset requirements of foreign governments. In 1985, the Defense Industry Offset Association (DIOA) was organized under a set of Articles of Association (Amended and approved on 23 March 2010) - cf. <<http://www.dioa.org/about.aspx>>

¹⁹*Deutsches Kompensations Forum e.V. (DKF)* – representing the most prominent German defence-related companies in all matters related to countertrade and offsets

DRI:	Defence-related Industry(ies) – this was (c. 2010) changed to SADI – South African Defence Industry, with some sources also referring to SADRI – South African Defence-related Industries
ECA:	Export Credit Agency
ECAAR:	Economists Allied for Arms Reduction ²⁰ (ECAAR-SA is the South African branch)
ECCO:	The European Club for Countertrade and Offsets ²¹
EEZ:	Economic Exclusion Zone
EDA:	European Defence Agency ²²
EDEM:	European Defence Equipment Market
EDIG:	European Defence Industry Group, Brussels, Belgium
EDTIB:	European Defence Technology and Industrial Base
EU:	European Union ²³
FDI:	Foreign direct investment
FWCC:	Friends World Committee for Consultation
HTTP(S):	Hyper Text Transfer Protocol (S = Secured) – [https://www... = World Wide Web] – it uses the ‘URL = Universal Resource Allocator’ which is the ‘name string’ of the website source
ITAR:	International Traffic in Arms Reduction (USA) ²⁴
G8:	Forum of governmental leaders of the eight largest and industrialized nations ²⁵
GATT:	General Agreement on Trade and Tariffs, replaced by WTO
GBADS:	Ground-based air defence systems project (of the SANDF)
GBP:	Great Britain Pounds
GDP:	Gross Domestic Product
GCC:	Gulf Cooperation Council
GCIS:	Government Communications and Information Services
GNP:	Gross National Product
GOCA:	Global Countertrade and Offset Association ²⁶ (US-based, but operating globally)

²⁰ECAAR – (at one stage the **Economists for Peace and Security (EPS)**) is a United Nations registered, New York-based NGO, which links economists interested in peace and security issues. Inspired by International Physicians for the Prevention of Nuclear War, it was founded in 1989 as Economists Against the Arms Race (**ECAAR**), before becoming Economists Allied for Arms Reduction (**ECAAR**) in 1993. As of 2007, ECAAR changed its name to Economists for Peace and Security (EPS). They represented a strong voice of opposition to President Bush’s war in Iraq. EPS promotes and disseminates research on global security issues. They propose arms reduction as a way of attaining world peace and security. During 2011, EPS decided to change its name back to the original name of ‘ECAAR’ - cf. <http://www.ecaar.org>

²¹The European Club for Countertrade and Offsets (**ECCO**) is an Association incorporated under French law, and established in July 2010, with the aim to bring those parties together who are involved in offsets, industrial participation, or countertrade activities - cf. <http://www.ecco.com>

²²The **EDA** supports the European Council and the Member States in their effort to improve the European Union’s defence capabilities - a critical task in these challenging times - cf. <http://www.eda.europa.eu/Aboutus>

²³The **EU** is a unique economic and political partnership between 27 European countries that together cover much of the continent. At first, from 1958, it operated as the European Economic Community (EEC), expanding its membership by 1993 and adopting the European Union as its name – cf. http://europa.eu/about-eu/basic-information/index_en.htm

²⁴**ITAR** = International Traffic in Arms Regulations – a set of US Government regulations controlling the import and export of all defence related products and technologies

²⁵**G8** - Forum of governmental leaders of eight large and industrialized nations. These eight nations are the USA, Japan, Germany, France, Britain, Italy, Canada, and the Russian Federation - cf. <http://en.wikipedia.org>

²⁶**GOCA**. Previously only a USA-based agency consisting of about 10 companies, then known as ACA (American Countertrade Association), today it is an internationally represented global entity with over 100 companies as members - cf. <http://www.globaloffset.org/>

GPA:	Agreement on Government Procurement of the WTO ²⁷
GSC:	German Submarine Consortium
ICA:	Industrial Cooperation Agency (of Israel)
ICSID:	International Centre for Settlement of Investment Disputes
ICT:	Information and communication technology
IFC:	The International Finance Corporation
IMF:	International Monetary Fund (IMF)
IP²⁸:	Industrial Participation
IRB²⁹:	Industrial and Regional Benefits Policy of Canada
ISS:	Institute for Strategic Studies (South Africa)
JVs:	Joint ventures
LCR:	London Countertrade Roundtable ³⁰
LDC:	Least developed country/ies
LEDC:	Lesser economic developed country(ies) ³¹
MEDC:	More economically developed country(ies)
MNC:	Multi-national companies
MNE:	Multi National Enterprises (becoming a more commonly used phrase over the traditional MNC)
MoD:	Ministry of Defence – it is sometimes also meant to mean the DOD (Department of Defence, depending on the context)
MRO:	Maintenance, repair and overhaul
NAFTA:	North American Free Trade Agreement
NIP(P):	National or Non-defence Industrial Participation (Programme) of South Africa
NMMU:	Nelson Mandela Metropolitan University, Port Elizabeth, South Africa
NPA:	National Prosecution Authority (of South Africa)
NORDAC:	Nordic Framework Agreement (between Norway, Sweden, Denmark and Finland)
NSAM:	National Social Accounting Matrix
OEM:	Original Equipment Manufacturer
OECD:	Organisation for Economic Co-operation and Development (Europe)
PFI:	Privately Financed Investment
PPP:	Public Private Partnerships
PPPFA:	Preferential Procurement Policy Framework Act, 2000 ³² (South Africa)

²⁷cf. < http://www.wto.org/english/tratop_e/gproc_e/gp_gpa_e.htm > - to note: the 'GPA' acronym not always corresponds with the naming convention of the 'Agreement on Government Procurement'

²⁸Please note that 'IP' could also mean Intellectual Property, but the latter is not dealt with in any detail in this research

²⁹Please note that 'IRB' also stands for the International Rugby Board – not applicable in this thesis

³⁰The London Countertrade Roundtable (LCR) established in 1988, as a focal point for all those involved in countertrade, offsets and related activities. Its main objective is 'to bring together companies and individuals engaged in the profession of countertrade in its broadest sense', and to promote co-operation, exchange of information, and opportunities for networking. The LCR also seeks to represent the interests of all those involved in countertrade, and of the industries in which it operates, to government and other peripheral but influential parties. It is run by an elected committee for the benefit of the membership and the profession. Meetings are normally held quarterly. The LCR is entirely self-financing, and has allegiances only to its members - cf. <<http://www.londoncountertrade.org/...>>

³¹It sometimes appears as if the terms LDC and LEDC are used interchangeably – for the purpose of this thesis I have used the term LEDC, as it is more relevant to this research

R&D:	Research and development
RDP:	Reconstruction and Development Plan/Programme (South Africa)
RFI:	Request for Information
RFO:	Request for Offer
RFP:	Request for Proposal
RFT:	Request for Tender
RFQ:	Request for Quotation
SADI:	South African Defence Industry
SAM:	Social Accounting Matrix
SANDF:	South African National Defence Force
SAP:	Structural Adjustment Programmes (World Bank)
SDI:	Spatial Development Initiatives (the DTI, South Africa)
SDP³³:	Strategic Defence Package (South Africa) ³⁴
SIPRI:	Stockholm International Peace Research Institute of Sweden
SOC:	State Owned Companies (South Africa) – formerly SOE
SOE:	State-owned Enterprises (from 2013, now SOC
SME:	Small and Medium Enterprises
SMME:	Small, Micro and Medium Enterprises
TEC:	Transitional Executive Council ³⁵
TFEU:	Treaty on the Functioning of the European Union
TNC³⁶:	Transnational Companies/corporations
ToT:	Transfer of Technology - sometimes also referred to as 'TT'
UAE:	United Arab Emirates
UAV:	Unmanned Aerial Vehicle
UK:	United Kingdom
UN:	United Nations (with a host of agencies and committees ³⁷)
US(A):	United States (of America)
USD:	Or US\$ or often just \$ - United States Dollar
USSR:	Former Union of Soviet Socialist Republics ³⁸
WTO:	World Trade Organisation
WWII:	World War Two

³² **PPPFA** stands for the Preferential Procurement Policy Framework Act., Act No 5 of 2000. It is applicable to all government entities. It provides for a preferential procurement practice based on a preference point system for BEE enterprises, which is applicable to government invited bids - cf. <http://www.environment.gov.za/sites/default/files/legislations/pppfa_guideline.pdf>

³³ **SDP** is also used by the Department of Public Enterprises in its Competitive Supplier Development Programme (**CSDP**), meaning 'Supplier Development Plan' - cf. <<http://www.dpe.gov.za>>

³⁴ Often referred to as the 'controversial the arms deal'

³⁵ The TEC was established in September 1993 to oversee the transition to the new democratic dispensation of South Africa in 1994 - cf. <<http://www.nelsonmandela.org/...>>

³⁶ A transnational company/corporation (TNC) is generally regarded as an enterprise comprising entities in more than one country which operate under a system of decision-making that permits coherent policies and a common strategy. The entities are so linked, by ownership or otherwise, that one or more of them may be able to exercise a significant influence over the others and, in particular, to share knowledge, resources and responsibilities with the others. For working purposes, the UN considers a 'transnational corporation' to be an entity controlling assets abroad – the modern term is MNE – multi-national enterprises

³⁷ cf. <<http://www.un.org/...>>

³⁸ Since 1991/92 known as the Commonwealth of Independent States (CIS)

II) Glossary:

- ❑ Adm = Admiral
- ❑ Adv = Advocate
- ❑ Brig Gen = Brigadier General
- ❑ *c.* = circa - around a given year, period, exact date uncertain)
- ❑ *cf.* = *confer* - compares information in quoted source
- ❑ dec = deceased
- ❑ e.g. = for example
- ❑ ed or eds = editor or editors
- ❑ *et al.* = and others
- ❑ *etc.* = etcetera - and other similar things (and so on)
- ❑ i.e. = (*id est*) - that is (to say)
- ❑ *ibid* = refer to the same source previously cited
- ❑ *in lieu* = in the place of
- ❑ *ipso facto* = by that very fact or act
- ❑ Lt Gen = Lieutenant General
- ❑ Maj Gen – Major General
- ❑ n.d. = no date of publication available/given
- ❑ par = paragraph
- ❑ *per se* = as per the accepted definition of the term used
- ❑ p or pp = page or pages
- ❑ ret = retired
- ❑ [*sic*] = acknowledging some incorrect statement or spelling error in quotations

III) Lexicon of terminology³⁹

The following lexicon of terms and words, as these may appear across this thesis is provided as a guideline and explanation to those not familiar with the professional and vocational jargon commonly used in countertrade, offsets and defence. Even

³⁹This **lexicon** was compiled from a selection of sources, such as, the Armscor's DIP policy and the DTI's NIP guidelines, Martin, Horwitz, Rowe, Treahan, Coetzer, Brennan, Armscor/DoD Acquisition policies VB1000; KB1000; A-POL-1000 and the CTO, UK quarterly country bulletin, AG's joint investigation report on the SDP, 2001. The only other 'lexicon' I could locate was the one compiled by Horwitz (1989) – it specifically addresses countertrade terms - it went out of print many years ago

today there are no clear, uniform definitions of countertrade, despite the fact that the matter has been in discussion since the 1980s (cf. Horwitz, 1989; Coetzer, 1995):

- **Additionality** - a concept that requires any countertrade-related discharge activities to be either new or in addition to (over and above) the levels of the same activities that existed prior to the obligor engaging the discharge process. Any activity that would have naturally occurred in the absence of a reciprocal agreement. This is to prevent obligors from claiming credits from continuing roll-over transactions from prior contracting the obligation, particularly in the case of exports.
- **Acquisition** - is typically associated with the purchase of major capital defence equipment, such as aircraft, ships, tanks and vehicles. Specifically applied by the SA DOD and Armscor (referred to as 'cardinal projects').
- **Arms of Service (AoS)** - in the case of South Africa – the '**AoS**' represent each organisational part of the SANDF – that is the army, navy, air force and medical core.
- **Barter** - a commodity-for-commodity exchange - no money is involved.
- **Beneficiary** - is the entity in the buyer's country that receives some benefit under a countertrade-related agreement, whether in the form of work, exports, training, technology or investment as a result of countertrade-related commitments accepted by foreign entities as a condition of the sale.
- **Best and final offer (BAFO)** - a tender tactic sometimes used by a customer/buyer country when a preferred supplier has been identified; then approached to seek price reductions and increased countertrade benefits. This provides a fall-back position to the buyer in the case of a breakdown in negotiations with the 'preferred' supplier.
- **Built, Operate and Own (BOO*)** - a foreign entity, under a countertrade agreement, builds a plant, operates it and being its owner.
- **Built, Operate and Transfer (BOT*)** - a foreign entity, under a countertrade agreement, builds a plant, operates it for an agreed period then transfers it to the buying government or its nominee.
- **Built, Operate, Lease and Transfer (BOLT*)** - a foreign entity, under a countertrade agreement, builds a plant, operates while leasing it for an agreed period, and then transfers it to the buying government or its nominee.
- **Built, Lease and Transfer (BLT⁴⁰)** - a foreign entity, under a countertrade agreement, builds a plant, while leasing it for an agreed period, and then transfers it to the buying government or its nominee.
- **'Causality' and 'instrumentality'** - commonly associated with the countertrade-related discharge process and sometimes used as synonyms. There is, however, a distinct difference between the two when it comes to the level of involvement of an obligated party in a countertrade transaction. One

⁴⁰These kinds of transactions (marked *) are NOT confined to countertrade only

can be instrumental in a given transaction by simply making a phone call, sending an e-mail or writing an introductory letter to such a transaction. In these instances, although one was instrumental, one has not necessarily 'effectively caused' such a transaction. Effective cause is seen as some degree of 'physical and direct' involvement of the obligor in any countertrade-related claimable transaction. It is the direct relation between action and reaction.

- ❑ **Credits** - a term used to indicate the successful discharge by an obligor of its contractual countertrade-related obligation; the earning of credits is measured against the level of the obligations being discharged (completed) and expressed in monetary terms (it's like paying of a debt).
- ❑ **Commitments** - refer to the contractually agreed to countertrade-related obligations the obligor needs to discharge within a given period (called the discharge period).
- ❑ **Compensation agreements** - similar in nature to industrial participation and cooperation (involving co-production, exports and technology transfers).
- ❑ **Competitive Supplier Development Programmes (CSDP)** - another secondary separate parallel process to NIP managed by South Africa's Department of Public Enterprises for use by some of their State Owned Companies (SOCs) - Transnet and Eskom particularly.
- ❑ **Cost of discharge** - the running operational expenses incurred by the discharging party (obligor) of its countertrade-related obligation. It includes the cost of bank guarantees. This cost normally does not qualify for claiming credits.
- ❑ **Countertrade** - an umbrella term referring to a large number of internationally accepted and established reciprocal trade and trade financing, commercial and business practices – including technology transfers.
- ❑ **Defence Industrial Participation (DIP)** - as practised by Armscor, South Africa - means defence industrial participation, which includes elements of both direct and indirect offsets involving a range of sub-set activities, but all with a dedicated focus on the DIB and the SADI in particular.
- ❑ **Direct offsets** - associated with direct work-sharing, technology transfer, training and investments directly related to the equipment purchased. It can be applicable to both civil and defence foreign procurement projects.
- ❑ **Discharge** - the process through which the obligation is worked off to zero by earning credits for activities performed under the countertrade agreement - the discharge period is prescribed in a contractual agreement covering the obligation.
- ❑ **Dual use** - refers to the application of technologies or production techniques, facilities and machinery to produce non-defence-related items in defence companies. For example, Denel (SOC) Ltd, South Africa, a SADI⁴¹ company

⁴¹Please note that SADI, was initially referred to in the White Paper on the South African Defence Industry of 1999, as the 'DRI' - that is the defence-related industry. This was changed around 2010 to the new acronym 'SADI' that means South African

will produce aircraft components for Boeing passenger aircraft and for fighter aircraft, or Pretoria Metal Pressings (PMP), a division of Denel, will produce brass strips for both ammunition manufacturing and the electrical component manufacturing industry, etcetera.

- **Force-design** - means the organisational structures for deploying military forces, and its associated equipment and operational doctrines.
- **Indirect offsets** - mean any other offset transactions and activities that are not directly related to the equipment bought. Internationally the latter is equivalent to the South Africa national industrial participation (NIP) element. South Africa is presently still the only country with a dual countertrade process with DIP (both direct and indirect) and NIP (lately focused on 'direct' too), as a separate process managed by the DTI.
- **Industrial cooperation** - a different name, but with the same objectives as industrial participation; the key word here is *cooperation*. A term used, for example, by Israel, with the process being managed by their Industrial Cooperation Agency (ICA).
- **Industrial participation** - a sub-set of countertrade under offsets, particularly involving a wide range of industrial activities, such as co-production, work-sharing, technology (including training), JVs, investments and exports, a term used, for example, in South Africa – for both defence and civil.
- **Input**-related activities, for example, would entail investments and technology transfers, improving skills and training in buyer country. Credits are awarded on either the output or the input models (or even in combination, e.g. South Africa, whereas a country such as the UAE used to grant primarily output credits).
- **Leverage** - the ability to deliberately influence a process - an advantageous condition where governments use foreign procurement to leverage various forms of benefits for its economy and industry.
- **Matériel** - means defence equipment used for or in defence operations.
- **Multipliers** - are used as a non-cash incentive to solicit sought after countertrade-related activities most prominent in technology transfers, by granting a higher credit than the actual monetary value of the transaction.
- **National Industrial Participation (NIP)** - as practiced by the DTI, South Africa, means non-defence industrial participation covering a significant number of diverse countertrade elements, but focusing particularly on downstream manufacturing (value-add), and the advancement of specific sectors, for example, tourism, film and education (training) – since 2013, NIP's focus is on the core business of the obligor (now referred to as 'direct NIP'). Not to be confused with DIP, which often happens as both are referred to as offsets which may create the impression they are synonymous, which is not the case as each have a different set of industrial developmental objectives. DIP is managed separately by Armscor.

Defence Industry. For consistency I have standardised on the use of SADI, although in the time-dimension context covered in this study, it could have meant the 'DRI' – cf. <<http://www.amd.org.za>>

- ❑ **Obligation** - the countertrade-related obligation resulting from a sales transaction between a buyer country and a foreign supplier.
- ❑ **Obligor** - the party having attracted a countertrade obligation under a sales contract with a foreign country - the obligor is also known as the seller, supplier or vendor.
- ❑ **Off-set** - initially a financial accounting term meaning the discounting of one amount or transaction against another. Nowadays more broadly used to explain how certain transactions or activities are used to 'off-set' another.
- ❑ **Offsets** - a sub-set of activities under the umbrella term of countertrade - normally associated with defence transactions where the seller is required to perform certain reciprocal activities in the buyer's country, that is, through work-sharing, co-production, investments, counter-purchase, technology transfers, etcetera. Offsets are as applicable to government procurements of civil goods (for example passenger aircrafts, sea fearing vessels, nuclear power stations, etc.).
- ❑ **Output** - is primarily concerned with the actual results, outcomes or achievements of the objectives of countertrade-related activities. Countertrade and offsets practising countries focus on the retention and creation of capabilities and capacities in primarily the defence-related industry. They, simultaneously, endeavour to secure a place for their industry in the global supply chain race (exports).
- ❑ **Partnerships for development** - the same as industrial participation, but the focus is on *partnerships* being established between the seller and buyer country industries. A term used, for example, in Oman.
- ❑ **Procurement** - is normally associated with the day-to-day purchase of lower end valued equipment, products, components, spares and support services. Again there is an international tendency to use the two terms *procurement* and *acquisition* as synonyms. Armscor and the DOD prefer using 'acquisition' when large (multi-million rand) transactions (called cardinal projects) are involved, such as the strategic defence package (SDP). Government procurement also includes non-defence equipment, products and services.
- ❑ **Reciprocity** - is the process of giving and taking or receiving for a mutual benefit, that is a cooperative exchange of actions.
- ❑ **Trillion** - in figures that equals 15 digits (e.g. '999 000 000 000 000').

CHAPTER ONE: AN INTRODUCTION TO THE RESEARCH SUBJECT

1.1 Introduction

This study considers whether and how countertrade and particularly defence offsets, may serve national development objectives in theory and practice.

It is a study of the developmental consequences of defence countertrade transactions for national economic development. It draws primarily on the defence industrial participation case of South Africa, but places it in an internationally comparative context. Between 1997 and 2009, the author actively participated in South Africa's Strategic Defence Package (SDP) process, particularly the defence industrial participation (DIP) that stemmed from it.⁴²

This study used the mixed research approach that specifically includes, firstly, *action research*, secondly, *practitioner research*, thirdly, *insider research* and fourthly *reflexivity research* - all in relation to my in-depth contextual knowledge and understanding of SADI and the DIP case study (from 1996 to the present). Quantitative data was used for substantiation. The thesis content is furthermore premised on research stemming from the analysis of primary documents, secondary sources, selective interviews and structured survey questionnaires. Triangulation was used to overcome subjectivity.

The chronological argument of this study considers contemporary development thinking, specifically the state's role in developing its industrial base through leveraged procurement that can manifest in various forms of countertrade. Although there is a considerable body of literature that suggests that the state has a central role to play in mediating the activities of firms and other social actors, and hence in securing national development, in the current neo-liberal age, the policy tools the state has at its disposal are constrained. Yet defence is one area where the state retains considerable policy leeway: even in highly liberal markets a large number of states are very active in promoting and securing national defence industries and military industrial complexes (Wood and Wright, n.d.). Hence, it could be argued that countertrade-related arrangements have the potential to make a meaningful

⁴² The former CEO of Armscor, H.S. Thomo, in the Armscor Annual Report of 1999/2000 (p13) stated: 'In particular, I would like to thank Mr Johan van Dyk of Armscor and his team for the excellent work they have done on the Defence Industrial Participation Programme.' I also received in 2000, the Armscor's Chairman's Award for this on the commendation of AMD

contribution to national economic growth, although the extent to which this is realized in practice remains debatable. This study seeks to provide fresh insights and evidence that point to some meaningful contribution to national economic growth as a result of defence spending that invokes leveraged reciprocal trade activities (*cf.* Balakrishnan, 2007; Taylor, 2011; Yülek and Taylor, 2012).

Countertrade is a collective noun, but it has a very divergent use, as explained in detail below (section 1.4, and in chapters 2 and 4). There are many forms of countertrade: this study concentrates on defence offsets, although offsets also feature in high value civil transactions across many countries. Offsets use reciprocal leverages to seek benefits for the domestic defence industry and in some instances, also the civil industry in return for weapons, or high value civil purchases (e.g. passenger aircraft) from abroad.

It can be argued that few countries have developed without active government involvement. Policy tools in recent years have included the selective use of government procurement to promote production and to advance, for example, the acquisition of technology (*cf.* Eliasson, 2010; Carson, 2011; Yülek and Taylor, 2012). Governments make use of a variety of mechanisms to enhance their industries' roles internationally, and expand their exports through using incentives. Bilateral and regional trade agreements (WTO, 2012), localisation demands, and mandatory countertrade requirements also play a role (Eliasson, 2010).

Stated differently, government's involvement in countertrade⁴³ is a given (Eliasson, 2010; Taylor, 2011; Watermeyer, 2012). In many instances, government provides a clear directive to the seller concerning what is required. In the South African countertrade programme, DIP is highly prescriptive⁴⁴ about what types of activities are sought and what will qualify for credit⁴⁵ (*cf.* Balakrishnan, 2007; Burger, 2014; De Beer, 2014). Prescriptive in this instance particularly refers to Armscor's expectation that the potential supplier should propose a combination of DIP activities in the form of work share on the equipment (co-production), technology transfer (including

⁴³The quarterly country bulletin issued by Countertrade & Offsets (CTO) in the UK - CTO is the only international publication that contains a comprehensive factual account of 80 plus countries' countertrade and offset policies and their practices and guidelines relevant to the subject matter of countertrade. There were numerous reports on the South African DIP (and NIP) in this international countertrade and offsets bi-weekly publication – accessed and used over the period 2000 till 2014

⁴⁴*cf.* Armscor's DIP Policy A-POL-6100 of 1997, was replaced by A-POL-6000, in 2002. A-POL-6100 (of 1997) replaced the former countertrade policy of Armscor referenced KP008

⁴⁵*cf.* Lexicon – section III

training), investments (capital infrastructure improvement, equipment, tooling, test benches, etc.) and the export of defence products (*cf.* Appendices B and D).

Considering the role of countertrade and offsets in the case of South Africa, there are two distinct parallel countertrade-related processes - together referred to as industrial participation. Industrial participation is one of many forms of international countertrade practices commonly applied across some 80 countries – it falls into the sub-category of ‘offsets’. In South Africa, the one process, DIP, is the sole independent responsibility of Armscor⁴⁶ and is managed in favour of leveraging benefits exclusively for SADI. The other process entails National Industrial Participation (NIP), which is the sole independent responsibility of the Department of Trade and Industry (DTI). Parliament sanctioned the NIP guideline policy in 1996 and subsequently (in 1997), it was approved by Cabinet.⁴⁷ This enabled the DTI to use state procurement leverages to negotiate civil industry benefits. The NIP programme’s primary focus is foreign direct investments and downstream value adding manufacture of export goods (NIP guidelines were revised in 2008 and 2013). Both programmes (DIP and NIP) are often erroneously conflated and collectively referred to as ‘offsets’, which may create the impression that they are synonymous. They are not, as both programmes have specific focus areas of application – DIP focuses on SADI and NIP on the civil industry.

This study specifically reflects upon the SADI, the 1999 SDP and the magnitude of the 1997 revised DIP process (as discussed in detail in chapter 9). The 1997 DIP process was ‘re-designed’⁴⁸ (during 1996) to provide a revised policy base for the use of leveraged procurement to render levels of reciprocal benefits to the SADI specifically. The extent to which this was achieved is of particular interest in this study. The 1997 DIP policy was subsequently revised by Armscor (after I left in 2001) on a few occasions; the most recent revision occurred in 2012. The study, however, focuses on the 1997 version in depth, its implementation and application in the 1999 SDP process.

⁴⁶Mandated to do so in terms of Act 51 of 2003

⁴⁷The 1996/7 DTI NIP Guidelines - revised in 2008 and 2013 – *cf.* <<http://www.thedti.gov.ca>>

⁴⁸The word ‘re-designed’ must be read in the context of the fact that Armscor had been practicing a wide range of countertrade activities since the late 1980s – the 1996 DTI NIP policy caused Armscor to revise its old practices that included NIP elements, and thereafter focused all future DIP on SADI exclusively

1.2 Thesis Structure and Researched Content

Chapter one consists of an *introduction* and an overview of the research, and alludes to possible correlations between countertrade and development. The study addresses the complexities of the international countertrade phenomena (not only defence) and its array of specific terminologies, particularly offsets. More specifically, it introduces the SDP transaction of 1999 and the DIP that stemmed from it. The latter is discussed in detail in chapters eight to ten. The chapter first traces the history of South Africa's defence industrial structure from the Anglo Boer War, and its subsequent development under British rule, and highlights the role it played in World War I and II. It considers its further development in the light of the international response to apartheid and the imposition of several UN embargoes against South Africa. From the mid-1960s, the South African government developed and established a sizeable defence industrial base (DIB) in terms of capability, capacity, turn over and exports. The DIB's decline⁴⁹ since the late 1980s is discussed in chapter seven.

Chapter two provides a review of the existing *literature* covering contemporary development theory, primarily focusing on the state's role, globalisation, neo-liberalism, Wallerstein's world systems theory, the periphery and the dependency theory paradigms (Korten, 1990), the role of technology and of multi-national enterprises (MNEs) in context, the debate around the military complex and defence spending in relation to economic rent seeking, the emergence of countertrade as a global phenomenon, the SDP of 1999 and specifically, the DIP. This chapter covers the role and limits of the state as a development agent, and investigates why the state may have a very prominent role in promoting industrial development. Countertrade is introduced as a form of state directed or facilitated development. In addition, countertrade and offsets phenomena are considered. Some proponents of dependency theory (*cf.* Albow and King, 1990; Taylor and MacKenzie, 1992) assert that Least Economically Developed Countries (LEDCs – i.e. 'the periphery') will always remain less developed because the surplus they produce will be siphoned off by Most Economically Developed Countries (MEDCs – i.e. 'the core') under the guise of multinational corporations (*cf.* Edigheji, 2010). Thus there is no profit left for reinvestment and development and LEDCs are in effect being 'ripped-off' without realizing it (dependency theory). Countertrade practices - both proponent and

⁴⁹ Some sources refer to a 'demise' of the DIB, which is incorrect as the DIB only decreased in size and output but did not disappear altogether

opponent views - are examined and explained in context. The existing literature on the South African defence industrial participation process (i.e. DIP) is reviewed.

Chapter three provides the *methodology* and *research* process that was followed in the study. The thesis embraces the paradigms of social research through a mixed methods approach. Chapter three explains in context the use of the mixed research approach (cf. Johnson, *et al.*, 2007) that specifically included, firstly, *action research* (cf. McNiff and Whitehead, 2011) since I personally did the work covered in the broader South African case study for this thesis (1980 to 2011/12), supported by in-depth knowledge of the South African Defence Industry (SADI); secondly, *practitioner research* (cf. Cochrane-Smith and Lytle, 2009) since I practiced many of the countertrade principles covered in chapter four dealing with the broader spectrum of countertrade and specifically the DIP case study (1996 to 2009); thirdly, *insider research* (cf. Drake and Heath, 2011) as I was employed by Armscor (1980 to 2001), and during 1996/97, responsible for drafting the DIP policy, and during 1998/99, applying the DIP policy to the SDP, evaluating, negotiating and contracting DIP obligations. I subsequently worked at Denel, part of SADI, where I monitored the SDP's DIP activities manifesting in SADI (Denel in particular) and was also exposed to various international countertrade and offsets practices and requirements – part of Denel's defence export business (2001-2009). The fourth approach was *reflexivity research* (cf. Alvesson and Sköldberg, 2009) in relation to my in-depth contextual knowledge and understanding of SADI and the DIP case study (from 1996 to the present). Quantitative data was used for substantiation. Careful attention was given to the limitations of these research approaches that point to a high degree of possible subjectivity and bias (I explain in context what steps I took to overcome them).

Chapter four addresses *international countertrade practices* and their application, and a variety of well-developed trade, commercial and business processes. The most prominent forms of countertrade are analysed, and complemented by descriptive text explaining various transactional flow diagrammes and processes. The purpose is not to make any specific pronouncements on the wide variety of countertrade activities. Rather, this analysis aims to provide contextual insights into the complexity of this internationally reciprocal activity. Secondly, it is useful - particularly for the layman - to understand transaction flows against the backdrop of the DIP example of an activity flow analysis (provided in chapter nine). A comparative table (cf. Appendix A) summarises the countertrade and offset policies and practices of approximately 80

countries, which also serves as a benchmark for the South African DIP process in relation to its threshold, discharge, penalties and types of activities. Additional supporting information is provided in Appendices B to H.

Chapter five provides a comprehensive statistical analysis of the *magnitude and quantum of countertrade deals* and *defence spending* measured against statistics of the Stockholm International Peace Research Institute (SIPRI, 2013) and World Trade Organisation (WTO, 2012), and the US, since it is the biggest defence spender and arms exporter (SIPRI, 2013; US, 2013). This is useful to quantify the scope and magnitude of countertrade and defence offsets deals involved in international trade transactions, particularly defence procurement. In the context of particular defence offsets, the chapter discusses divergent views on the military industrial complex, defence spending and the economic rent debate around alternative best uses of defence spending. This chapter also contains a compendium of international arms control initiatives and regimes that demonstrate that the arms trade is everything but an uncontrolled, non-monitored international trade activity.

Chapter six is devoted to *technology*. Technology plays a major role in both development theory and the countertrade and offsets (whether civil or defence) discourse. The chapter includes a summary of the various technology focus areas used by those countries applying countertrade principles. The role that technology plays in offsets and industrial development is considered. Hence the general problem related to the absorptive capacities of countries to assimilate offsets technologies is discussed in context. The chapter also provides insight into the use of multipliers when evaluating and assessing technologies. South Africa's practice concerning technology transfer activities in the case of its DIP programme is also explored in context.

Chapter seven is an overview of the *South African military industrial complex*. The review also covers South Africa's defence industrial decline as a result of the country's 1994 democratisation with the ANC taking power. From the late 1980s to the late 1990s there were no major defence procurement activities (Cilliers, 1998),⁵⁰ and the local defence industry shrank from '*shark to minnow*.'⁵¹ Despite this decline, the SADI today is still ranked the 17th largest exporter of armaments (SIPRI, 2013).

⁵⁰cf. Executive Director of the South African Institute for Security Studies - ISS (Dr Jacobus Kamfer (Jackie) Cilliers) - cf. <<http://www.iss.org.za>>

⁵¹As per the reports of Leon Engelbrecht, a leading South African defence analyst and editor of defenceWeb, who passed away on Friday, 28 September 2012 - cf. <<http://www.defenceWeb.co.za>>

The 1999 SDP provided a much needed life-line for the SADI (Dunne and Haines, 2002:13). This chapter highlights how the SDP's DIP process resulted in a multitude of mergers and acquisitions between SADI and European defence companies, providing homage to the late Minister of Defence, Joe Modise's visionary approach when deciding the SDP route (as explained in chapter eight).

Chapter eight reflects in more detail on the scope of the 1999 SDP. This chapter explains how the SDP came to inception, its tendering process and how subsequent selections and respective evaluations were carried out. It also explains how the SDP's approval, up to contract signature, was dealt with. There have been numerous allegations of maladministration in the foregoing process followed by a range of allegations of fraud and corruption - this study also considers their significance. Although not in depth, particular attention has been given to the proceedings of the 2011 presidentially appointed Arms Procurement Commission (APC) of Inquiry under Judge W. Sereti. The APC for the first time caused numerous official government documents (some classified as 'SECRET') to come into the public domain. These documents were previously obscured from public scrutiny. The study followed the APC proceedings until the second week of November 2014. The APC will continue its investigations well into 2015. This chapter assesses the content of the revised⁵² Defence Review, approved by Cabinet in March 2014. This 2014 Review provides a fresh approach to South Africa's defence requirements with proposed changes to defence acquisition, increased GDP allocations to defence and a re-alignment of the DIP process with national industrial development strategies. The chapter provides the context for the information and arguments covered in the ensuing chapters nine and ten.

Chapter nine is an analysis and review of the *South African DIP policy of 1997* applied during the SDP process of 1999. The chapter describes and explains the South African DIP policy in the context of Armscor (in terms of Act 57 of 1968) and the Department of Defence's (DOD, in terms of the 1996 Defence Review) development objectives for the SADI. The chapter explains the rationale of the time that guided the drafting of the DIP policy. This chapter specifically interrogates how the aims and objectives of the 1997 policy were met, weighed against several opposing views that claim the contrary. Contextual examples and explanations are

⁵² In 2011, the Minister of Defence appointed a select work group under the Chairpersonship of Roelf Meyer to do a comprehensive revision of the 1997 Defence Review. This work group consulted extensively and it took them two years to complete the 2014 Defence Review

provided with specific DIP activity examples based on both qualitative and quantitative data analysis. The chapter includes a commercial flow process explanation of how DIP takes place in practice. An economic impact assessment (EIA) of DIP is also provided in support of this chapter's propositions.

Chapter ten contains a record of specific *DIP results* stemming directly from the 1999 SDP. It provides information that demonstrates how various DIP activities materialised and occurred in practice by reflecting on the variety of the types of transactions that span all the equipment bought at the time. It comments on known benefit outcomes from approximately 2000 to 2012. DIP's contribution to the productive economy is discussed in context. A detailed analysis is provided of how the R 15 billion committed in 1999 has been realised in the form of work share, local industry participation, investments, technology transfers and exports. Examples are provided commenting on how the SADI benefited (or not) and also considering the issue of sustainability in context.

Chapter eleven contains a summary of the most prominent research findings and conclusions on the theoretical and applied implications of the study.

A detailed **bibliography**⁵³ contains the whole range of sources and records consulted over the research period. A set of **appendices** (A to I) are included in support of this study's analysis and findings.

1.3 Research Design

The research design was premised on a mixed method approach with four theoretical research perspectives; these are *action*, *practitioner*, *insider* and *reflexivity* research. The research period was from 1996 to 2014, during which time a detailed assessment of the South African DIP process was made.⁵⁴ The DIP commitment stemmed from the South African defence acquisition programme that originated in 1997 – the largest single defence transaction in the history of South Africa. It was a consequence of the South African National Defence Force's (SANDF's) force design

⁵³A bibliography is a full reference list of all the sources which were consulted in preparing this study, but may not have been cited, whereas a reference list only includes those sources cited, and thus not all my background reading- cf. <<http://lweb.beds.ac.uk/guides/a-guide-to-referencing/what-is-bibliography#sthash.acSxw8r6.dpuf>>

⁵⁴Worth R 15 billion. The USD value at the time at a Rate of Exchange of ZAR6.25=USD1 (AG, 2001), was USD2,4 billion

approved by Parliament in 1997 (AG, 2001) and by Cabinet on 18 November 1998.⁵⁵ The subsequently concluded SDP transaction had a contractual base value of just under R30 billion⁵⁶ and was signed on 3 December 1999⁵⁷ (GCIS, 1999; Griesel, 2013, 2014; De Beer, 2014; Burger, 2014).

The reliability of data collected for this research is based on the premise that independent findings will yield the same results when repeated. The validity of the data collected, relies on the commonly accepted fact that it can be substantiated by either empirical research, or the collection of similar data (*cf.* Herzog, 1993; McNiff, 2000; Denzin and Lincoln, 2000; McNiff and Whitehead, 2002; Archer⁵⁸, 2010; Bolton, 2010). Through the use of triangulation, data could be verified at the source, whether government or industry or academic in nature, and furthermore, subjectivity and bias could be overcome. However, access to certain SDP and DIP data remain restricted in terms of various non-disclosure agreements and national legislation, although the Arms Procurement Commission of Inquiry provided a rare public insight into many aspects of the SDP of 1999.

1.4 Motivation for and Purpose of the Research

This study is intended to stimulate further discourse on the synergies and possible contradictions between countertrade and related development aims and objectives. It covers aspects related to the role of the state, human, industrial and trade development, globalisation and internationalisation, neo-liberalism, and the role technology plays in this process (Schön, 1983; McNiff, 1988; O'Brien, 1998; Hardt⁵⁹ and Negri⁶⁰, 2000; McNiff and Whitehead, 2010; Bolton, 2010). As a case study, it specifically considers the manifestations of the DIP process in the South African defence industry.

Chapter two includes some proponent and opponent views to countertrade and offsets. In the case of defence offsets particularly, there are four major opponent

⁵⁵According to the records of the Arms Procurement Commission of Inquiry (p7693) – *cf.* <<http://www.armscomm.org.za/hearings/...>> as at 24 July 2014

⁵⁶*c.* 1999 estimated value of USD 4,8 billion – this was the base contract cost and excluded any programme management cost, Rate of Exchange adjustments, and interests. This amount was covered under various government-to-government loan agreements that stretch over 20 years (AG, 2001). The latest figure comes to around R 46,6 bn (Donaldson, 2014), with other sources indicating R 70,6 billion

⁵⁷The submarine contract was delayed due to the NIP proposal that needed substantial changing. This contract was only signed on 7 July 2000. *cf.* <<http://www.navy.mil.za/equipment/...>>

⁵⁸Margaret S. Archer is Professor of Sociology at the University of Warwick, UK. She is a former editor of *Current Sociology* and was the first woman to become president of the International Sociological Association (1986–90). [email: M.S.Archer@warwick.ac.uk]

⁵⁹Hardt is an associate professor in the Literature Programme at Duke University

⁶⁰Negri is a professor of political science at the University of Padua

groupings worth mentioning. These opposing views originate from the World Trade Organisation (WTO), the US government's inter-agency team in the Department of Commerce (Bureau of Industry and Security (BIS)), from the European Union (EU),⁶¹ and from economic rent debates that hold that defence spending diverts scarce resources that could have been put to better alternative use. Offsets and related forms of countertrade are seen as vast, pervasive business practices that are antithetical to economic development (*cf.* Brauer and Dunne, 2004, 2009).

Proponents, however, view countertrade and offsets as a means to address a general need for countries to protect their indigenous defence industrial base as a result of foreign procurements that have to be made. Such foreign procurement considerations are primarily due to economies of scale, or the need for technologically more advanced equipment the home country cannot manage to produce. Another reason is a need to secure certain technology transfers and be able to maintain and repair foreign equipment in-country. Other reasons relate to, for example, attracting foreign direct investments, accessing markets while stemming the outflow of foreign currency, and performing a rent seeking function. Job creation and retention also play a major role.

It is clear that international controversies surround corrupt major defence deals. Corruption also featured in the post-apartheid South African SDP transaction, which tended to overshadow the possible positive consequences of the DIP arrangements. This study sought to address this lacuna, placing the deal within a broader international and comparative context. Furthermore, given increasing constraints on state intervention in a range of areas of national economic life, this study sought to shed new light on an area where there is considerable room for strategic manoeuvring, by structuring countertrade and offsets through national procurement.

1.5 The Divergent Use of Countertrade Terminology

Owing to the diverse use of countertrade terminology, this section provides insights to create a common understanding. It follows that the meaning of the various countertrade terms may not always clearly define their implications in the context of domestic, bilateral and global trade, or industrial and economic/socio-economic environments, or when using development concepts. This is further aggravated by

⁶¹*DIRECTIVE 2009/81/EC of the European Parliament and of the Council*

the fact that different countries use different terms to describe similar practices. This is difficult to understand, given that countertrade has been an international trade phenomenon since the late 1970s (Hennart, 1989; Martin⁶², 1996). In many instances, the inconsistencies require the use of elaborate definitions of terms to prevent misunderstanding (*ibid*, also Coetzer⁶³, 1995).

Ellingsen (1991), Coetzer (1995) and Agarwala (1999) note that countertrade transactions display a variety of differing features and employ specific legal and terminology jargon, which varies considerably in its interpretation. Considering the ensuing discussion, this appears to still be the case.

The word 'countertrade' is a collective noun (*cf.* Joffie⁶⁴, 1984) incorporating more than 15 different forms of countertrade. All these forms are used in various combinations, and refer to and include many traditionally used commercial, trade and business practices. The term 'countertrade' is often used to refer to 'barter', which further contributes to the confusion when the word 'offsets' is used synonymously (Shanson, 2004). It is also pertinent to note that 'countertrade' as a noun refers to the reciprocal trade process and not to the action word 'counter trade' (verb). Shanson⁶⁵ (*ibid*) points out that global offsets are a form of countertrade that refers to various kinds of 'unconventional trade' (also Horwitz, 1989). This constantly divergent use of countertrade-related terms causes confusion, particularly for novices (i.e. non-countertraders). Even the South African edition of the Oxford Dictionary (2002:264) definition is confusing⁶⁶ as it defines countertrade in terms of what resembles barter, that is '*...international trade by exchange of goods rather than by currency purchase.*'

According to Horwitz (1989:1), the world of countertrade is a 'particular subject' with terms and expressions that form a 'definite language'. The countertrade 'terminology dilemma' became more evident in the 1980s due to its increased use. The need to publish a 'lexicon of countertrade terms'⁶⁷ was initiated by the students of the classes of 1988 and 1989 at the American Graduate School of International Management

⁶²Stephen Martin is a research fellow in the Centre for Defence Economics, University of York (Martin, 1996)

⁶³J.H. Coetzer was an attorney at the Supreme Court of South Africa. He holds a doctorate in Transnational Business Law from UNISA. His fields of experience include international countertrade agreements and the GATT (Coetzer, 1995)

⁶⁴David B. Joffie was a professor at the Harvard Business School (Joffie, 1984, 1985)

⁶⁵Lindsey Shanson is at present the only editor/publisher of comprehensive countertrade activities and country policies. Refer to CTO Data Services Co. Countertrade & Offset is a UK-based publication since 1983. CTO is focusing on global intelligence on special trading arrangements. *cf.* <<http://cto-offset.com/>>. For more information and/or registration contact editor@cto-offset.com. CTO's biggest competitor is EPICOS, Greece - *cf.* <<http://www.epicos.com>>

⁶⁶Same confusion is evident on <<http://www.investopedia.com/terms/c/countertrade.asp>>, accept this website acknowledges that countertrade consist primary of barter, counter purchase and offsets

⁶⁷A 'Lexicon' is a list of terms related to a particular subject (Collins Concise Dictionary, 1989) – also the vocabulary of person...language or a branch of knowledge...(South African Concise Oxford Dictionary, 2002)

(held at Thunderbird),⁶⁸ a business school located at a former US Air Force base. They had enrolled in a countertrade and offsets study course (the Winterim Program) and thought it prudent to publish such a lexicon for both initiated and uninitiated practitioners, academics and students, '*a reference point from which to begin evaluating the very diverse terminology of our industry*' (*ibid*:(i)). Horwitz subsequently used these students' work as the basis for compiling the first countertrade specific lexicon.⁶⁹

During the 1980s, another definition of countertrade surfaced in Europe from the *Association pour la Compensation des Echanges Commerciaux* (ACECO, France) (Harben and Cooke, 1985). ACECO defined countertrade as a commercial transaction in which the vendor (seller) undertakes to purchase goods or services in the client's country (buyer), to transfer technology or manufacturing licences, or to provide services. The seller could also be required to undertake any other transaction in exchange for the buyer's commitment to purchase the goods and/or services covered by a main contract. A countertrade commitment would then be conditional upon such a transaction.

The United Nations Commission for International Trade Law's (UNCITRAL) definition of countertrade refers to those transactions in which one party supplies goods, services, technology or other economic value to a second party. In return the first party purchases from the second party an agreed amount of goods, services, technology, or engages in other economic value activities.⁷⁰

*BarterNews*⁷¹ (2012) defines countertrade as an umbrella concept that has come to mean all forms of reciprocal or compensatory trade arrangements.

The US defines defence trade offsets as a range of industrial compensation arrangements required by foreign governments as a condition of the purchase of defence articles and services from non-domestic sources. This mandatory

⁶⁸According to their website, Thunderbird is the world's No1 ranked school of international business with more than 65 years of experience in developing leaders with the global mind set, business skills and social responsibility necessary to create real, sustainable value for their organizations, communities and the world - cf. <<http://www.thunderbird.edu>>

⁶⁹Frank Horwitz acknowledged the assistance of Rosemary Pell and the Laurier Trade Development Centre, Waterloo, Ontario, USA and admitted that he 'borrowed heavily' from various existing publications and quoted verbatim' from them. He also stated that he accepts that there will be some level of disagreement with him to specific interpretations he has put forward. A Review Board consisting of 11 prominent academics and countertrade practitioners eventually reviewed the Lexicon before it was published

⁷⁰cf. <<http://www.uncitral.org>>

⁷¹According to the BarterNews website, it is an independently owned and operated publishing company that had been the voice of the industry since 1979. It is written by industry practitioners and is regarded worldwide as the voice of the barter marketplace - cf. <<http://www.barternews.com/>>

compensation can be directly related to the purchased defence articles, or can involve activities or goods unrelated to the defence sale. The European Commission (EC), on the other hand, views offsets, when applied to defence procurement, as taking many forms. The WTO, in terms of the GPA,⁷² Article XVI, states that '*offsets in government procurement are measures used to encourage local development or improve the balance-of-payments accounts by means of domestic content, licensing of technology, investment requirements, counter-trade or similar requirements.*'

Taylor (2011) finds that an offsets agreement is a contract between a purchasing government and a foreign supplier. As a condition of sale, the foreign supplier is required to provide additional economic benefits to the buying country's economy. This can take the form of countertrade, industrial compensation, investment, or technology transfer. Offsets insert a degree of transactional reciprocity. Taylor uses a combined term, 'countertrade offsets', to refer to the hybrid offspring of economic, political and security considerations that support multiple objectives.

Both barter and offsets are sub-sets of countertrade (*cf.* Joffie, 1984; ACECO; Harben and Cooke, 1985; Coetzer, 1995). Yet internationally there appears to be an ongoing preference for using the combined phrase 'countertrade and offsets' as an international trade term but with distinctly separate and diverse forms of reciprocal action.

To illustrate this complexity further, it is worthwhile observing that the South African DIP process points to the existence of both direct and indirect offsets.⁷³ These in turn encompass activities related to work share, exports, technology transfers and training, investments, joint ventures, etcetera, all of which are elements of countertrade. In international countertrade terminology, 'indirect' could mean certain other types of countertrade actions, particularly those that are civil in nature (*cf.* Shanson, 2004; Verzariu, 2004) and in essence, very similar to the South African DTI's NIP process that is aimed at benefitting the civil industrial complex and non-defence related businesses.

Many definitions and explanations of the various countertrade elements can be found at various web-sites. These are as recorded in Section H of the bibliography.

⁷²*cf.* <http://www.wto.org/english/tratop_e/gproc_e/gp_gpa_e.htm> – the WTO website refers to this as the Agreement on Government Procurement – yet its acronym reads as the GPA

⁷³The DTI's 2013 NIP guidelines seem to have adopted a similar approach to that of DIP (called 'direct NIP') - *cf.* <<http://www.thedti.gov.za>>

1.6 Tracing the origins of the South African Defence Industrial Base

1.6.1 A brief History of the Origins of the South African Defence Industry pre-1960s

During the nineteenth century there were three generations of the Botha family in Cape Town who were renowned gunsmiths. During the First Anglo-Boer War of 1880-81, Marthinus Ras manufactured three artillery pieces for the Boer forces. During the Second Anglo-Boer War (1899-1902), damaged Boer artillery pieces were repaired in the workshops of the '*Zuid-Afrikaanse Spoorwegmaatschappij*'.⁷⁴ In June 1894, the '*Zuid Afrikaanse Republiek*' (ZAR) signed a sole rights agreement with L.M. Vorstmann of Pretoria, for the manufacture of dynamite, smokeless powder and ammunition, and ammunition reloading (Martini⁷⁵ rounds specifically). In terms of this agreement Vorstmann was also required to take over the government owned '*Zuid-Afrikaansche Fabrieken voor Ontploffbare Stoffen Beperkt*'⁷⁶ (Z.A.F.O.S.), also the Powder Factory at Baviaanspoort.⁷⁷ Vorstmann erected a dynamite factory at Modderfontein⁷⁸, completed in 1896, and capable of producing 40 000 boxes of dynamite per year. The Delfos Bros & Co, an engineering firm in Pretoria, was another private establishment the ZAR entrusted with small arms ammunition manufacture, gun repairs and modifications. Delfos also received contracts to manufacture fuses for artillery projectiles. This factory extracted lead from ores from the Edendal mine close by Pretoria. In December 1899, Delfos was required to establish an ammunition factory in Pretoria capable of manufacturing 10 000 Mauser rounds per day. However, before the Boer forces could benefit from this installation, the British forces occupied Pretoria (cf. Bester, 2003:307-308).

South Africa produced its first 15 pounder cannon in the railways workshops in the Western Cape in 1914 (Gleditsch, *et al.*, 1996:309). During WWII (1939-1945) more advanced weaponry and equipment were manufactured locally by South African companies under the auspices of H.J. van der Bijl, the Director-General of War

⁷⁴ History of arms industry and Armscor: May 1996 – cf.

<http://www.photius.com/countries/south_africa/national_security/south_africa_national_security_growth_of_the_defens~2506.html> Also at <<http://www.armscor.co.za/history...>>

⁷⁵The Martini-Henry rifle made in the UK was initially the Boer forces' main battle field rifle, later supplemented by various 'models' of the Mauser rifle (the 'Boer Mauser' was almost identical to the Spanish model '93,) and with a number of other types of manufacture, such as Remington, Guedes, Mannlicher, Lee-Metford, Krag-Jørgensen, Lee Enfield (cf. Bester, 2003)

⁷⁶Situated in Pretoria

⁷⁷Situated about 30 km North of Pretoria

⁷⁸The Modderfontein area (situated between Pretoria and Johannesburg) today still houses explosive manufacturing plants that produce and supply commercial explosives and blasting accessories and related services to the mining, quarrying and construction and dimension stone industries. Military explosive manufacturing is done in Somerset West by one of the Denel plants, now 51% owned by Rheinmetall Germany

Supplies (*cf.* Liebenberg and Barnard, 2006).⁷⁹ The Council for Scientific and Industrial Research (CSIR) was established in 1945⁸⁰ to undertake defence R&D work (AMD, 2006). In 1948, the South African government founded the Defence Research Board to develop the technical and manufacturing capabilities to produce arms locally. This date could therefore be regarded as the beginning of the Armaments Corporation of South Africa (Armcor) as it is known today.⁸¹

In 1953, the Defence Ordnance Workshop, later known as Lyttelton Engineering Works ('Lyttelton Ingenieurswerke' or 'LIW' for short – the trade name it presently uses under Denel),⁸² was established. By 1965, LIW had already obtained approximately 120 different small arms production licenses from the UK, France, Belgium and Israel (Gleditsch, *et al.*, 1996).

In the period preceding 1960, South Africa received most of its armament requirements from the UK (*cf.* Singh, 2000⁸³). This was summarily stopped after the Sharpeville incident⁸⁴ of 21 March 1960 (*cf.* Botha, 2003a; AMD, 2006). By 1963, the international reaction to South Africa's political dispensation was stronger, resulting in the UN calling for a voluntary arms embargo on South Africa (UN Security Committee Resolution 818 of 7 August 1963⁸⁵ - *cf.* Gleditsch, *et al.*, 1996; Batchelor and Dunne, 1998; Botha, 2003a).

1.6.2 The Development of the Defence Industry post 1960s

Mounting external pressure and increased levels of insurgency from the various freedom fighter movements opposed to South Africa's apartheid regime caused the South African government to increase its demands for local arms self-sufficiency (*cf.* AMD, 2006). On 19 June 1968, the Armaments Board was established, followed by the Armaments Corporation of SA Limited (Armcor) in 1977, under the Minister of

⁷⁹History of arms industry and Armcor: May 1996 - *cf.*

<http://www.photius.com/countries/south_africa/national_security/south_africa_national_security_growth_of_the_defens~2506.html. Also <<http://www.armcor.co.za/history...>>.

⁸⁰*cf.* <<http://www.csir.co.za>>. The CSIR's shareholder is the South African Parliament, held in proxy by the Minister of Science and Technology

⁸¹History of arms industry and Armcor: May 1996 – *cf.*

<http://www.photius.com/countries/south_africa/national_security/south_africa_national_security_growth_of_the_defens~2506.html. Also <<http://www.armcor.co.za/history...>>

⁸²LIW is one of Denel's subsidiary companies - *cf.* <http://www.denel.co.za> (also known as Denel Land Systems – DLS)

⁸³The SIPRI publication of 2000, 'Arms Procurement Decision Making' (ed Ravinder Pal Singh). Chapter 6 of this publication contains a more comprehensive account of developments surrounding the SA military complex. I was one of the participating contributors to this publication

⁸⁴On 21 March 1960 at least 180 black Africans were injured (there are claims of as many as 300) and 69 killed when South African police opened fire on a large number of demonstrators protesting against the passbook laws at the township of Sharpeville, near Vereeniging in the former Province of Transvaal (now Gauteng) - *cf.*

<<http://africanhistory.about.com/od/apartheid/a/SharpevilleMassacrePt1.htm>>

⁸⁵*cf.* <<http://www.un.org>>

Defence. The mandatory UN arms embargo in 1977 (UN resolution 418 of 4 November 1977)⁸⁶ not only promoted but accelerated the DIB developmental process.

It is important to note that since 1980, the SADI has been removed from the DTI sectoral clusters as a direct result of Armscor having been mandated exclusively to create and expand a SADI capability. Armscor was set up and constituted as a statutory corporation in terms of the Armaments Development and Production Act (Act No. 57 of 1968, as amended). Act 57 was subsequently replaced by the Armaments Corporation of South Africa, Limited Act (Act No. 51 of 2003⁸⁷ - cf. Articles 3 and 4). The Act defined the role and tasks of Armscor as *'promoting and co-ordinating the development, manufacture, standardization, maintenance, acquisition, or supply of armaments...utilizing the services of any person, body or institution or any department of the state.'* Armscor can enter into contracts under its own name, own shares in companies, and arrange for manufacture, either by its own subsidiaries or by third party contractors. Thus constituted, Armscor remains empowered to develop the armaments industry with considerable freedom, unconstrained by many of the bureaucratic limitations that generally apply to a state department (cf. Botha, 2003a:1). This remains the case even today, although there are clear indications - confirmed in the 2014 Defence Review - that the defence industrial base needs to be much more closely aligned with national industrial policy. This aspect is discussed further down in this chapter.

In Chapter Two of the 1999 White Paper on the Defence Related Industry (referred to as SADI (DOD, 1999)), it is recorded that as a result of massive state investment, Armscor developed into one of the largest industrial groups in South Africa and by 1981 had assets of R 2 billion. Armscor had a yearly turnover of R 1,5 billion and more than 25 000 employees. Armscor was also contracting more than 900 companies in the private sector, which employed about 120 000 people.

Henk (2006:13) notes that by the mid-1960s there were around 1 000 defence related companies, by the mid-1980s the figure was over 2 000 and by the end of 1980s around 3 000. Botha (2003a), on the other hand, records that by the mid-1980s, Armscor had concluded contracts with approximately 2 700 private sector companies and the armaments industry employed 131 750 people. This figure

⁸⁶*ibid*

⁸⁷cf. <<http://www.gov.za/documents>>

represented 8,3 per cent of the total number of employees in the manufacturing sector at that stage (*ibid*). By this time (i.e. mid-1980s), the industry had acquired the ability to design, reverse-engineer, manufacture, produce and maintain, refurbish, upgrade and modify a wide range of defence equipment, including fighter aircraft, helicopters, unmanned aerial vehicles (UAVs), mine protected vehicles and armoured personnel carriers (APCs), infantry fighting vehicles (IFVs), rockets, missiles and heavy calibre artillery to various other types defence equipment (commonly referred to as 'ordnance') (Willet and Batchelor, 1998; Botha, 2003a; AMD, 2006). According to Henk (2006:5), the arms industry's rather rapid development and need to acquire superior military technologies can be linked to the war in Angola where the South African forces were confronted with more sophisticated Russian made military equipment (also Boden, *et al.*, 1996:10).

The SA defence industry became a technology leader in South Africa as a direct result of the privileged dispensation it enjoyed under Armscor's seemingly never-ending list of requirements, generously funded by the government.⁸⁸ This occurred during a period that was characterised by serious security threats from within South Africa and with opposition military forces (within South Africa called terrorists, but referred to as 'freedom fighters'⁸⁹ by their respective movements)⁹⁰ operating from neighbouring countries (Willet and Batchelor, 1998; Batchelor and Dunne, 1998; Botha, 2003a; AMD, 2006).

By 1989, the industry emerged as one of South Africa's major industrial sectors contributing nearly 4,5 per cent of GDP and 19 per cent of manufacturing output, after gold and coal. It was also the largest exporter of manufactured goods, despite UN sanctions (Willet, 1994; Willet and Batchelor, 1998; Botha, 2003a). Defence production had become one of the most significant activities in the country's industrial base, both in terms of employment and contribution to the national economy. Ten percent of all manufacturing establishments, in the public and private sectors, were involved in various aspects of defence production as contractors, sub-contractors and suppliers. This created a supplier network with cross-manufacturing capabilities within a vertically integrated supply chain structure (Botha, 2003a). By the mid-1980s, the SADI was in a position to supply almost all the SADF's requirements (Willet,

⁸⁸By the mid-1970 the defence budget made up 15% of GDP. Source: SA Year Book of 1989-90

⁸⁹At that stage commonly referred to and dealt with as terrorists

⁹⁰The most important being Umkhonto we Sizwe (MK), the armed wing of the ANC. MK allied with other forces in Namibia (SWAPO), Zimbabwe (ZAPU, later ZIPRA), Mozambique (Frelimo) and in Angola supported by Cuba (MPLA and FAPLA), while the SADF co-operated and supported the Angolan opposition group UNITA and RENAMO in Mozambique – cf.

<<http://www.sahistory.org>>

1994), while covertly exporting to various other (mostly pariah) states⁹¹ (Batchelor and Dunne, 1998; Botha, 2003a; AMD, 2006). South Africa's establishment of such major defence production capabilities (between 1956 and 1985) covered a wide range of technologically advanced products and equipment (AMD, 2006). Phrases, such as 'proven in battle', and 'leading-edge technologies', were frequently used to underline these achievements.⁹² A range of products,⁹³ quite unique in design and suited to the harsh Southern African conditions, were developed and managed to draw the world's attention. In 1982,⁹⁴ South Africa entered the defence export market (cf. Boden, *et al.*, 1996; Willet and Batchelor, 1998; Botha, 2003a; Henk, 2006; AMD, 2006).

The South African defence industry's export successes into the international arms market resulted in additional steps by the UN to isolate South Africa even further. The UN endeavoured to achieve this by introducing yet another arms embargo, this time requesting member states to refrain from importing South African-manufactured weaponry (UN Security Council Resolution 558 of 1984).⁹⁵ Despite this embargo, South Africa continued with its arms exports to countries such as Iraq, Iran, Taiwan, Israel, Chile, Peru, Colombia, and the UAE. Armscor's skill at evading sanctions developed to such a degree that it became sought after by other clandestine exporters (Willet and Batchelor, 1998; Botha, 2003a). Chester Crocker, US Under-secretary of State at that time, appearing before the House of Foreign Affairs on 17 April 1985 (Boden, *et al.*, 1996:12) admitted that the UN arms embargo against South Africa had not had the desired crippling effect on South Africa's military capabilities: to the contrary, it provided the impetus to retain South Africa amongst the top twenty arms exporters (cf. SIPRI, 2012, 2013).

In 1992, Denel (Pty) Ltd was established under the Minister of Public Enterprises as a state owned enterprise (SOE, now known as a State Owned Company – SOC). Denel was made responsible for all the manufacturing and production sites, formerly owned by Armscor. Denel inherited all the massive production infrastructures and workforce that was established during the apartheid build-up of a self-sustainable

⁹¹ These included, Israel, Iraq, Iran, Chile and Peru (cf. <<http://www.wikipedia.com>>)

⁹² cf. <<http://www.armscor.co.za>> and <<http://www.denel.co.za>>

⁹³ Equipment products names mostly carried South African animal names, for example, Olifant, Ratel, Mamba, Buffel, Rooikat, Rooivalk, etcetera

⁹⁴ Armscor first ever international defence exhibition was undertaken in Athens, Greece with Defence Defendory '82 - cf. <<http://www.flightglobal.com/...>>. This first-in 1982 international show attempt had to be aborted when the Greeks, bowing to public pressure, expelled Armscor from the show grounds on the final morning of the five day event - cf. <<http://www.multinationalmonitor.org/hyper/issues/1986/0415/nairn.html>> - also <<http://www.nytimes.com/1982/...>>

⁹⁵ cf. <<http://www.un.org>>

DIB. The infrastructure cost made all of Denel's business very uncompetitive, particularly on the aerospace side. However, Denel remains viewed as a strategic supplier to the SANDF, also for maintenance and support.⁹⁶

For completeness, it is necessary to also note that Armscor, in collaboration with the Atomic Energy Corporation (AEC) and the CSIR, produced its first complete nuclear explosive device between April and December 1982 (depending on the sources consulted). By 1989, South Africa possessed six warheads, each containing 55kg of Highly Enriched Uranium (HEU).⁹⁷ However, as part of the South African/ANC peace process that commenced in 1988, in September of that year the South African government sent a letter to the International Atomic Energy Agency (IAEA) expressing a willingness to accede to the international Treaty on the Non-proliferation of Nuclear Weapons (NPT) if certain conditions were met. These included a concession that South Africa be allowed to market its uranium subject to IAEA safeguards. Less than two years later the F.W. de Klerk government terminated the nuclear weapons programme.⁹⁸ All nuclear devices were dismantled and destroyed. The nuclear materials in Armscor's possession were returned to the AEC where they were stored according to internationally accepted procedures. Armscor's nuclear device assembly facilities (about 10 km from Pelindaba) were decontaminated and since dedicated to non-nuclear commercial purposes⁹⁹ (cf. Albright, 2001).

The Atomic Energy Corporation (AEC) was established in Pretoria in 1948 (incidentally, in the same year the Defence Research Board was founded) to assess the uranium reserves in Southern Africa. When it was decided that nuclear research and development should be undertaken, the AEC moved to Pelindaba, about 30 km west of Pretoria. The SAFARI-1 nuclear research reactor was acquired from the US as part of the '*Atoms for Peace programme*' in 1965. Over the following 20 years two uranium enrichment plants were built. The first plant provided weapons grade material while the second produced low-enriched uranium for manufacturing fuel for nuclear power stations, such as the Koeberg Plant in the Western Cape.

⁹⁶cf. <http://www.denel.co.za/pdf/annual_report.pdf>; Denel Annual report 2007/8

⁹⁷While developing its nuclear weapons, Armscor (Houwteq) also developed ballistic missiles as carriers for their nuclear war heads and established ballistic launch capabilities across the Eastern Cape near Arniston, Bredasdorp and Grabouw. The Overberg Test Range (the launch site), today still one of the Denel subsidiaries predominantly used for missile testing, although it had been marketed by Denel as a launch site for low orbit satellites. In 2014 Denel commences collaboration with SunSpace at the University at Stellenbosch to further enhance SA's satellite building capabilities - cf. <<http://www.denel.co.za>>; also <http://www.defenceWeb.co.za/index.php?option=com_content&view=article&id=31197>

⁹⁸cf. <<http://www.nti.org/country-profiles/south-africa/nuclear/>>

⁹⁹ibid - cf. <<http://www.denel.co.za>>, also

<<http://www.un.org/disarmament/HomePage/ODAPublications/DisarmamentStudySeries/PDF/SS-23.pdf>>

With political changes in South Africa and economic developments in the world, since 1990 the AEC's role has changed from a largely strategic to a largely commercial one. This process resulted in large scale rationalisation (notably the closing down of the enrichment programme in 1995) and re-focusing of its core competency areas, which now include irradiation processes, fluorine based chemicals and applications, and laser-based isotope separation technology. Fundamental research still takes place at the AEC using the SAFARI research reactor. The use of SAFARI as a national facility promotes its optimum use by university researchers and enables vocational training. In 1998, the AEC changed its name to the Nuclear Energy Corporation of South Africa (NECSA).¹⁰⁰

1.7 In brief - the Debate Around the Biggest Arms Transaction in the History of South Africa

This research's case study focuses on the DIP stemming from the biggest ever arms transaction in the history of South Africa (AG, 2001). At the time, government emphasised the need for South Africa to be able to defend itself against various threats to national security (*cf.* Cilliers, 1998 and the Defence Review of 1997). Anticipated threats included regional instability, cross-border banditry and coastal piracy, and the uncontrolled exploitation of the country's economic exclusion zone (EEZ) by other countries that would affect South Africa's ability to develop its economy and attract foreign investment (GCIS, 1998, 1999).

The SDP offered an opportunity for a bulk replenishment of defence equipment with a government-to-government backed financing solution that resolved inadequate levels of capital expenditure funds in the defence account. Simultaneously there was the opportunity of leveraged countertrade prospects in the form of both defence and non-defence industrial participation to benefit the SADI, and for establishing trading partnerships with major European based defence companies.

On 3 December 1999 after a tendering and an in-depth evaluation and selection process, Cabinet approved signing those contracts summarised in Table 1.

¹⁰⁰*cf.* <<http://fas.org/nuke/guide/ras/agency/aec.htm>>. The last report on the AEC was published by the Department of Arts, Culture, Science and Technology (DACST) on 15 July 1998. The AEC was then transformed into NECSA

Table 1: The SDP contract and DIP value table		
The Strategic Defence Package equipment costs	Base cost: R30,3 billion* plus programme management cost, financing and ECA¹⁰¹ premiums**.	
	Rm 1999 at a forward fixed rate	The DIP element – 50% of total base cost*
Four Meko A200 Valour Class Patrol corvettes were contracted with the German Corvette Consortium (consisting of Thyssen Rhein Stahl, Blohm and Voss, and Howaldtswerke-Deutsche Werft. This consortium was extended to include Thomson, CSF-France (with Thales Naval and African Defence Systems (Pty) Ltd (ADS later TDS) to supply the Combat Suite.	6 088	2 899
Three, Heroine Class 209 submarines were contracted with the GSC (consisting of Thyssen Nordseewerke, Howaldtswerke-Deutsche Werft and Ferrostaal).	7 361	1 139
Four Super Lynx 300 Mk64 maritime helicopters were contracted with GKN Westland Helicopters, UK (later bought by Agusta - of Finmeccanica - Italy to become Agusta Westland – AW).	967	1 410
Thirty Agusta Power A109 light utility helicopters were contracted with Agusta un' Azienda Finmeccanica, Italy	2 446	576
Twenty four Hawk 100 lead-in-fighter-trainer (LIFT) aircraft, and twenty eight ¹⁰² Gripen JAS39 advanced lead fighter aircraft (ALFA) were contracted with BAE Systems, UK as prime contractor ¹⁰³ (See note (i))	19 620	9 302
TOTAL PACKAGE COST - contracted in four different currencies, USD, GBP and Euro (with the ZAR component paid locally). In chapter eight, Table 11 provides a 'history line' as how this figure changed over time. See note (ii)	36 482**	15 326*

(Source: GCIS, 1999; also the AG, 2001, cf. Burger, 2014 and Donaldson, 2014)

Note (i): Final decision was to procure the Lift and Alfa in three tranches – for affordability reasons. Tranche 1 = 12 Hawks and 9 Dual Seat Gripens; Tranche 2 = 12 Hawks; Tranche 3 = 19 Single seat Gripens

Note (ii): According to the testimony of P. Burger (Armcor) at the APC on 11 March 2014, the DIP figure is now stated as R 15,11 billion – the APC did not enquire about the difference with the 1999 baseline (cf. Appendix F).

¹⁰¹ Export Credit Agency – different countries have different names for the latter - An ECA is a financial institution or agency that provides trade financing to domestic companies for their international activities - cf. <<http://www.investopedia.com/terms/e/export-credit-agency.asp>>

¹⁰² In the 2012/13 Armcor Annual Report (par 1.3.2.2) this figure is given a 26 – with nine dual seater and **seventeen** single seater aircraft – it is not clear how/why the original requirement for **nineteen** single seater aircraft was reduced by 2

¹⁰³ BAE Systems at the time held 25% equity in Saab, Sweden

Subsequent to the signing of the SDP contracts, concerns regarding its base cost escalation - with specific reference to lost economic rent opportunities¹⁰⁴ - were raised by the official political opposition parties (specifically the PAC¹⁰⁵). These concerns were echoed by others who, for similar reasons, were opposed to the SDP - entities such as ECAAR (ECAAR-SA),¹⁰⁶ supported by the Coalition for Defence Alternatives (CDA),¹⁰⁷ and the Campaign Against Arms Transfers (CAAT).¹⁰⁸ The then Minister of Trade and Industry (Alec Erwin, 2002)¹⁰⁹ stressed that the Rand value of the '*Nips and Dips*' (a term earlier used by Dunne and Haines, 2001:2) which ran until 2011, would rise in line with the increased Rand value of the equipment on order. Due to the weakness of the domestic currency¹¹⁰ the 1999 R 30 billion price tag, progressively increased to between R 50 billion and R 60 billion and by December 2001,¹¹¹ it was estimated to be in the region of R 66 billion.¹¹² However, shortly thereafter the Rand returned to a more realistic (stabilised) rate and averaged out to around ZAR8:USD1¹¹³ against the base currency of 1999 of ZAR6.25:USD1 (AG, 2001). Holden and Van Vuuren (2011) estimate the final cost in the region of R 70,6 billion against National Treasury's 2014 figure of R 46,6 billion (Donaldson, 2014).

General questions raised around the value-adding potential of countertrade-related activities that would create long-term sustainability, remain largely unanswered. This is primarily due to a lack of access to empirical evidence. Most countertrade and arms deal-related debates, particularly those conducted from a purely economic point of departure, are highly critical towards the issue, and serious questions exist whether any benefit is/was, or ever will be achieved. There is a general assumption that politicians frequently cite defence-related offsets to justify substantial expenditure on armaments.¹¹⁴ However, it has been argued that the full benefits promised during

¹⁰⁴ Cf. par 4.2. Yülek and Taylor, 2012, where this concept is explained more fully

¹⁰⁵ Patricia de Lille on 9 September 1999, then a Member of Parliament (MP) and part of the Pan African Communist Party (PAC) requested Parliament to appoint a judicial commission of enquiry to investigate the arms deal, due to reportedly acts of corruption and fraud - cf. page 7620 of her testimony to the APC on 24 July 2014 - cf. <<http://www.armscomm.org.za/hearings/...>>

¹⁰⁶ Cf. <<http://www.ecaar.org>>

¹⁰⁷ Cf. <<http://www.quacker.org/capetown>> - during Crawford-Browne's testimony at the APC he claimed to have been the convenor of the CDA - cf. <<http://www.armscomm.org.za/hearings/...>>

¹⁰⁸ Cf. <<http://www.caat.org.uk>>

¹⁰⁹ Engineering News, 15 February 2002

¹¹⁰ South African currency = ZAR or R

¹¹¹ Estimations based on the weakened rand of ZAR11.67 to the US Dollar in December 2001

¹¹² Dunne and Haines, 2005 quoted a figure of R 70 billion. Holden (2009) quoted a figure of R 47,097 billion, the latter figure was provided by the Minister of Defence, C. Ngakula, to Parliament. Business Day, 23/10/2008. During the Arms Procurement Commission hearing, Donaldson, the DDG of the National Treasury indicated that the latest estimate is around R 46,6 billion (April 2014) – the variations in final cost estimates is covered in chapter eight as well

¹¹³ Cf. <<http://www.tradingeconomics.com/south-africa/currency>> (2000-2012)>

¹¹⁴ This was decidedly true in the South African SDP – also Eliasson, 2010

sales negotiations rarely materialise¹¹⁵ (cf. Sandler and Hartley, 1995; ECAAR-SA, 1998; Crawford-Browne, 2002, 2003; Batchelor and Dunne, 2000; Wrigley, 2003; Chaana, 2004; Brauer and Dunne, 2009; Taylor, 2011; Yülek and Taylor, 2012).

In the case of the SDP, numerous governance concerns surfaced subsequent to the award of the various contracts to foreign suppliers in the UK, Sweden, Germany, France and Italy. Various allegations were made of questionable actions and dubious conduct during the arms deal selection process. These included suspicion of manipulation of tender awards, and various allegations of corruption and fraud concerning the SDP's acquisition process that created a conduit for corruption (cf. Crawford-Browne¹¹⁶, 2002, 2004, 2007, 2012, 2014; Holden, 2009; Camerer, 2009; Holden and van Vuuren, 2011). The SA government remains severely criticised for the manner in which it dealt with the arms deal process – this is evident from the various testimonies served at the Arms Procurement Commission of Inquiry (APC, 2014).¹¹⁷ A more detailed discussion on the APC hearing is provided in chapter eight. This study did not endeavour to make any pronouncements on behalf of the APC as their work remains *sub judice*.

1.8 The Opposing Dimensions to Defence

The study focuses on three opposing views to defence, namely, pacifism, Quakerism and purely economic discourse in favour of rent seeking rather than defence spending.

1.8.1 Pacifism

Pacifists¹¹⁸ reject the use of violent force through military action. Pacifist proponents are in favour of the peaceful resolution of disputes.¹¹⁹ Their point of departure is that the vast amount of investment in establishing national military complexes has a

¹¹⁵There are many other similar examples that demonstrate the aforementioned, such as the UK government's dealings with Saudi Arabia, or that of the USA with Israel, the United Arab Emirates (UAE) and Kuwait

¹¹⁶Terry Crawford-Browne is a former employee of Nedbank who during the mid-1980s became a peace activist. Currently he chairs the South African affiliate of Economists Allied For Arms Reduction (ECAAR – then EPS, then again ECAAR) cf. <http://www.ecaar.org> – he is also the convenor of the CDA in South Africa

¹¹⁷cf. <http://www.armscomm.org.za/hearings/...> > Phase 2 – dealing with the 'critics' that commenced around July 2014

¹¹⁸cf. Crawford-Browne, 2014 - <http://www.armscomm.org.za/hearings/...>

¹¹⁹According to Wikipedia (<http://www.wikipedia.com>) the list of pacifist against the military contains around 98 institutions across the world. The more prominent ones are the Campaign Against Arms Trade (CAAT) and Economists Allied for Arms Reduction (ECAAR), and the Coalition for Defence Alternatives (CDA), Amnesty International and the Oxford Committee for Famine Relief (OXFAM)

vested interest in the international arms race. They also argue that this diverts scarce resources that could be put to better use.¹²⁰

Pacifism¹²¹ is opposition to war and violence, even to the point of allowing self-harm rather than resorting to violent resistance. According to Imbusch (2006:257), the term ‘pacifism’ was coined by the French peace campaigner, Émile Arnaud (1864–1921) and subsequently adopted by other peace activists at the tenth Universal Peace Congress in Glasgow in 1901 (Robbins, 1976:10). The concept is an ancient one that goes back to the teachings of Muhammad, Siddhartha Gautama (Buddha) and Jesus. In modern times, it was refined by Mohandas Gandhi (1869-1948) into the practice of steadfast nonviolent opposition, which he called ‘satyagraha’. This belief reportedly served as an inspiration to Martin Luther King Jr., among many others (*cf.* Young, 1999:296). Another iconic image of pacifism, the ‘Tank Man’, came out of the 1989 Tiananmen Square Protests, where one protester stood in nonviolent opposition to a column of tanks (Ziyang, 2009). That event was a key motivation that led to the fall of the Berlin Wall, which ultimately precipitated the nonviolent fall of Communism.

Pacifism covers a spectrum of views, including the belief that international disputes can and should be peacefully resolved, calls for the abolition of the institutions of the military and war, opposition to any organisation or society through governmental force (anarchist or libertarian pacifism), rejection of the use of physical violence to obtain political, economic or social goals, the obliteration of force except in cases where it is absolutely necessary to advance the cause of peace, and opposition to violence under any circumstances, even defence of self and others (*cf.* Brock and Young, 1999; Roberts and Ash, 2009). Historians of pacifism, Brock and Socknat (1999:ix), define pacifism ‘*in the sense generally accepted in English-speaking areas*’ as ‘*an unconditional rejection of all forms of warfare.*’ Teichman (1986) defines the main form of pacifism as ‘anti-warism’, the rejection of all forms of warfare as there are no moral grounds which can justify resorting to war, which for the pacifist, is always wrong. The whole theory is based on the idea that the end does not justify the means (Orend, 2000).

¹²⁰ These statements are as contained in the respective manifests of these organisations; *cf.* <<http://www.ECAAR.org>>; <<http://www.quacker.org>> and <<http://www.CAAT.org.uk>>

¹²¹ *cf.* <<http://www.wikipedia.com>>. Crawford-Browne, during his testimony at the APC, 2014 acknowledged that he is a pacifist

1.8.2 Quakerism

Quakers¹²² (also called 'Friends') are members of a religious movement known as the Religious Society of Friends. They include those with evangelical, holy, liberal and traditional conservative Quaker understandings of the teachings of the Bible. The first Quakers were known as the 'Valiant Sixty' - preachers who lived in the Northern parts of England during the mid-17th century. The movement, reported to be founded by George Fox (1624-1691) of Leicestershire, arose from the Legatine-Arians and other dissenting Protestants breaking with the traditions of the Church of England, rebelling against its authoritarian approach (*cf.* Vipont, 1976). These Quakers began converting other Christians to their teachings on the gospels of Jesus Christ. Some of the earliest Quakers were women. Since the mid-17th century Quakerism spread globally, particularly attracting more public interest in the aftermath of the two world wars, hence present day followers can be found across the world (*cf.* Bacon, 1986). One of the most prominent international Quaker organisations is the 'Friends World Committee for Consultation' (FWCC), established in 1937 in the US, with its head office now in London.¹²³

Modern day Quakers believe that a shut-down of the arms industry would generate a massive saving in state expenditure and contribute to world peace. For example, the South African Quaker organisation, the Coalition for Defence Alternatives (CDA), supported by the South Africa Anglican Church through its Council of Churches, believes that the South African defence industry, like its counterparts around the world, is ethically compromised and economically non-viable. They hold the view that South Africa has other, far more valuable expertise than to manufacture and export defence equipment.

The CDA proposes a shut-down of the arms industry. This, they state, would generate a massive saving in state expenditure. Other economic and productive sectors can make much better use of the highly-skilled employees of the defence industry. The technology and skills which exist in the defence industry could be used to enhance South Africa's competitiveness in areas of non-defence manufacturing. The CDA feels that by doing this South Africa would be sending an important message to the rest of the world that 'at least one nation was far-sighted enough to

¹²²*cf.* <<http://wikipedia.org/wiki/Quakers/...>>

¹²³FWCC homepage available at: <[http/Fwcc.org](http://Fwcc.org)>

escape from the moral and economic dead-end that is the arms industry.¹²⁴ They propose these steps from both a moral and economic viewpoint that holds the arms industry as a dead-end endeavour.¹²⁵

In relation to the SDP of 1999, the opposing views of the CDA manifest primarily through organisations such as Economists Allied for Arms Reduction (ECAAR)¹²⁶ and the Campaign Against Arms Trade (CAAT). These include opposing the need to procure defence equipment, which in turn invokes countertrade (and offsets). According to these opponent views, social needs should always take precedence and all defence spending should be either curtailed or abolished altogether (Crawford-Browne, 2002, 2004, 2007, 2012).

1.8.3 The 'Rent Seekers'

However, there are many traditions other than pacifism and Quakerism that view military spending as a diversion of scarce resources. One such argument is covered by the discourse related to the economic rent seeking debate (*cf.* Sandler and Hartley, 1995; Gleditsch¹²⁷, *et al.*, 1996; Harris¹²⁸, 2001; Holden, 2009). Particularly in least/less economically developed countries (LEDs) and more/most economically developed countries (MEDCs) this issue is a major stifling development concern raised by the UN's Millennium Development Goals¹²⁹ formulated in September 2002.

The Control Arms campaign¹³⁰ (2004) noted that sustainable development is enshrined in international human rights that are compromised by disproportionate defence spending. The rent seeking debate is discussed in more detail in chapter two that points to some rent seeking hidden agendas.

¹²⁴ *cf.* <http://www.sacc-ct.org.za/cdadind.htm> - this information is distributed by the Public Policy Liaison Office of the South African Council of Churches.

¹²⁵ *cf.* <http://www.sacc.org.za/cdadind.html> - 3 August 1999 - a CDA 'briefing document on defence issues' - this documents very much looks like the work of Crawford-Browne

¹²⁶ ECAAR - at one stage the **Economists for Peace and Security (EPS)** is a United Nations registered, New York-based NGO, which links economists interested in peace and security issues. Inspired by International Physicians for the Prevention of Nuclear War, it was founded in 1989 as Economists Against the Arms Race (**ECAAR**), before becoming Economists Allied for Arms Reduction (ECAAR) in 1993. It adopted this name in 2005. As of 2007, ECAAR changed its name to Economists for Peace and Security (EPS). They represented a strong voice of opposition to President Bush's war in Iraq. EPS promotes and disseminates research on global security issues. They, propose arms reduction as a way of attaining world peace and security. However during 2011, EPS decided to change its name back to the original name of 'ECAAR'. Reference to **ECAAR-SA** relates to their South African branch - *cf.* <http://www.ecaar.org>

¹²⁷ Nils P. Gleditsch is a researcher at the International Peace Research Institute in Oslo and attached to the Norwegian University of Science and technology, Trondheim, Norway. (Gleditsch, *et al.*, 1996)

¹²⁸ Geoff Harris is a Professor in Economics at the University of Natal. Business Day, 7 December 2001

¹²⁹ *cf.* <http://www.un.org/millenniumgoals/...>

¹³⁰ The Control Arms campaign is a coalition of US New York based global civil alliance campaigning for a 'bullet proof arms trade treaty' - *cf.* <http://www.controlarms.org>

1.9 Summary

Internationally development discourse is ongoing and the government's role at various levels of development remains the subject of constant debate. This study focuses on the government's role particularly as it relates to industrial development, specifically defence industrial development that includes the military industrial complex. The magnitude of international defence spending and the billions of US Dollars such transactions attract in the form of countertrade, and specifically defence offsets, are considered in this context (*cf.* chapter 5).

Substantial investments have been made in establishing or expanding or maintaining defence industrial capabilities. This process evolved into what could be seen as part of the international competition race, whether industrial, trade, exports, innovation and technology or defence/military related. Government's involvement, whether through leveraged countertrade, or through general development aims and objectives, or purely from a political point of view, appears to be a key ingredient in these various activities continuing.

However, since the early 2000s, there appears to be a marked decline and slowdown in defence industrial growth due to economic recession and a decline in international defence spending (*cf.* Dunne and Haines, 2005, 2006; SIPRI, 2012, 2013). Dunne and Haines (2005) remark that the end of the Cold War resulted in dramatic cuts in defence spending that fell one third between 1989 and 1998 (*cf.* SIPRI, 2012, 2013). The reduction brought about restructuring in arms industries across the world (also Hayward¹³¹, 2000) that also led to a contraction in production. (However, in chapter 5 there is anecdotal evidence that points to a growth in defence business globally.)

The traditional defence industrial base that was governed by political masters (Wright-Mills, 1956) moved to a more commercial enterprise structure that in turn led to several monopolies in certain fields and provided for the emergence of a new elitist group of actors, particularly in South Africa's SDP (Haines, 2012).

Hayward (2000) notes a marked growth of foreign direct investment in national defence industrial bases. He calls this the investment-led globalisation of both Trans-Atlantic and Anglo-American entities that undermines European efforts to maintain a

¹³¹Hayward has researched extensively on the subject of defence and aerospace policy. He is a professor and an Associated Fellow of the Royal United Services Institute (RUSI) of the UK - *cf.* <<http://www.rusi.org>>

reasonably sizeable regional defence industrial capability. According to the EU and the US, the latter is being eroded by the use of defence offsets.

The decline in South African defence spending since the late 1980s and the subsequent decline in the defence industrial base are indisputable. However, chapter seven points to a dedicated government support commitment towards re-strengthening the defence industrial base with a substantial increase anticipated in future defence budget allocations. Chapters eight to ten, on the other hand, provide evidence that the SDP brought a much needed life line to the SADI.

CHAPTER TWO: THE THEORY OF DEVELOPMENT IN RELATION TO THE CONSTRUCT OF COUNTERTRADE

2.1 Introduction

The aims of this chapter are to present a broad exposition of the nature, scope and role of development as a social phenomenon. The chapter aims to introduce the most important development theories in the context of their applicability to the countertrade construct investigated in this study.¹³²

Because the focus of the study was the '*subject of countertrade as a development tool*' and because it is central to the South African case, it will be very briefly introduced here. This literature review chapter follows a thematic approach: it interacts with content and discourse in relation to the various contextual chapters of this study that deal with it in greater detail.

The chapter discusses contemporary views on development. It considers the manifestations of the international countertrade phenomena within a developmental context. The theories that are presented will therefore largely focus on development to the extent that it overlaps with tenets of countertrade (and offsets) and *vice versa*.

The study furthermore considers countertrade as an international trade practice viewed and quantified against defence spending, technology and the military industrial complex that includes the defence industrial base (DIB).

The relationship model below (Figure 1) illustrates the state's role in development and how it leverages foreign procurement through countertrade to derive economic and industrial benefits that manifest in the form of offsets, in this instance defence industrial participation (i.e. DIP).

¹³² As explained in chapter one, there is divergent use of the term 'countertrade' that means different things to different people. The common use today is to refer to 'countertrade and offsets'; however, this is complicated by the fact that most protagonist views cover 'defence offsets' stemming from defence procurement spent abroad. This concept is further convoluted in the case of South Africa that has two sets of policies addressing defence (Armcor) and civil (the DTI), as was the case in the 1999 SDP. The reader is reminded that this thesis focuses on possible synergies between development and countertrade – the latter in its broadest context - and therefore this chapter primarily uses the concept of 'countertrade' unless the context specifically requires reference to 'offsets or defence offsets'

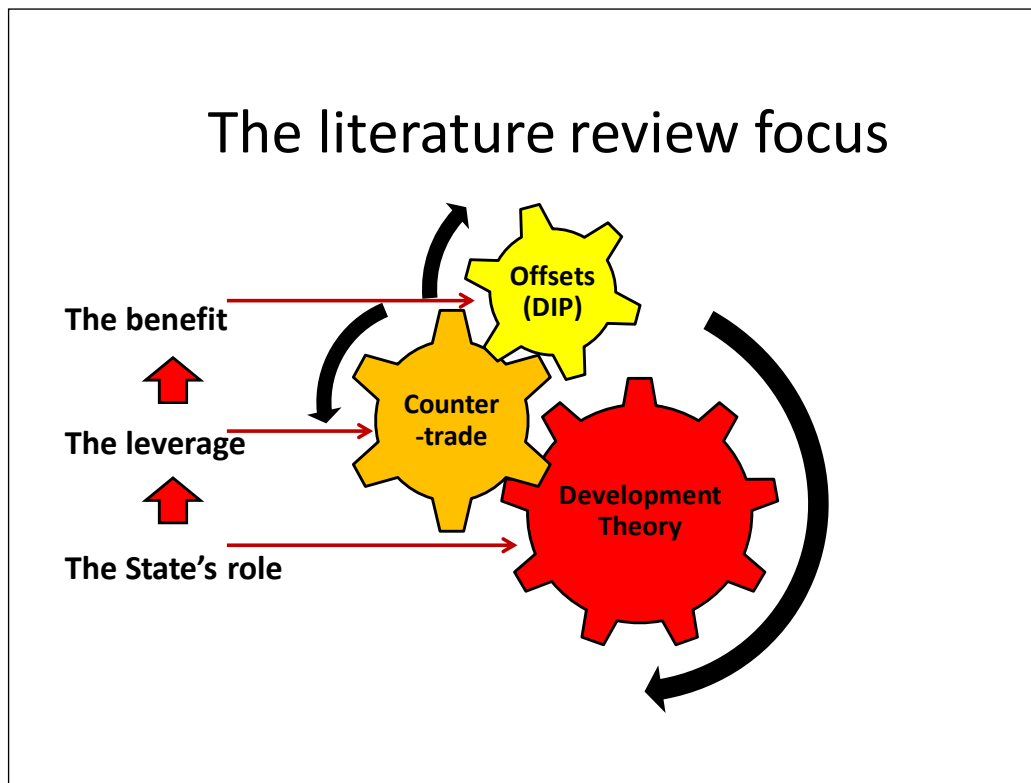


Figure 1: *The literature review focus* (Source: author)

2.2 Development Theory in the Context of this Research

This thesis does not provide an in-depth review of all the various dimensions of the on-going discourse on development. Instead, it focuses on those primary sources that contain information that emphasises the thesis' propositions regarding the possible synergies between development and countertrade. Some direct correlations between countertrade and the many development debates have been identified in specific instances where they overlap each other's aims and objectives.

This literature review therefore investigates the role of the state in economic, industrial and human development terms. It furthermore considers the importance of technology. The role of the state is particularly relevant to the military industrial complex, since countertrade principles are used to further the industrialization objectives of countries (*cf.* Verzariu, 2004).

Until the end of the 1960s, development was observed primarily from a modernisation perspective. Development was seen to evolve: countries progressed through an identified series of stages of modernisation.¹³³ According to Midgley (1995), development is commonly associated with some form of change that leads to higher levels of economic development. Evidence indicates that all levels of society with its different economic, industrial, cultural, religious, gender and environmental dimensions are affected by development (cf. Liddle, 1992; Pieterse, 2001, 2010). Development is seen as a process that should be understood, rather than as a product - a process that primarily involves social change (Coetzee, 2001; Pieterse, 1998, 2001, 2010; Barbanti, 2004; Meier and Rauch, 2005).

However, Crush (1995) questions whether planned development actually works.¹³⁴ According to Crush (1995:iv-vi), development '*...contains a lot of jargon that is evasive and at best misleading... most writing on development is prosaic in the extreme, laden with jargon, hackneyed and exclusionary... text is highly stylized and repetitive*'. Similar views have been expressed by the former head of the UNDP (cf. Dervis¹³⁵, 2006).

There is quite a broad body of literature that now recognizes that development is at best episodic and uneven – this observation also applies to countertrade¹³⁶ (covered in more detail in chapters 4 to 6). Rather than seeing the inception and implementation of countertrade as the play of market forces, one needs to see it as both conditioning and conditioned by development discourses and practices. The outcome of countertrade is the collective of a number of complex uneven processes, of the struggles and alliances of many different trade and social forces happening simultaneously on many different terrains (cf. Pieterse, 1998, 2001, 2010; Klerck, 2001; Meier and Rauch, 2005).

¹³³In the 1950s the theory of the linear-stages-of-growth in development economics, was first formulated by W.W. Rostow in 'The Stages of Growth: A Non-Communist Manifesto' (1960). It basically modified Marx's stages theory of development and focused on the accelerated accumulation of capital through the use of both domestic and international savings as a means of creating investment and as the primary means of pushing economic growth

¹³⁴Similar to the failures of development initiatives, one of the key reasons why certain countertrade projects fail is primarily attributable to poor planning, wrong business decisions, choosing the wrong type of project for the wrong country and the wrong place and time. No proper sensitivity analyses are done, wrong strategies and partners are chosen, sometimes under the influence of other forces at play. All this eventually causes capital intensive (cf. Hanza and Shannon 1982) investment into a domestic industry to be lost and businesses to declare bankruptcy even before they start operating

¹³⁵Kemal Dervis was the head of the United Nations Development Programme, the UN's global development network, from August 2005 to 28 February 2009. He was also the Chair of the United Nations Development Group, a committee consisting of the heads of all UN funds, programmes and departments working on development issues level - cf. <<http://www.undp.org/content/undp/en/home/operations/leadership/administrator/kemaldervis.html>>

¹³⁶So as it stands now the meaning is that countertrade is at best also episodic and uneven – episodic to its linkage to 'erratic' defence procurement and secondly uneven due to its diverse application

In addition, the Human Development Report (UNDP) (UN, 1994:54) states that up until 1994, there was no consensus about the meaning of development. However, the 2014 UN's Millennium Development Goals Report¹³⁷ states today, 20 years later, that member states are much more focused in determining how sustainable development goals can be achieved by 2015. The UN notes that reliable data and statistics for monitoring development remain inadequate in many countries (UN, 2014).

2.3 Development Theory on the Role of the State

The IMF *World Economic Outlook* report of September 2003¹³⁸ notes that there is an increasing appreciation of the potential of the 'state' to provide an enabling environment.¹³⁹ The IMF views the state as the primary interventionist that can intervene in a coherent fashion to stimulate and guide economic and industrial development, market integration and market-driven development strategies. The state is the central thrust behind the facilitation of markets, rather than an active developmental agent. In the context of countertrade, it must be noted that the government uses leveraged procurement (*cf.* Watermeyer, 2012) to extract a reciprocal benefit that is aimed at supporting certain developmental aims and objectives. Countertrade agreements are between buying governments and foreign suppliers. As a condition of sale of good or services (the 'base goods'), the foreign supplier is encouraged or even contractually required to provide additional economic benefits – beyond the base transaction – to the purchasing government's economy. These benefits can take the form of a variety of countertrade activities, industrial compensation packages, investment, technology transfer, sub-contracting and so forth (*cf.* Coetzer, 1995; Brennan, 1998; Yülek and Taylor¹⁴⁰, 2012).

Taylor (2011), Yülek and Taylor (2012), also Watermeyer (2012) note that internationally governments are the key role players in leveraging what became known as 'the power of procurement' that is used for a diverse range of purposes in defence and/or civil transactions. This behaviour advances industrial, economic and socio-economic goals and objectives through reciprocity principles. However, there

¹³⁷ Press release 7 July 2014 – *cf.* <http://www.un.org/millenniumgoals/pdf/MDGReport2014_PR_Global_English.pdf> - the Millennium Development Goals Declaration was articulated in 2000

¹³⁸ *Cf.* <<http://www.imf.org/external/pubs/ft/weo/2003/02/>>

¹³⁹ In the context of this research the practice of state leveraged procurement comes into play (*cf.* Yülek and Taylor, 2012) – this is directly associated with the principle of using various forms of countertrade, particularly offsets, to develop certain industrial sectors of a given country's economy – whether civilian or defence

¹⁴⁰ Travis K. Taylor is an associate professor of Economics at Christopher Newport University in Virginia, USA (Taylor, 2002)

appears to be little or no synergy in this process¹⁴¹ (*ibid*). The extent to which this is true is explored in detail in chapters four to six.

In a global economy there is a need for governments to work co-operatively with the private sector, civil society organizations and international financial institutions (*cf.* Crouch, 2012). This need is premised on having a coherent and integrated sustainable market system. According to popular theory, such a market system enables enterprises of all sizes to engage in regional and global trade, leading to investment opportunities facilitated by governments and non-state actors working together (Ocampo and Martin, 2003; Czinkota, 2013). This brings together development and business communities in a far more systematic, pragmatic and solution-focused endeavour (*cf.* Ocampo and Martin, 2003; Crouch, 2012).

2.4 The Neo-liberal Paradigm in the Context of this Study

Having considered the role of the state with regard to directed and planned state interventions, one has to consider how this correlates with or contradicts neo-liberal philosophies that propagate free trade. In the 1920s, John Maynard Keynes¹⁴² established a new economic theory that introduced the concept of aggregate demand as the sum of consumption that postulated government spending as a means of assisting with full employment. Demand effects operate through expenditure, the most obvious aspect being a Keynesian multiplier effect that causes an exogenous rise in spending. This in turn increases demand and, if there is spare capacity, there is a consequential increased utilisation of resources and reduced unemployment (Dunne, *et al.*, 2005:450).

However, Keynesian effects started diminishing by the 1970s primarily due to the impact of inflation and the appearance of privatisation and a reduced social state. The Keynesianism collapse was followed for much of the 1980s and 1990s, by a neo-liberal philosophy of free trade (*cf.* Crouch, 2011).

¹⁴¹ A similar observation is made by Dunne and Haines (2005) in respect of the South African SDP offset programme

¹⁴² John Maynard Keynes is regarded as the founder of a new economic theory that became known as Keynesianism. Source: Concise Encyclopaedia of Economics - *cf.* <<http://www.econlib.org/library/Enc/bios/Keynes.html>>

Following the neo-liberal philosophy phase, in the 1990s a new term, 'Washington Consensus', was coined by John Williamson,¹⁴³ who was writing about economic reforms in Latin America. (cf. Gore, 2000; Fine, *et al.*, 2001; Kanbur, 2008). Williamson (2004:3) listed ten key specific economic reforms that became a referenced paradigm from then on until around 2009.

However, as time passed and development discourse focused more on performance and sustainable development, the Washington Consensus started coming under severe criticism. Fine, *et al.* (2001), for example, anticipated the emergence of a post-Washington consensus era in which there would be a more open interventionist type of approach by the state. Kantrianidis (2003:146) remarks that by treating development as a technical problem of growth in macro-economic aggregates, social science seems to have become aware that development is the progress of important social transformation. Kantrianidis (*ibid*) highlights two specific points of criticism stemming from Fine's observations. Firstly, Fine criticises the approach that perceives economy and society as the sum of people and interprets social behaviour as a combination of the behaviour of individuals. Secondly, Fine criticises reducing the problem of development to a problem of coping with market imperfections. This kind of transition is seen as moving from rent-seeking economics to new information-theoretic economics (2003:147).

Another major critic of the Washington Consensus is Stiglitz,¹⁴⁴ regarded as one of the most authoritative and controversial figures in the globalisation and anti neo-liberal debates. His criticisms (in the late 1990s and early 2000s) added new dimensions to discussions on international economic policies by questioning the neo-liberal approach of the WB and IMF. Stiglitz called for much more transparency in the WB and IMF's planned development programmes (cf. Schoenfelder, 2003).

In 2008, Stiglitz was quoted as saying,¹⁴⁵

'The world has not been kind to neo-liberalism, that grab-bag of ideas based on the fundamentalist notion that markets are self-correcting, allocate resources efficiently, and serve the public interest well. It was

¹⁴³ John Williamson has been an economics professor, a fellow and senior researcher with the Peterson Institute for International Economics, and has held various terms of office with the UN, the WB and the IMF, and various US universities - cf. <<http://www.iie.com>>

¹⁴⁴ Joseph (Joe) Stiglitz is Professor of Economics and Finance at Columbia University. After serving as Chairman of President Clinton's Council of Economic Advisers from 1993 to 1997, he was Chief Economist of the World Bank from 1997 to 2000. In 2001, he was awarded the Nobel Prize in Economics for his work on the analysis of markets with asymmetric information. He obtained his Ph.D. from the Massachusetts Institute of Technology

¹⁴⁵ Krugman, P. Interview with Stiglitz – cf. <<http://economistsview.typepad.com/economistsview/2008/07/stiglitz-the-en.html>>

this market fundamentalism that underlay Thatcherism, Reaganomics, and the so-called “Washington Consensus” in favor of privatization, liberalization, and independent central banks focusing single-mindedly on inflation. For a quarter-century, there has been a contest among developing countries, and the losers are clear: countries that pursued neo-liberal policies ... lost the growth sweepstakes...Though neo-liberals do not want to admit it, their ideology also failed another test. No one can claim that financial markets did a stellar job in allocating resources in the late 1990’s, with 97% of investments in fiber optics taking years to see any light..., [and the more recent] massive misallocation of resources to housing.... Nor did markets prepare us well for soaring oil and food prices. Of course, neither sector is an example of free-market economics, but that is partly the point: free-market rhetoric has been used selectively – embraced when it serves special interests and discarded when it does not. ...This mixture of free-market rhetoric and government intervention has worked particularly badly for developing countries... today, there is a mismatch between social and private returns. Unless they are closely aligned, the market system cannot work well.’

Stiglitz adds that neo-liberal market fundamentalism was always a political doctrine serving certain interests. It was never supported by economic theory, or historical experience. Crouch (2011) describes it as the confrontation of externalities caused between the free-market and the state.

Similarly, Wade (2010:4-5) notes that the WB’s ‘programmatic ideas on development’ and the role of the state is primarily derived from the US idea of free markets, and that the US uses the WB as an important instrument through which it seeks to project a powerful external reach while having the opportunity to influence structural adjustment programmes (SAPs). In this way it aims to open markets through influencing free trade principles as a condition of WB loans. The WB not only enjoys the unique position of a generator of development ideas, but has the ability to influence the terms on which low-income countries can gain access to international capital markets (*ibid*).

Having given in to neo-liberalism's influences in the international market, it was realised that markets cannot be self-regulating as there are just too many variables at stake. As gathered from the 2012 WTO Trade Report (WTO, 2012), more and more governments introduce a variety of policies and procedures to regulate the market. This includes aspects related to procurement. The latter inherently includes the practice of leveraged procurement that requires reciprocity through countertrade and offsets related transactions. More and more regional trade agreements have come into being that suggest that neo-liberalism, in its traditional sense, has very limited application today.

However, Larner (2000:6) states that a neo-liberalism political agenda is favouring the relatively unfettered operation of markets. Neo-liberalism is seen as a form of 'ideology' constituting a body of ideas that is understood to rest on values related to individualism, freedom of choice, market security, laissez faire, and minimal government involvement. These values, according to Larner, underpin new institutional economics (built on public choice theory, transactions cost theory and principal-agency theory), which provide the theoretical impetus for deregulation and privatization. The neo-liberalism ideology is associated with, for example, what is termed 'Thatcherism' (UK) and 'Reaganomics' (USA) – both broadly aimed at changing the currency of political thought and argument in an effort to consolidate markets premised on the tenets of neo-liberalism (Larner, 2000:9; also Giroux, 2004). Neo-liberal ideologies encourage people to see themselves as individualized, active subjects responsible for enhancing their own wellbeing (Larner, 2000:13). Neo-liberalism is not a theory that is dependent on the state's role in development; to the contrary, it promotes zero involvement of the state (*cf.* Giroux, 2004).

Blanden (2014) notes that early neo-liberal ideologists believed in reproducing capitalist accumulation through financial means. This was aimed at securing long-term stability for the world's working classes through the free market. Blanden (*ibid*) adds that as idealistic as this may seem, neo-liberalism proved rather useful for both elites and the western working class, who were already integrated into post war Keynesian patterns of high consumption – both characterised by the same desire, namely, to preserve a constant rate of consumption (ostensibly aimed at the same levels prevalent in the 1970s).

In conclusion, in July 2008,¹⁴⁶ Krugman stated that the neo-liberal market fundamentalism was somewhat of a political doctrine that served only certain interests. He added that it was never supported by economic theory. It thereafter transpired that the world's over reliance on unfettered market liberalisation policies was identified as a root cause of the 2009 worldwide economic crisis. In the spring of 2009, the Group of 20 (G20) heads of state met and formally declared the Washington Consensus '*defunct*' (Chorev and Babb, 2009:1).

2.5 Globalisation in the Context of this Study

Haines and Batchelor (2006) note that since the 1990s globalisation has become the 'watchword' of the international community (also Schuurman, 2001). It has become both a concept and a process that assumes the emergence of global culture through a range of developments in the field of high end technology. It consequently underwrites the respective notions of the global village (cosmopolitan in nature with little divides left), a world systems theory that extends to include human rights. Therefore, development theorists are tasked with uncovering and examining (rather than resisting) the complexities of practice to produce generative, transformative concepts (Haines and Batchelor, 2006). It is exactly in this regard that this thesis proposes a closer relationship between the aims and objectives of development and countertrade.

Therefore, this study considers the international nature and characteristics of globalisation from a development point of view, and how this is relevant to countertrade as a global trade phenomenon. It is worth observing some correlating views on globalisation that are relevant to the international characteristics of countertrade. Pieterse (2000) states that development trails globalisation trends, and that it remains an uneven process among countries, regions within countries and the various categories of regions that cannot be confined to any specific social discipline or science.

According to Hardt and Negri (2000), globalisation's political order evolved from the initial juridical world order into a new juridical international order (established through the formation of the UN) to the present global order. Hardt and Negri (*ibid*) state that traditional thinking about 'empires' connotes an 'order' that has no limits or

¹⁴⁶*Economist's Review* – cf. <<http://economistsview.typepad.com/economistsview/2008/07/stiglitz-the-en.html>>

boundaries. Today's empires draw on elements of traditional US Constitutionalism that displays a hybrid of identities and expanding frontiers. Hardt and Negri (*ibid*) postulate that globalisation is not viewed as eroding sovereignty but rather transforming it into a new empire-like system of diffuse and supranational institutions (similar to the concept of the multi-national enterprise). Globalisation deals with two sets of issues; the one includes investment, trade, production and technology, and the other more contemporary issues such as pollution (environmental), migration and crime (*cf.* Schaeffer, 2003).

Thus, the changing environment of development can be understood from economic, financial, accounting, human resources, marketing, cultural, and other perspectives which have brought a myriad of new challenges. Development is seen as a process through which business expands into markets around the world (*cf.* APICS, 2011). The UNDP (UN, 2003) observes increasing integration of world markets and the 'parcelling out' of the various stages of production to areas with the most obvious competitive advantage. The aim is to turn profits in the shortest possible time (Von Werlhof, 2013:35). With barriers to trade effectively dismantled through technological changes that facilitate transport and communications, companies could locate each stage of production to areas where factory costs are the cheapest, which allows them to optimise sales of finished goods in the most lucrative markets. The expansion of trade together with the geographical integration of production became a significant part of what is known as 'globalisation' (UNDP, 2003; Hough and Neuland, 2007). Von Werlhof (2013:35-36) calls this a commoditization process, where everything is being turned into commodities and becoming objects of trade. The exception is defence companies that owing to a myriad arms control regimes and restrictions do not enjoy the same level of trade freedom as their civil counterparts.

As globalisation shifts towards integrated markets that merge traditional national markets into one global market (*cf.* Hough and Neuland, 2007), one can no longer view countertrade as a set of episodic events. This perspective is supported by the fact that various countertrade practices are pursued and enforced by around 40 per cent of all countries (*cf.* Appendix A). Such practices are enforced through principles of leveraged procurement, and by law, or decree or regulation, or as a national policy pertaining to international procurement practices (*cf.* Mayhew, 2005; Carson, 2010; Brauer and Dunne, 2009; Taylor, 2012). Within a similar context, Czinkota (2013:8) states that world trade has forged global linkages that cause policymakers to realise

that it is very difficult to isolate domestic economic activity from international global market events, as domestic markets are more and more influenced from abroad (*ibid*:12).

2.6 Dependency – a Theory or Not?

Dependency follows closely on several aspects discussed in relation to globalisation specifically, and to the roles of multi-national enterprises.

The concept of ‘dependency’ appears to have started with the very poor state of development in Latin America after WWII (*cf.* Peter, 1999). Consequently, in 1948, the UN established the Economic Commission for Latin America (UNECLA).¹⁴⁷ In that same year Latin American countries aligned themselves with the US through the Organization of American States (OAS). Dominated by the US, the OAS sought to prevent communists from acquiring control in Latin American countries by well-meaning social and economic aid (Peter, 1999). In 1984, the ‘UNECLA’ was extended to include the Caribbean and hence became known as ‘UNECLAC’.

UNECLAC was founded for the purpose of contributing to the economic development of the region, coordinating actions to promote development and reinforcing economic ties between the region and other countries.¹⁴⁸ In 1949, Prebisch¹⁴⁹ and Singer¹⁵⁰ pointed out that the terms of trade for underdeveloped countries, relative to that of developed countries, had deteriorated over time. They noted that underdeveloped countries were purchasing fewer and fewer manufactured goods from the developed countries in exchange for a given quantity of their raw materials’ exports (note: this very much resembles bartering). It was from these observations that ‘*dependency theory*’ came into being (*cf.* Prebisch, 1950; Cardoso¹⁵¹ and Faletto¹⁵², 1979; Shaw, 2002; Moses, 2012).

According to Moses (2012:3,4), the Prebisch-Singer ‘*dependency hypothesis*’ was not a socio-economic relation that just ‘occurred’; it was developed historically

¹⁴⁷*Cf.* <<http://www.un.org>>

¹⁴⁸*Ibid*

¹⁴⁹Raúl Prebisch (April 17, 1901 – April 29, 1986) an Argentine economist known for his contribution to structuralist economics.

¹⁵⁰Sir Hans Wolfgang Singer (29 November 1910 – 26 February 2006) was a development economist best known for the ‘Singer–Prebisch thesis’, which states that the terms of trade move against producers of primary products

¹⁵¹Fernando Henrique Cardoso, (born June 18, 1931, Rio de Janeiro, Brazil), Brazilian sociologist, teacher, and politician who was president of Brazil from 1995 to 2003

¹⁵²Enzo Doménico Faletto Verné was born in Chile in 1935 and died in Santiago de Chile on July 22, 2003. He studied history in the Faculty of Philosophy and Education at the University of Chile and received an MA in sociology at the Latin American Faculty of Social Studies (FLACSO). He is considered as a representative of social sciences and humanities in Latin America - *cf.* <http://www.sociologyencyclopedia.com/public/tocnode?id=g9781405124331_yr2013_chunk_g978140512433112_ss1-5>

through capitalism's power-relations between first and third world countries where the latter's economies were conditioned by the development and expansion of another economy that had put them in a situation of backwardness under the exploitation of the dominant country.

Some thirty years later, based on their study of Latin America's situation after WWII, Cardoso and Faletto (1979) focused more on the '*concept of dependency*', rather than on the 'theory' itself. They expressed the view that dependency was generating more underdevelopment and more dependency: Latin America found itself becoming more and more dependent on international capitalism and multi-national corporations (*ibid*: x).

However, over time proponents of free-market economics criticized '*dependency theory*' on the basis that it did not account for the endogenous factors involved in a country's development and blamed exogenous factors. Marxists criticised the theory as 'Neo-Marxist' in the sense that it removed the idea of class struggle and instead made it a struggle of national, regional and international affairs. They further claimed that while unequal exchange might have been a key factor in the underdevelopment of nations, it was not the impetus. They held that capitalist modes of production were the reason countries became underdeveloped (Moses, 2012:5).

Sánchez (2002-2003:1), for example, states that although dependency theory as a conscious explicit approach to development is a thing of the past, its legacy very much remains. Dependency theory is not a theory, but more a conceived approach to the study of underdevelopment. Radovanovic (2012:2) similarly notes that dependency theory has been rendered 'obsolete', disappearing from the theoretical radar and leaving some of the crucial epistemological questions about development and poverty unanswered. In an article in *The Guardian* (1 March 2012), it was reported that '*There are two words guaranteed to get you escorted out of most development agencies, or side lined in current development debates – they are: "dependency theory". Gone are the heydays of the 1970s when dependency theory was considered one of the most convincing critiques of dominant economic development strategies.*' Moses (2012:12) concludes that dependency theory has lost many of its merits, although there remain many '*satellites*' that rely on its premises to explain certain issues of inequality and socioeconomic disparity, which are becoming ever more prevalent in the globalized economy.

Nevertheless, there appears to be consensus that '*classical dependency theory*', which focused on the relationship between rich and poor countries, probably needs substantial restructuring for the present era. The question being asked is whether it is possible that a new strain of dependency theory is required, one that focuses more on the relationship between rich and poor people, following a direction much development thinking has been taking recently. Moses (2012:13) states that this theory itself is not outdated, but what is outdated are the ways in which its applications are assessed. He also points out that this phenomenon occurs not only in Latin America, but in other satellites around the world that have economies linked to core countries and are not themselves self-perpetuating or self-generating (also Sánchez, 2002-2003 and Radovanovic, 2012).

Furthermore, Sanchez (2002-2003) notes that world economy tribulations affect all countries, albeit not in a similar way; less developed economies are more vulnerable. A country's crucial external link to the world economy is through its export market. Demand for exports will be a function of both the health of the global economy and the level of worldwide economic activity, together with the evolving characteristics of the world trading system (*cf.* Czinkota, 2013). The volume and value of a country's exports are paramount to avoid severe economic problems. In fact, the WB defines a nation's well-being in terms of its debt/exports ratio (*ibid*). Sanchez (2002-2003) points out that dependency analysis rightly emphasizes the interdependence of economic and political relations in the international arena. After fifty years of development experience (since the discipline of development economics was born), scholars have increasingly been coming to terms with the reality that underdevelopment is the result of a baffling range of factors, such as economic and political, but also social, cultural, etcetera (*ibid*).

In conclusion, common sense points to the perpetual existence of a '*dependency phenomena*' which includes inter-dependency. In this regard, a few pertinent questions should be asked: (i) can the world survive without energy? (i.e. dependency on oil and nuclear and solar power); (ii) what is the world's dependence on communications and what is the role of ICT? (i.e. dependency on satellites and the internet, and intercontinental and national transport); (iii) why is the world dependent on trade? (i.e. dependency on exports, demand and supply, and industrial development, including countertrade); (iv) why is the world dependent on continuous and perpetual growth? (i.e. dependency on financial markets, socio-economic

development and investment, food and water); (v) what constitutes social welfare dependence? (i.e. dependency on various forms and levels of developmental intervention, education, health, infrastructure, jobs, etc.); (vi) why is the world dependent on international, regional and country security? (i.e. dependency on well-equipped military and security forces and international and regional co-operation to fight the war against crime and terrorism); (vii) why is there such a dependence on technology? (the never-ending challenge of finding new ways of doing things better and smarter and more efficiently). The answer to each of these questions is much more complex than illustrated by the examples above, and to a large extent is related to whether a country is peripheral, semi-peripheral, or core in terms of Wallerstein's (1974) world systems theory.

2.7 The World Systems Theory

In 1974, Emanuel Wallerstein¹⁵³ developed his world systems theory. He divided the world into four distinct categories, namely, core, semi-periphery, periphery, and external areas not included in his world system theory. The distinguishing premise is the level of development of one country over another, and is further informed by the level of dependency of one on the other (cf. Zaryck, 2007). In layman's terms this is the reality of 'the haves and the have-nots', where the one dominates and exploits the other, which creates another phenomenon in development discourse referred to as the dependency theory.

Monnier (2009)¹⁵⁴ points out that the 'core areas' are the most economically advanced (mostly post-industrial) and that they dominate the world system and exploit the other two zones. The US, the EU and Japan constitute the major core areas. The UN, on the other hand, uses the term 'most developed country' (MDC).¹⁵⁵ The 'periphery', Monnier states, is composed of the poorest and least developed areas, mostly agricultural. The UN uses the term 'least developed country' (LDC).¹⁵⁶ The periphery is exploited by the core for its natural resources: wealth extracted from the periphery flows from the core in the form of finished goods or exotic produce. The

¹⁵³Immanuel Wallerstein was the former President of the International Sociological Association (1994-1998), and chair of the International Gulbenkian Commission on the Restructuring of the Social Sciences (1993-1995). He wrote in three domains of world-systems analysis: the historical development of the modern world-system; the contemporary crisis of the capitalist world-economy; the structures of knowledge – cf. <<http://sociology.yale.edu/people/immanuel-wallerstein>>

¹⁵⁴Web-article – cf. <<https://globalsociology.pbworks.com/w/page/14711186/Global%20Sociology>>

¹⁵⁵cf. <<http://www.un.org/...>> - The top ten MDCs are Japan, Switzerland, Sweden, Ireland, New Zealand, Germany, Netherlands, USA, Australia and Norway

¹⁵⁶ibid – the eight least-developed countries still to join the WTO, are Afghanistan, Bhutan, Comoros, Equatorial Guinea, Ethiopia, Liberia, Sao Tomé & Príncipe and Sudan

largest part of Africa and, to a lesser extent, parts of Asia and Latin America are the contemporary periphery.

The '*semi-periphery*' occupies an intermediate position and serves as a buffer between the core and the periphery. It is composed of semi-industrialized or industrializing countries that process natural resources from the periphery and manufacture them to be sold in other markets. Countries such as Mexico, Brazil and South Korea are part of the semi-periphery (South Africa seems to be falling into this category). Monnier (*ibid*) indicates that it is possible for countries to move up or down the system. Wallerstein (1976: 229-233) notes, '*...one factor that tends to mask this fact is that the process of development of a world-economy brings about technological advances which make it possible to expand the boundaries of a world-economy. In this case, particular regions of the world may change their structural role in the world-economy, to their advantage, even though the disparity of reward between different sectors of the world-economy as a whole may be simultaneously widening.*' Monnier (2009) adds that although some countries move up or down, this does not change the overall structure of the system.

Both Monnier (2009) and Power (2012) note that China, for example, is progressively moving from the periphery to the semi-periphery. This puts it in a position to access (and exploit) other periphery economies, particularly those in Africa (*cf.* Drezner, 2007). The problem of China to the capitalist world's economy is its vast size (Li, 2006). China has a labour force larger than the total labour force of all the core states, or of the entire semi-periphery. If China becomes a fully established semi-peripheral state, competing with the existing semi-peripherals in all the existing semi-peripheral commodity chains, the competition must eventually lead to the convergence of China and the existing semi-peripheral states in profit and wage rates. Given China's enormous labour force, it is quite possible China's competition will completely undermine the relative monopoly of the existing semi-peripheral states in certain commodity chains, forcing them to accept lower wage rates that are closer to the Chinese wage rates.

In addition, the least developed countries (those that fall into the periphery category) are also those faced with financial problems, and are thus more likely to use certain countertrade practices, such as barter, as a means of survival. Typical examples are

the Philippines, Thailand, Pakistan, Malaysia and Sudan¹⁵⁷ (discussed in more detail in chapter 4).

2.8 The Role of Multi-National Enterprises

To place the above discussion into the context of this study, it is necessary to consider the role of multi-national enterprises (MNEs) in relation to the observed tendencies in various developmental aspects, such as the role of the state, globalisation, world systems, and dependency and periphery theories.

Multi-national enterprises are referred to by some sources as multi-national corporations or multi-national firms (*cf.* Kaplan, 2003). According to Navaretti and Venables (2004:2), MNEs are firms that own a significant equity share (typically 50% or more) of another company (henceforth subsidiary or affiliate) operating in a foreign country.¹⁵⁸ Dunning¹⁵⁹ and Lundan¹⁶⁰ (2008: 201-202) describe a MNE as a firm that owns and controls value adding activities in more than one country. MNEs engage in foreign production to increase the value of the income-generating assets of their owners. Dunning and Lundan (*ibid.*: 204) add that MNEs augment existing assets by producing outside rather than inside their national boundaries, and are described as 'resource seekers' (*ibid.*: 209).

Buckley and Hashai (2013) distinguish between two groups of MNEs – the one being advanced country based multi-nationals and the other emerging country based multinationals. These operate, for example, from the 'BRIC(S)' countries, namely, Brazil, Russia, India, China (and South Africa that joined in 2011). Buckley and Hashai's study investigated the competitiveness between these two groupings, whereas this study primarily focuses on MNEs.

A question that may arise is why MNEs are relevant to this study. The ensuing section answers this question in the context of a number of aspects related to developmental issues around globalisation, foreign direct investments, technology,

¹⁵⁷ *Cf.* <<http://www.baternews.com>>

¹⁵⁸ MNEs include modern corporations such as IBM, General Motors, Intel and Nike, and also small firms such as Calzaturificio Carmens, a shoemaker employing 250 workers divided between Padua (Italy) and Vranje (Serbia). Some examples in defence would be General Dynamics, General Electric, Raytheon and Lockheed Martin from the USA, BAE Systems from the UK, Dassault and Safran from France, EADS (now the Airbus Group) from Germany, the Investor Group of Sweden and Finmeccanica from Italy – *cf.* <[http://www.privatemilitary.org/defense sector](http://www.privatemilitary.org/defense%20sector)>

¹⁵⁹ Dunning (dec) – emeritus professor of international investments and business studies at Univ of Reading, UK and state university of New Jersey

¹⁶⁰ Lundan is an associate professor of International Business Strategy, Maastricht University

market access and supply chain. It explains how periphery economies arise as a result of MNEs parcelling out production and labour, as a direct consequence of the offsets demands of buyer countries.

According to Navaretti and Venables (2004:3-4), based on trade figures from the UN Conference on Trade and Development (UNCTAD), enormous multinational enterprise growth activity occurred from 1986 to 2000. This was measured by flows of foreign direct investments. Navaretti and Venables (*ibid*) found that around one-third of world trade is intra-firm bound, that is, between subsidiaries based in different countries, or between the subsidiaries and the headquarters of MNEs. They also indicate that establishing a foreign subsidiary may take place in one of two ways; either as a 'greenfield investment', where a new plant is set up from scratch, or through a merger with or acquisition of an existing firm (*ibid*: 9). In the context of this study, this is true for both civil and particularly defence related business (discussed in more detail in chapter seven in the context of the SADI).

Addressing the issue of co-production and the division of labour, MNEs and their respective established subsidiaries focus in particular on the periphery to optimise profits. Navaretti and Venables (2004) explain that different stages of the production of a good take place in different countries. They use the production of an American car that is sourced out to various countries, as an example. This practice is sometimes referred to as 'vertical specialization' and reflects countries' production of different stages of goods and the consequent trade in intermediate products (referred to as '*fragmentation*', '*disintegration of production*' and '*intra-product specialization*' (*ibid*:14). Fragmentation leads to a division of labour that increases profitability, ostensibly through greater cost savings (WTO, 2012:52).¹⁶¹

Navaretti and Venables (2004:17) argue that there are divergent views regarding whether MNE involvement in countries can be viewed as beneficial or not: an answer is not obvious and the question requires in-depth study taking many variables into consideration. These would range from issues related to a lack of inward investment versus foreign investment, the crowding out of national companies and losing local market share, monopolistic local powers lost or eroded by MNE activities versus increased productivity and efficiency, and the spill-over effects of knowledge through learning (*ibid*).

¹⁶¹ cf. <http://www.wto.org/english/res_e/booksp_e/anrep_e/world_trade_report12_e.pdf>

In relation to the labour market, Navaretti and Venables (2004:18) conclude that the value of a FDI project creating jobs obviously depends on what would have happened in the absence of the project. They question whether there would be a net increase in employment, an increase in the demand for skills, or a crowding out of some jobs by others. The answer might depend on job characteristics. In addition, foreign firms may have different hiring and firing costs from national firms and react differently to wage and output shocks in the host economy. MNEs have plants in different locations and may find it relatively easy to switch activities between plants (cf. Dunning and Lundan (2008: 201-202)). The welfare effects of this can go either way. This aspect is deliberated in more detail in the preceding section on peripheral economies.

Numerous MNEs operate within and from South Africa, many directly (e.g. several auto manufacturer OEMs), and others through partnerships (one example is Barclays UK with ABSA), or mergers and acquisitions. A question that begs to be answered is what the role of MNEs in SA is in relation to SADI. Several MNEs are present in defence (for example, BAE Systems,¹⁶² Thales, Finmeccanika, Saab, and EADS (now the Airbus Group), and through their respective involvement in SADI - primarily as a consequence of the DIP programme - have entrenched South African production into their international supply chain networks as a result of direct investment, technology optimisation, productivity and competitiveness improvement. Consequently there is a direct contribution to the retention of defence industrial capabilities, which is one of the DIP policy objectives. However, it must be noted that due to a plethora of arms control and non-proliferations regimes (discussed in chapter 5) there is much less freedom of defence MNEs to engage in offshore activities to the same extent as non-defence MNEs, yet the defence offsets demands of numerous countries force participation with their respective industries despite the various arms control regimes. As will be seen in chapters four to six, technology plays a prominent role in defence offsets and is one of the top three recorded types of reciprocal transactions sought internationally.

2.9 The Role of Technology in Development and Countertrade

Technology means many things to various people and has a multitude of applications (cf. Hough, *et al.*, 2007; Prahlada and Kumar, 2009). Put differently and in layman's

¹⁶²It appears as if BAE Systems is busy withdrawing from South Africa – as evident by its disposal of all its shares in the former OMC – that is selling BAE Land Systems to Denel, as recorded in chapter seven

terms, technology is knowledge about those things being used to engage in change. Change is a major characteristic of development: it brings about various forms of invention, and innovations that lead to further change; and so the perpetual cycle of development manifests across all walks of life through the exploitability of technology (cf. Smith, 2006).

A similar correlation can be drawn between the development strategies of countries *vis a vis* the role that technology plays. One aspect relates to competitiveness, particularly in the global market place, where technology determines the effectiveness and productivity of a country's industries. Chapter six discusses the important role technology plays worldwide.

Technology recipients have to be able to absorb, assimilate, and replicate to expand its productive use. This is true for all aspects of technology deployment. The challenge of being a technology recipient lies in the people's and industry's ability to effectively absorb the technology in a sustainable manner – the results according to Brauer and Dunne (2009) remain mixed.

Therefore, it is argued that countries should appreciate the potential of carefully designed, time-bound sectoral policies to increase technological upgrading and to encourage learning and investment, so as to include employment targeting. Adelman (1999) states that most developing countries are bound to fail in their industrial enhancement policies due, for example, to market imperfections. Countries should carefully identify those sectors or industries with the greatest potential for productive employment creation (Carson, 2010).

The importance of pursuing this type of policy can, for example, be demonstrated in the case of Malaysia, where it was observed by Matthews and Yip (2013) that as part of its national development programme, Malaysia has sought to transform its economic capacity through offsets. Balakrishnan¹⁶³ (2008:136) explains that Malaysia decided to undertake defence industrialisation for both economic and military reasons. This development was mainly aimed at self-reliance in spares and logistic support, modification, upgrades, retrofits, maintenance and repair, and overhauls

¹⁶³ Kogila Balakrishnan is a member of the Administrative and Diplomatic corps of the Malaysian civil service. She works in the Ministry of Defence in Malaysia where she is involved in planning and monitoring the development and growth of the Malaysian defence industry, planning, organising and coordinating bilateral defence industry arrangements (including offsets). She holds a PhD from Cranfield University, UK. Her research focused on offsets and technology management – with Malaysia as a case study – she was one of my 'students' when I did the Malaysian offset training in 2001/2

without foreign assistance. The Malaysian government considered a domestic defence industry an essential element of sustainable self-reliance in times of security crisis. A defence industrial base is an effective way to create high technology employment, value-added work and backward linkages in support of small and medium scale industries, especially heavy manufacturing industries and dual-use technology. Malaysia applied a strong interventionist policy when developing its DIB, and continues to play a vital role in nurturing its defence industry through mechanisms such as defence procurement and offsets¹⁶⁴ (*ibid*:137) - up to the point at which local companies are able to support themselves (*ibid*:145). However, after more than ten years of offsets implementation, questions have been raised regarding the effectiveness of offsets. It is claimed, for example, that arms manufacturing in Malaysia has been mainly low-tech and small scale. Balakrishnan (*ibid*:149) finds that Malaysia's defence industry is in a 'backwater' and most companies still require government support. OEMs argue that they are unable to transfer high technology work due to the lack of investment and skilled workers from the local companies to undertake production. Arguably, the spill-over effects of offsets have not created sufficiently large backward and forward linkages in Malaysia (*ibid*:150). The industry has attained only low levels of capability in research, development and design work. A handful of companies have been able to enhance their capabilities to become international players. On the other hand, local companies who are either recipients of the technology or work share are also blamed for not possessing the capabilities and capacities to undertake the necessary work (*ibid*:154).

Matthews and Yip (2013) state that Malaysia has strived to move from primarily commodity-based activities to higher forms of capital-intensive manufacturing and knowledge-based endeavours. In this respect, the defence and aerospace sector (normally associated with 'high price tag sectors') were identified as the vehicle (through the use of offsets) for acquiring high-end technology to move Malaysia up the ladder of development to become a high income nation. However, despite Malaysia's aspirations, the reality was that they did not have the absorptive capacity and ability¹⁶⁵ in their DIB to successfully assimilate such technologies. The Malaysians now also realise that major investments are required to achieve this.¹⁶⁶

¹⁶⁴ I assisted in Malaysian (Mindef with all the other government entities) offsets training in 2001 and 2002. I also conducted an industry and procurement gap analysis for Mindef in 2002/3

¹⁶⁵ In this specific respect it is important to note that in the case of the SDP, the affordability study that was performed considered the SA economy and industry's ability to absorb the opportunity cost of the deal, that is the DIP and NIP – cf. J. Naidoo, 9 June 2014 testimony at the APC - cf. <<http://www.armscomm.org.za/hearings/...>>

¹⁶⁶ Between 2001 and 2004, I was personally involved in advising the Malaysian Ministry of Defence to develop their offset policy. At that time several of their government officials were under the impression that the South African defence industry was established through offsets – I had a similar experience with Chile that wanted to use the SA DIP 'blue print' to create such

Only time will tell how successful their endeavours will be (*ibid*). In comparison to Malaysia, the South African experience with its DIP programme achieved quite the opposite effect, as witnessed in the discussions in chapters seven through to eleven.

Discussing the role of offsets leverage in acquiring sought after technologies, Prahlada and Kumar (2009) use India, South Korea and China as examples. They note that China is the most 'aggressive' in extracting technology through offsets (not only for defence). Clearly this has contributed to making China the fifth largest exporter of defence equipment (SIPRI, 2013). Governments acquiring sought after technologies, particularly through the instruments of countertrade and offsets, aim at creating growth enabling factors across a variety of domains. As observed by Dunne and Lamb in 2003, South Africa has indigenous industrial capacity that could be exploited if firms were integrated into an emerging European or global arms production supply chain. This study will demonstrate that this is exactly what occurred in the South African defence industrial base (*cf.* chapters 10 and 11).

In conclusion, it must be noted that there are a number of constraints to technology in the defence domain, for example, international concerns over the uncontrolled spread of weapons of mass destruction (WMD).¹⁶⁷ Consequently, numerous strict international control measures and treaties, supported by various national legislative restrictions, have been put into place to control the transfer and movement of all technologies - whether embedded in knowledge, materials, products, parts or processes, whether civil or defence in nature - to prevent the spread of weapons of mass destruction. These controls are embedded in the International Traffic in Arms Regulations (ITAR) of the US Department of State,¹⁶⁸ the nuclear non-proliferation treaty of 1 July 1968 that was ratified on 5 March 1970 with 189 countries as signatories,¹⁶⁹ and the Missile Technology Control Regime (MTCR) established in 1987.¹⁷⁰ These various control mechanisms and control bodies are discussed in more detail in chapter five.

defence capacities in their counties. Needless to say, the SADI was not created through offsets, but through major government funded investment over a period of some 25-30 years, with defence spending at one stage as high as of 15% of GDP

¹⁶⁷ These concerns are not only related to WMD, but various other armament issues as discussed in more detail in chapter five

¹⁶⁸ *cf.* <http://www.pmdtc.state.gov/regulations_laws/itar.html>...in the case of the SDP, particularly on the SAAB Gripen, Sweden had to apply for approval to the US before they could supply the aircraft to South Africa

¹⁶⁹ *cf.* <<http://www.un.org/disarmament/WMD/Nuclear/NPTtext.shtml>>

¹⁷⁰ *cf.* <<https://www.armscontrol.org/factsheets/mtr>>. MTCR members (2014), followed by the year they joined the regime, are: Argentina (1993), Australia (1990), Austria (1991), Belgium (1990), Brazil (1995), Bulgaria (2004), Canada (1987), the Czech Republic (1998), Denmark (1990), Finland (1991), France (1987), Germany (1987), Greece (1992), Hungary (1993), Iceland (1993), Ireland (1992), Italy (1987), Japan (1987), Luxembourg (1990), the Netherlands (1990), New Zealand (1991), Norway (1990), Poland (1998), Portugal (1992), Russia (1995), South Africa (1995), South Korea (2001), Spain (1990), Sweden (1991), Switzerland (1992), Turkey (1997), Ukraine (1998), the United Kingdom (1987), and the United States (1987)

2.10 Considering Countertrade as a Global Trade Phenomenon

Three broad categories of literature exist on the collective subject of countertrade: one deals with the subject in general terms and in the broadest sense; the second deals with offsets, specifically in the defence domain; the last deals with barter, also referred to as commodity trade. This section focuses primarily on countertrade's origins and the reasons for its existence. What is important to note is that countertrade is not a theoretical subject but a set of internationally tested and tried practices that have been manifesting in international trade (*cf.* chapters 5, 6 and Appendix A).

Countertrade's origins are probably as old as the earliest civilisations. It started as a bartering type activity involving a commodity-for-commodity-exchange with no money involved, since there was initially no money in use¹⁷¹ (*cf.* Van der Crabben, 2011). As money became the accepted method of payment, direct commodity exchanges reduced but never ceased. Coetzer (1995) refers to the 1977 writings of Toutain on the economics of the ancient world during the period 800-500BC, where reference is made to 'Homer's Odyssey' during which certain goods were exchanged. The Phoenician empire was founded on a network of trade routes and their 'cross border' trading is, for example, depicted in ancient Egyptian wall paintings c. 1490-1436 BC (*ibid*).

Temin's (2003) research on the 'Heckscher-Ohlin' trade models¹⁷² found that in biblical times Mediterranean trade comprised two types that occurred before coinage (money) was invented: they were conducted through exchanges and transfers - goods or services were physically exchanged for other goods or services of equal value. This was the kind of behaviour most often observed in markets of that time – similar to 'modern' notions of barter. 'Transfers', on the other hand, were one-way transactions where goods and services were given by one party to another without any direct return – similar to the 'modern' notion of grants and/or donations.

¹⁷¹Coins were introduced as a method of payment around the 6th or 5th century BCE. The invention of coins is still shrouded in mystery: According to Herodotus, coins were first minted by the Lydians, while Aristotle claims that the first coins were minted by Demodike of Kyrme, the wife of King Midas of Phrygia. Numismatists consider that the first coins were minted on the Greek island of Aegina, either by the local rulers or by king Pheidon of Argos - *cf.* <<http://www.ancient.eu.com/coinage?...>>

¹⁷²The Heckscher-Ohlin model (in short the 'H-O model') is a general equilibrium mathematical model of international trade, developed in 1919 by Eli Heckscher and Bertil Ohlin at the Stockholm School of Economics – *cf.* <<http://www.citiligher.com/business/economics/knowledgecards/heckscher-ohlin-model#sthash.m5yyij7v.dpuf>>

Over the past 30 years the main *raisons d'être* governing the existence and increasing use of countertrade have been formulated and recorded by numerous scholars, practitioners and academics.¹⁷³ The most prominent ones include Yoffie (1985), Hennart, (1989), Angelides (1992), Verzariu (1985, 1992, 1996), Coetzer (1995), Marvel (1995, 1999), Martin (1996), Rowe (1997), Brennan (1998), Treahan (1999), Alexandrides (1999), and Taylor (2002, 2010, 2011). Due to the magnitude of countertrade and offsets transactions used by a large number of countries that apply this reciprocal trade process (*cf.* chapter 5), a natural question begs to be answered: 'Why do countries resort to this trade practice and not rely on standard free market principles to regulate the market?'

There is no simple answer. This study's investigation into the reasons for countertrade reveals a general need for countries to protect their indigenous defence industrial base as a result of foreign procurements that have to be made due to a lack of indigenous capabilities aggravated by the inhibitive costly development of new generation equipment. Foreign procurement considerations are otherwise influenced by economies of scale considerations. Another reason is a need to secure certain technology transfer and be able to maintain and repair foreign equipment in-country. Other reasons relate to the attraction of foreign direct investments and access to markets while stemming the outflow of foreign currency. The issues of job retention and job creation are also prominent factors.

Although the sources quoted above may appear dated, their arguments are mostly valid, even today. This observation is supported by two main general world trade issues covered in the 2012 WTO trade report.¹⁷⁴ The *one* is the WTO's recognition of a lack of confidence in international trade as a result of a lack of market share, surplus capacities, debt, increased protectionist mechanisms, trade deficits and anti-dumping. New markets are in constant demand where developing countries focus more on labour-intensive manufacturing and export of manufactured goods. The *second* issue relates to hurdles such as international supply chain access aggravated by branding and distribution constraints that prevent market entry.

Although the WTO report of 2012 does not specifically address issues related to countertrade and offsets, it observes that many governments apply non-tariff measures (NTMs). These, the Report indicates (WTO, 2012:60), are achieved

¹⁷³A comprehensive list of sources can be found in the Bibliography section of this thesis

¹⁷⁴*cf.* <http://www.wto.org/english/res_e/booksp_e/anrep_e/world_trade_report12_e.pdf>

through introducing various national policies and specifically, Regional Trade Agreements (RTA).¹⁷⁵ Some of these RTAs are reported to be limited to reducing barriers to trade in goods, while others are becoming increasingly more comprehensive with provisions on market openings in services and other areas such as investment, competition policy, trade facilitation, government procurement, intellectual property, electronic commerce and, in some cases, labour and the environment. Most RTAs are bilateral, giving rise to an increasingly complex regime of different trade regulations. The WTO Report states that some critics argue that these overlapping regional trade regimes make international trade more complex and undermine the WTO's non-discrimination principles as governed under the GPA, complicated by increased levels of difficulties for adequately monitoring international trade (*ibid*).

From a global perspective and over and above the main *raisons d'être* for countertrade, there appear *four distinct arguments* pertaining to the application of countertrade, particularly defence offsets (*cf.* Martin, 1996). The *first argument* is concerned with what can be categorised as 'hostile views' expressed by the WTO on offsets around 1994.¹⁷⁶ In the Agreement on Government Procurement (GPA), the WTO stipulates that offsets may not be used in any discriminatory manner when procuring goods and services.¹⁷⁷ The Organisation for Economic Co-operation and Development (OECD) interprets offsets as a threat (to Western exporters) and portrays the activity as harmful at a global level. It alleges that such liberalisms run counter to the spirit of an open and multilateral international trade system, as propagated by the WTO.

These views are also shared by the US Government and the EU. Consequently, in 2012 the EU issued a formal directive (2009/81/EC)¹⁷⁸ under Article 346¹⁷⁹ that requires member states to refrain from using defence offsets.

The *second argument* is that governments¹⁸⁰ imposing countertrade are ill informed and irrational, as there is little that countertrade, particularly offsets, can achieve.

¹⁷⁵ *ibid* - By 2011, 317 regional trade agreements (RTA) were effective with some 509 registered with the WTO

¹⁷⁶ Agreement on Government Procurement (GPA 1994) was signed in Marrakesh on 15 April 1994 — at the same time as the Agreement Establishing the WTO (replacing GATT) — and entered into force on 1 January 1996 – *cf.* <<http://www.wto.org/>>

¹⁷⁷ This has been covered earlier in this chapter, and is thus not meant as a duplication but for the sake of completion of this argument

¹⁷⁸ *cf.* <http://ec.europa.eu/internal_market/publicprocurement/docs/defence/guide-subcontracting_en.pdf>

¹⁷⁹ This proposed ban does not address the outward-bound countertrade obligations (i.e. non-EU based) of its member states. This research could find no evidence, however, that pointed to any of the OECD members having abolished (as yet) their countertrade (defence offsets in particular) practices

There appears to be a general view that offset arrangements do not yield net benefits for a country's economic development (e.g. Matthews¹⁸¹, 2000; Dunne and Lamb, 2003; Brauer and Dunne, 2004, 2005, 2009). The argument holds that arms trade offset deals are more costly than 'off-the-shelf' arms purchases - attributable to assumed hidden costs associated with offsets that create little by way of new or sustainable employment (*cf.* Brauer and Dunne, 2004, 2009). Brauer and Dunne argue that offsets do not appear to contribute in any substantive way to general economic development, and with remarkably few exceptions, do not result in significant technology transfers, not even within the military sector. Brauer and Dunne (2009) state, for example, that the positive economic effects from arms trade offsets are theoretically impossible and empirically improbable. They add that an unambiguous economy-wide net benefit has yet to be demonstrated for any offset deal ever concluded. The current research points to the contrary.

The *third argument* assumes a cautionary approach towards countertrade and offsets. The argument here requires careful consideration of cost and the benefits of each transaction; there should not be a general presumption that all countertrade is inefficient. Using various econometric models, it is possible to test which countertrade transactions would be the most beneficial (*cf.* Ghatak, 1986; Ellingsen, 1991; Gleditsch, *et al.*, 1996; Alexandrides, 1996; Molinas, 1998; Willis, 2005; Dunne, *et al.*, 2005). Offsets, whether civil or defence-related (Shanson, 2004; Verzariu, 2004), can provide a positive vehicle to developing countries. However, their use requires skills across the board, both in government and industry. It also requires definite knowledge of cultural differences and mind-sets (*ibid*).

The *fourth argument* is that the various forms of countertrade are a rational response to the costliness of effecting some types of transactions along a more conventional 'cash-for-goods' line. This suggests a combination of the barter, counter-purchase and buy-back mechanisms of countertrade deployed in a structured manner. With regard to bartering alone, the UN Conference on Trade and Development¹⁸² (UNCTAD, 2010) estimated that the bartering of products that takes place outside the

¹⁸⁰ Martin (1996) did not elaborate on this aspect, except for making the observation. I can however vouch for him, as it was indeed my experience in several countries – details withheld due to confidentiality considerations

¹⁸¹ Ron G. Matthews, is a professor at Cranfield University, UK – also at one stage Head of Graduate Studies and Deputy Director of the Institute of Defence and Strategic Studies at S Rajaratnam School of International Studies – Nanyang Technological University, Singapore - *cf.* <<http://www.cranfield.ac.uk>> and <http://www.rsis.edu.sg/about_rsis/staff_profiles/ron_matthews.htm>

¹⁸² BarterNews, 2010 - *cf.* <<http://www.baternews.com>>

official money-based GNP¹⁸³ sector of the world's economies amounts to nearly USD 16 trillion.

Regardless of the respective arguments above, it nonetheless follows that global supply and demand and contracted markets put buyer countries in a very strong position to dictate buying terms. The buyer is in a position to exploit the level of competition among producers in its own desperation to 'grab the order' (Gopalaswamy, 2009). The process of countertrade and offsets acknowledges the various aspects of international political trade that will continue to expand (*cf.* Czinkota, 2011; Taylor, 2011; Kimla, 2013).

Although there is an abundance of information available on countertrade and offsets, very little substantive empirical research on the exact content of the kinds of transactions could be located. This information seems to be obscured from public scrutiny due to non-disclosure of commercial confidential information. The unavailability of empirical data causes uncertainty as to how countertrade and offsets work in practice and what their exact benefits are - whether expressed in economic, industrial, technological or welfare-related terms (*cf.* Sandler and Hartley, 1995; Rowe, 1997; Balakrishnan, 2007; Nassimbeni and Sartor, 2009; Wellmann, 2010; *The Economist*, 2013).

Brauer and Dunne (2009) point out that from 2004 to 2009 literature did not yield new empirical data on arms trade (defence) offsets. Fletcher¹⁸⁴ (2009) attributes this to the likelihood that from 1977 to 1997 there was considerable focus in the media on countertrade as an emerging international trade phenomenon of interest. As a result, a large quantity of academic research was focused on this particular aspect of international trade, particularly East-West trade. However, interest declined¹⁸⁵ as a direct result of the fall of communism. The former 'Eastern Bloc'¹⁸⁶ countries were known for their centrally planned economies, which accounted for 36 per cent of countertrade transactions between 1987 and 1999 (*ibid*).

¹⁸³ GNP is a measure of a country's economic performance, or what its citizens produced (i.e. goods and services) and whether they produced these items within its borders

¹⁸⁴ Richard Fletcher is Professor of International Business at the University of Western Sydney, Australia (Fletcher, 2009)

¹⁸⁵ It must be noted that in this example the decline referred to relates to the decline in the monetary value of countertrade transactions that primarily consisted of barter deals and debt swaps

¹⁸⁶ The term 'Eastern Bloc' refers to the former Communist states of Eastern and Central Europe, including the countries of the Warsaw Pact, along with Yugoslavia and Albania, which were not aligned with the Soviet Union after 1948 and 1960 respectively

Montague, in 1989 (p360) already noted *‘Countertrade is not a game for amateurs. Even experienced specialists expect, at best, only one deal in ten to succeed, and even the successful transactions can prove more expensive and difficult than foreseen...few practitioners have cause to deal with countertrade transactions in practice, and this lack of familiarity has caused them to attain at best something of a mystique...an unmerited reputation of being slightly shady...’*

Nowadays, countertrade is much more focused on offsets and, in the kind of transactional agreements encountered, requires increased levels of reciprocity with accompanying complexity (cf. Yülek and Taylor, 2012).

2.11 The Emergence and Growth of Offsets

Since countertrade’s emergence in East-West trade in the mid-1970s, it proliferated and spread to numerous countries (Verzariu, 1992, 1996; Martin, 1996). In the years following, countertrade practices became much more complicated in nature and by 2014, 80 countries were applying various forms of this practice.¹⁸⁷ The number of regional and international countertrade organisations, and the number of meetings of such agencies similarly expanded to address this challenge.

According to Lanakev and Mladenov (2009),¹⁸⁸ offset deals first became popular in 1975 through the ‘Deal of the Century’. A consortium of four European countries comprising Belgium, Denmark, the Netherlands and Norway decided to procure 348 General Dynamics F-16 combat aircraft worth USD 2,8 billion. The proposed offset package played a decisive role in selecting the US aircraft over the French Mirage F-1. In exchange for their order, the four countries obtained industrial participation in producing the F-16 with the following shares – 40 per cent of the value of the consortium’s order, 15 per cent of the value of orders by third countries and 10 per cent of the value of the F-16 purchases by the US Air Force.

As evidenced in chapter four’s compendium on the various country countertrade requirements, it is clear that since the 1990s, countertrade has become much more focused on offsets, particularly in defence deals. One postulation is that offsets, by design, tend to be more value-adding. Countries have become more prescriptive in

¹⁸⁷CTO, QB, 2012 – reconfirmed by email with the CTO’s Editor, Lindsey Shanson on 19/4/2014

¹⁸⁸cf. Article: Offset Policies in Defence Procurement: Lessons for the European Defence Equipment Market. *Défense nationale et sécurité collective* – cf. <archive.ti-defence.org/component/cckjseblod/?task=download...>

what they want in return for the money they are to spend overseas.¹⁸⁹ This prescriptiveness principle is confirmed by Rutter¹⁹⁰ (2006), who notes that countries acquiring defence offsets are prepared to withhold payment under the main agreement in the case of non-performance.¹⁹¹ This kind of behaviour points, for example, to the possible rent seeking needs of the buying country.

As explained in chapter one, the offsets element of countertrade started playing an increasing role in the late 1990s, which is one of the reasons why the WTO imposed restrictions on its use, since it is the WTO's views that it promotes discriminatory procurement practices. Brauer and Dunne (2009) view offsets as a politically motivated reaction of governments to stem the outflow of capital they should have spent domestically in the first place.

Today, offsets are applicable to both the civil and defence fraternities and are no longer confined to only one type of transaction (*cf.* Shanson, 2004; Verzariu, 2004; Brauer and Dunne, 2009). Hadjiminias (2002, 2006) provides the following comparative table (Table 2 below) on this matter.

¹⁸⁹*The Financier*, 1997

¹⁹⁰Rutter, Neil. The then (2006) president of the Global Countertrade and Offset (GOCA) association

¹⁹¹This also supports my own views, developed from first-hand experience in the case of Turkey's policies and practices, encountered when Denel wanted to participate in a bid for the Turkish attack helicopter programme, c. 2005/6

Table 2: The changing face of offsets	
Before 2000	Since c. 2006
A need to build local production for national security reasons.	A need to support international peace missions (i.e. compatibility of equipment with one's partners is acceptable, ability to fight on one's own is not).
A way used to force high-tech industrialisation.	The principle of outsourcing, higher capital mobility and internet access to information – now fully endorsed by governments.
Many players.	Major mergers and consolidations.
Rigid walls between sales and offsets.	Walls came down, but heavy in-fighting. Still pockets of resistance due to higher availability of cheaper outsourcing elsewhere but at least more internationally oriented.
Governments suspicious of countertrade.	A fairly open mind-set, but lots of rules – well informed.
Rules less rigid.	Rules very rigorous.
Offset internally focused.	Lost interaction, supply chain-based, linked to internationalisation and growth.
'White elephants welcomed at all cost.'	Governments much more selective and prescriptive – higher capital mobility. Internet - easy availability of information, and tools to manage information.
Seeing offsets as 'punishment' for prime to make up for lost currency.	Seeing offsets as a tool to support production of products where a country can be competitive globally
Offsets a way to build turnover, not necessarily profits, ignoring international markets.	Need international markets and production consistencies. Build long-term strategic alliances without offset influence but with a promise of future offsets credits.

(Source: Hadjiminas, 2002, updated 2006)

Based on the predictions, for example, of Hammond in 1990, and Kamm¹⁹² in 1999, this study found that internationally, aerospace¹⁹³ still makes up the bulk of offset transactions and there is a greater demand for increased levels of offsets both defence and civil (*cf.* Salzman, 2004). The value of multipliers¹⁹⁴ is shrinking and their application is diminishing (Rutter, 2006; Brauer and Dunne, 2009; US, 2013). Indirect offsets are becoming increasingly demanding with fierce international competition between suppliers to win contracts (offsets are being effectively used as a distinguisher, also referred to as ‘deal sweeteners’), and demands are becoming more difficult to meet (*cf.* Czinkota, 2011). Offsets pose an attractive source of competitive advantage (McNerney, the CEO of Boeing).¹⁹⁵

2.12 The Rent Seeking Argument In Context

‘Rent seeking’ theory is a complex economic concept that poses several challenges to understanding. Rent seeking attempts to obtain economic rent (i.e. the portion of income paid to a factor of production in excess of that which is needed to keep it employed in its current use) by manipulating the social or political environment in which economic activities occur, rather than by creating new wealth. Rent-seeking implies extraction of uncompensated value from others without making any contribution to productivity. This theory dates back to 1967 when Tullock¹⁹⁶ conceptualised the idea, which was labelled by Krueger¹⁹⁷ in 1974 as ‘rent seeking’ (Krueger, 1974; Tullock, 1998; Congleton, *et al.*, 2008). In this research, rent seeking is discussed and elaborated on in the context of defence spending and offsets.

Research done by Congleton, *et al.* (2008) on the progressive change in the concept of economic rent seeking over the past four decades, found that the quest for rent seeking has always been part of human behaviour. People have long fought and contended over possessions, rather than directing abilities and resources to productive activity. Congleton, *et al.* describe rent seeking as an act of theft¹⁹⁸ of

¹⁹² Dr Christoph Kamm (PhD), died on 9 November 2002, the then Vice President of ABB Structured Finance, Zurich. He was one of the founder members of APCA with David Hew (*cf.* <<http://www.apca.net>>). In my view he was one of the most experienced international countertrade practitioners and a keen proponent of this practice. Dr Kamm is also acknowledged by me in memory of his countertrade mentoring from 1998 till his death – we spent long pleasant hours together debating and discussing the countertrade phenomena and its various complexities and nuances

¹⁹³ Aerospace is identified as one of the key industrial growth focus areas for the DTI – *cf.* IPAP 2014. The observation about aerospace is substantiated in the US Dept of Commerce 18th report on Offsets – December 2013

¹⁹⁴ The use of multipliers in offsets is explained in more detail in chapter four

¹⁹⁵ The Economist. ‘Guns and Sugar’, 25 May 2013

¹⁹⁶ Gordon Tullock, is the ‘Karl Eller’ Professor of Economics, University of Arizona

¹⁹⁷ Anne Osborn Krueger is an American economist. She was the World Bank Chief Economist from 1982 to 1986, and the first deputy managing director of the IMF from 2001 to 2006

¹⁹⁸ In this respect Prof. Claudia von Werlhof views neo-liberalism as the ‘inseparable three acts of free trade, war and piracy’ – *cf.* <<http://www.globalresearch.ca/neoliberal-globalisation-is-there-an-alternative-to-plundering-the-earth/24403>>

resources that could have been put to better alternative productive use. Marott (2013) adds that rent-seeking (in the context of international trade) does not add any national value and represents a form of coerced trade with one sided benefits that never encourage productivity. *The Economist*¹⁹⁹ points out that examples of rent-seeking behaviour would include all the various ways in which individuals or groups lobby government for taxation, spending and regulatory policies that confer financial benefits or other special advantages upon them, at the expense of others who may be in economic competition.

In this study, rent seeking is viewed in relation to defence spending where it specifically refers to the efficient allocation of scarce financial resources among alternative uses (discussed by Sandler and Hartley, 1995, in their consideration of defence economics). Sandler and Hartley (1995) consider opportunity costs when making crucial resource application choices. Scarce financial resources are valued in terms of opportunity costs so that the cost of, for example, procuring a missile system can be measured against what that system's resources could have earned in their best alternative employment – ostensibly non-defence (*cf.* Martin, 1996).

However, considering these arguments closer, in this study's chapter five a brief review is provided recording the experience of various countries and their respective defence offset policies, in particular (examples are the UK, Turkey, Switzerland, the Netherlands, the UAE, Saudi, Israel and Colombia – the South African case is discussed in chapters 9 to 11). In all of the aforementioned cases there were indications that the respective defence procurements used in leveraging offsets delivered varied results. However, as observed earlier, detailed empirical analysis of the actual content of these transactions is not accessible. Chapters seven to eleven make particular observations in relation to the South African DIP programme.

Despite the views expressed above, economic rent seeking offsets can be purposefully structured and effectively used to develop and expand a specific sector in a given industrial base. Dunne, *et al.* (2005:449-461), for example, point out that military expenditure is a significant determinant of growth, which can occur, for example, through work share, co-production and technology transfer (Taylor, 2002; Hadjiminias, 2006; Kiper, 2012). Taylor (2003) notes that mandatory offsets are viewed as a means of government intervention in the marketplace that seek to attract

¹⁹⁹*The Economist* – *cf.* <<http://www.economist.com/economics-a-to-z/r>> - also <http://www.auburn.edu/~johnspm/gloss/rent-seeking_behavior>

rent-seeking behaviour by economic agents, firms, interest groups and government officials. However, a counter argument could be that rent-seeking behaviour is minimal because agents expend real resources to capture rent without producing new output. However, Taylor (*ibid*) argues that rent secured in this way deflects value from consumers to the favoured rent-seeker with a corresponding net loss of value in the countertrade process. South Africa's industrial participation programme was seen as rent seeking in nature (*cf.* Erwin, 2014).

However, this study notes that rent seeking is also fraught with hidden agendas, for example, when the government draws public attention to one goal while another real and more important goal is not advertised because it is less attractive. These agendas could be 'honestly' aimed at accelerating certain reforms and avoiding obstacles related to public opinion, but dishonest when aimed at solely serving the rent-seeking group's interests. This could include specific expectations of state control over enterprises (McGee, 2008:265). In other instances rent-seekers prefer privatisation, since there is a hidden interest in wealth accumulation (Fischer, 2006: 387). The interplay of divergent interests lies in the respective agendas of the power elite that come to 'play'.

2.13 The Debate Around the Military Industrial Complex

The ensuing overview is premised on the fact that the military industrial complex consists of stakeholders from the military, the political power elite and the industry that supports it. Stakeholders are key benefactors through the use and application of defence equipment procured at a secondary level; the defence industry is the business opportunity benefactor. This opportunity is created through the leverage of the procurement, discussed earlier in this chapter.

The notion of a defence, specifically a 'military industrial complex' was established by the retiring US President Dwight D. Eisenhower,²⁰⁰ on 17 January 1961, in his farewell speech to the US nation. He stated that the US was compelled, in the light of continued international crisis, '*to create a permanent armaments industry of vast proportions*' (*cf.* Bacevich, 2011). However, in doing so Eisenhower strongly cautioned against diverting social welfare resources. The military industrial complex involves an intricate relationship between the legislature (i.e. politicians), national

²⁰⁰Public papers of the President - Dwight D. Eisenhower, 1960 - *cf.* <<http://www.coursesa.matrix.msu.edu>>

armed forces and the defence industrial base supporting it (Higgs, 1995; Sandler and Hartley, 1995), not forgetting the role of public voice.

In a more critical vein, in 1956, C. Wright-Mills²⁰¹ produced a seminal work on a social phenomenon he called the '*Power Elite*.' He alluded to the fact that social, economic and military institutions were more or less unified in a simple direct way with individuals from the 'elite' easily moving from one role (i.e. private and political) to the other (i.e. public, defence or civil industrial). During the 19th century the elite fitted loosely into the greater social structures with power moving from government to corporates. In the mid-20th century, following the aftermaths of two world wars, power moved to the military. 'Military state structures' evolved with so-called war-lords gaining decisive political relevance that was the result of ascendancy (Wright-Mills, 1956). Wright-Mills demonstrates the always present social 'influencing' phenomenon that manifests through hidden political and economic agendas, particularly with regard to military business. Wright-Mill's work clearly shows how the American social structure worked within the elaborate hierarchies of the power elitists, giant corporations and military that influenced the lives of others, directly or indirectly (*cf.* Horowitz, 1983). Wright-Mills' work demonstrates and articulates the ever present social phenomenon of 'influencing' that manifests through hidden political and economic agendas, particularly with regard to military business. The aforementioned political power dimension also became more evident since 1994 in South Africa that experienced a sudden increased level of Black elites across the economy and industry, and ostensibly in the SDP of 1999 (*cf.* Haines, 2012).

To put Wright-Mills' work in the specific context of the American military complex, it is necessary to note recent developments in the arms market's protraction (Herb, 2014).²⁰² Herb points to increased efforts from defence firms to protect their respective slice of the shrinking Pentagon budget. Defence contractors openly skirmish with one another over every last scrap of the defence budget in an effort to protect vulnerable programmes. The latest battles among the defence giants signal a shifting landscape for contractors in which new programmes are far from guaranteed, legacy programmes are no longer sacred cows and defence hawks are getting beaten by budget hawks. Several defence companies, including Boeing, have

²⁰¹Charles Wright Mills (August 28, 1916 – March 20, 1962) was an American sociologist and a professor of sociology at Columbia from 1946 until his death in 1962 - *cf.* <http://www.Wikipedia.com>. First published in 1956, '*The Power Elite*' stands as a contemporary classic of social science and social criticism. C. Wright Mills examines and critiques the organization of power in the United States, calling attention to three firmly interlocked prongs of power: the military, corporate, and political elite

²⁰²Herb, J., 2014. Defense contractors fight for their slice. (4/27/14 10:22 PM EDT) - *cf.* <http://www.politico.com/story/2014/04/defense-contractors-budget-funding-106077.html>

warned the Pentagon that they will be forced to close some production lines if certain programmes are not considered in the 2015 budget (Herb, 2014).

The fact is that military industrial complexes across the world are characterised by vast investments and are thus also the benefactors of preferential and leveraged procurement practices (Yülek and Taylor, 2012).

The USA does not use defence offsets. US Government policy on offsets in defence trade states that government considers offsets to be economically inefficient and trade distorting and thus prohibits any agency of the US Government from encouraging, entering directly into, or committing US firms to any offset arrangement in connection with the sale of defence articles or services to foreign countries (US, 2013: 1). However, the US Buy American Act of 1993, as amended (*cf.* Luckey, 2009; *The Economist*, 2013), is an example of a structured intervention directly protecting and benefitting the US defence industry. In terms of this Act, at least 50 per cent of defence equipment procurement must be produced from American industries. Herein lies a hypocritical dichotomy: on the one hand, the US Government prohibits offsets, yet on the other, it practices exactly what offsets aim to achieve, namely, work for its local defence industry.

Very few outsider companies get the opportunity to supply the US military directly. The same applies in the UK, which ostensibly favours BAE Systems (BAES) in numerous substantial defence procurement deals.²⁰³ The UK Government, (similar to the US with its Foreign Military Assistance aid programme)²⁰⁴ furthermore openly supports and subsidises defence exports²⁰⁵ - the Al Yamamah²⁰⁶ deal in Saudi is a good, although controversial example (owing to numerous cases of alleged fraud and corruption). Supporting and subsidising defence exports also supports the UK's military industrial complex and job creation, and provides the basis for a wide range of economic benefits (Mayhew, 2005).²⁰⁷ Wood and Wright (n.d.) liken this to an

²⁰³*cf.* 'British Defence Forces - A More Comprehensive View'. For consideration as we approach DSR 2015. – *cf.* <http://www.defencesynergia.co.uk/DefenceSynergia/SDSR_2015.html>

²⁰⁴*cf.* <<http://www.fas.org/asmp/profiles/aid/aidindex.htm>> and <<http://www.state.gov>>

²⁰⁵The UK Government has pledged its support to the defence industry which has an outstanding record of export success. This includes major air, land and sea platforms, weapons systems, sub-systems, and training and support packages. UKTI DSO has a proven ability to help UK exporters to win business overseas and achieve their international business potential. *cf.* <<http://www.ukti.gov.uk/defencesecurity/defence.html>>

²⁰⁶Al Yamamah is a series of defence sales by the UK to Saudi Arabia, which have been paid for by the delivery of up to six hundred thousand barrels (95 000 m³) of crude oil per day to the UK government

²⁰⁷*cf.* <<http://www.baesystems.com>> - BAES is one of the main suppliers of defence equipment to the Royal Defence Force. The US department of Defence is its other single biggest client. BAE Systems Plc. (UK) established a subsidiary (BAE Systems Inc.) entity in the US in November 1999 that operates as a semi-autonomous business, under a special security agreement with the 'US Department of Defense and Security'. It is listed in both the USA and UK. BAE Systems has otherwise a presence in

ecosystem of defence companies reliant on state largesse. It is worth noting that the EU also practises preferential procurement. All these practices pose serious barriers to entry for all other countries²⁰⁸ (Mawdley, 2003; EU, 2009²⁰⁹) and are against free market principles.

Traditionally, international defence-related industries²¹⁰ served as key building blocks for innovative and higher-end technology development in a large number of countries (Sandler and Hartley, 1995). Numerous defence-related technologies have over time found their way into the civil complex. However, the archaic 'spin off' argument that military technology is a benefit to civil industry development no longer holds, as this has gradually been replaced by the 'spin in/on' concept where the use of civil technology and products in military good are increasingly prevalent (Skoens and Weidacher, 1999 as cited in Dunne and Haines 2005; Römer-Heitman, 2011).

There appears to be a marked slowdown and decline in defence industrial growth due to economic recession, a decrease in international defence spending and a contraction in the defence market place (*cf.* Dunne and Haines, 2005, 2006; SIPRI, 2012, 2013). The kind of contraction that brings about restructuring in arms industries world-wide was already observed by Dunne and Haines in 2005. The traditional defence industrial base that was governed by political masters moved to a more commercial enterprise structure that in return led to several monopolies in particular fields that were and are still caused by a substantial number of mergers (*ibid*).

In the above respect it is important to take note of the latest published views of the Stockholm International Peace Research Institute (SIPRI, 2013).²¹¹ SIPRI notes that companies use acquisitions to improve the products and services they already deliver. However, while much attention is paid to such acquisitions and mergers, a number of divestitures also indicate the ways in which the defence industry is restructuring to accommodate the austerity environment and changing customer requirements, particularly following the 2008/9 global financial crisis when austerity measures were imposed by the US and EU. However, there are clear indications that defence spending is bound to start increasing in the next five years, particularly in the Middle East.

several other countries, such as the UAE, Malaysia, Australia and South Africa (although busy reducing substantially), thus a company with a global stature

²⁰⁸ *cf.* Defence Industry Daily, 2012

²⁰⁹ *cf.* <<http://www.defenseindustrydaily.com>>

²¹⁰ Sandler and Hartley, 1995, refer to a defence industrial base (DIB)

²¹¹ *cf.* <<http://www.sipri.org/yearbook/2013/04>>

In conclusion, the literature covering the South Africa military complex is well documented in government publications and in a host of academic research works (for example, Willet, 1994, Willet and Batchelor, 1998, Batchelor and Dunne, 1998, Cock and McKenzie, 1998, Cilliers, 1998, Engelbrecht, 2000, Botha, 2003). The 1999 defence equipment transaction, the biggest in the history of South Africa, is also well documented and commented on from both opponent and proponent viewpoints (*cf.* Batchelor and Dunne, 1999, 2000; Dunne and Haines, 2001; Dunne and Lamb, 2004; Haines and Wellman, 2005; Dunne and Haines, 2005, 2006; Seegers and Sylvester, 2007, Holden, 2008; Brauer and Dunne, 2009; Holden and Van Vuuren, 2011; Crawford-Browne,²¹² 2002, 2004, 2007, 2012, 2014). This study provides a contextualised analysis of the most prominent divergent views contained in these referenced sources using case study examples. This directly contributes to a better understanding of the various elements, arguments and concerns raised.

2.14 Summary

The above literature review covered contemporary views on development and the issue of government's role in industrial development and procurement leverage through the principles of countertrade to achieve some level of defence industrial development. It covers the divergent views on countertrade in general and defence offsets in particular. The study confirms earlier research observations that there appears to be remarkably little synergy between academic and theoretical debates and discourse on the subject of development in direct relation to developmental type practices deployed by the various forms of countertrade. This dearth requires academics and all those involved to reconsider the subject in more depth in order to address this lacuna and the demands of societies that vary in level and scope of expectation across the globe.

The above review provided a macro perspective on those specific and inter-related aspects associated with development, and on countertrade and offsets. It specifically addressed Development Theory, the predominant discipline of the study. Certain propositions were proffered in support of a possible synergy between development, the role of the state, and the use of leveraged procurement for advancing industry.

²¹²Terry Crawford-Browne is a former employee of Nedbank who during the mid-1980s became a peace activist. Currently he chairs the South African affiliate of Economists Allied For Arms Reduction (ECAAR – then EPS, then again ECAAR) - *cf.* <<http://www.ecaar.org>> – he is also the convenor of the CDA in South Africa – *cf.* <<http://www.armscmm.org.za>>

From the neo-liberal paradigm, the review considered development in relation to the interventionist and regulatory role of the state, which, over time, replaced Keynesianism and later the Washington Consensus. The latter dealt with specific economic reforms, later blamed for the 2008/9 economic recess because the world was over reliant on unfettered market liberalisation. In reaction, governments increasingly resorted to more regulatory policies and procedures with various forms of regional trade agreements taking effect as observed by the WTO in their 2012 Trade Report.

Globalisation and its characteristics were considered from a development point of view and how this aspect is relevant to countertrade as a global trade phenomenon. Development trails globalisation trends and remains an uneven process across the world. Globalisation does not erode sovereignty but instead creates a new world systems order, most notably business expansion, profits chasing, production integration and labour division. With around 40 per cent of countries practicing various forms of countertrade and offsets there is adequate supporting evidence that this reciprocal trade practice has a global footprint.

Due consideration was given to dependency theory, although as a theory it appears no longer applicable. On the other hand, anecdotal evidence points to academic neglect of the theory, giving rise to the question whether a new strain of dependency theory is required. Common sense suggests a wide array of dependency and inter-dependency issues that beg to be addressed, for example, dependency on energy, communications, trade, technology and so forth.

Another element that required attention was periphery theory and its applicability to this study. Periphery theory stems from Wallerstein's World Systems Theory of 1974, and addresses those who have and those who have not. The theory clearly demonstrates its applicability to dependency in the context of world trade and technology. It highlights that today there are still only a few 'core areas' that dominate the world's periphery and semi-periphery. The theory endorses practices employed by multi-national enterprises with regard to the movement of production (between peripheries) and the division of labour. It highlights the fact that core states and semi-periphery states constantly exploit the periphery. In the context of countertrade, peripheries (also referred to by the UN as least developed countries (LDCs)) often resort to bartering, primarily as a result of a lack of currency.

It also became evident that MNEs are becoming increasingly prevalent and their role was thus more closely investigated. It was concluded that MNEs play a prominent role in international trade and the global economy. They are able to move production freely between countries to extract maximum profits for their owners, although from a defence point of view they are constrained by various arms control regimes. However, they are not necessarily concerned with the welfare of the country from which they operate and thus stand accused of contributing very little from a developmental point of view. This was explained in the context of a number of developmental issues around foreign direct investments, technology, market access and supply chains. There is a need for increased market access for all countries. This is one of the main objectives of countertrade, and offsets in particular.

This review also considered the role of technology in development, and countertrade and offsets. Technology is used to engage in and effect change, a major characteristic of development. Technology brings about various types of innovation and invention that lead to further change; and so the perpetual cycle of development manifests across all walks of life through technology's exploitability. In this study the focus was primarily on technology in countertrade being a possible tool to development.

Countertrade arose primarily because countries need to protect their indigenous defence industrial base as a result of foreign procurements. Another reason is a need to secure certain technology transfer and be able to maintain and repair foreign equipment in-country. Other reasons are attracting foreign direct investments and gaining access to markets while stemming the outflow of foreign currency, or entering into joint equipment development projects due to cost considerations.

This led to a discussion concerning the military industrial complex and the role it plays in international trade, industrial development and politics. The US and the UK are two of the most prominent examples of countries that openly support, protect and promote their defence industrial bases and use them as political instruments. Military industrial complexes across the world are characterised by vast amounts of investment. They are also the benefactors of preferential and leveraged procurement practices. It can be argued that defence-related industries serve as key building blocks for innovative and higher-end technology development in a large number of countries. However, there appears to be a marked decline and slowdown in defence

industrial growth due to economic recession, a decline in international defence spending and a contraction in the defence market place (*cf.* Dunne and Haines, 2005, 2006; SIPRI, 2012, 2013). This kind of contraction brings about restructuring in defence industries across the world.

CHAPTER THREE: METHODOLOGY

3.1 Introduction

This chapter explains the research methodology and approach applied during the research process. The approach considered the theory surrounding the research topic, which in turn informed the process of postulating the research question. The subsequent literature search provided the link between theory and contextual analysis, that is, between epistemology and ontology.

In short, the approach systematically covered the data collection, capturing, and analysis process, as part of giving contextual expression to the theory aspects investigated in the literature search. This chapter discusses data sources and their triangulation, research motivation, the case study, the research questions and sub-questions, theoretical perspectives, research standpoint and limitations.

According to the *Concise Oxford English Dictionary* (6th edition of 1976:954), research is '*Careful search or inquiry after or for or into; endeavour to discover new or collate old facts etc. by scientific study of a subject, course of critical investigation...*' The *South African Concise Oxford Dictionary* of 2002 (p993) states '*Research is the systematic investigation into and study of materials and sources in order to establish facts or verify information.*'

The current study finds that there are many types of research (*cf.* Amaratunga, *et al.*, 2001; Johnson, *et al.*, 2007:112): each type constitutes a set of methodologies, methods, techniques and objectives suitable for the phenomena being researched (*cf.* Kothari, 2004; Hussein, 2009).²¹³ Each serves the specific purpose of providing information in order to plan and take steps in accordance with the research findings.

This study is primarily characterized by analytical research and deploys the principles of a mixed method approach (*cf.* Amaratunga, *et al.*, 2001). Johnson, *et al.* (2007) note that mixed methods research is generally seen as an approach to knowledge (both theory and practice) that attempts to consider multiple viewpoints, perspectives, positions and standpoints. This approach leads to the investigation, evaluation and assessment of facts and information already available on the subject matter (also

²¹³ *Journal of Comparative Social Work* 2009/1 – *cf.* <http://jcs.w.no/local/media/jcs.w/docs/jcs.w_issue_2009_1_8_article.pdf>

Kothari, 2004:3). In this study the focus is on development, countertrade, technology, the military industrial complex and its defence industrial base, defence spending and defence offsets. With regard to defence offsets, the South African DIP programme forms the case study that explains how countertrade could be used as a tool for development.

Furthermore, the study considers the qualitative (*cf.* Johnson, *et al.*, 2007; Galt, 2009;²¹⁴ McNiff and Whitehead, 2010; Archer, 2010; Denzin and Lincoln, 2011) nature of the researched subject; the quantitative dimension is secondary (*cf.* Hussein, 2009) and comprises the quantum of countertrade and offsets (and the DIP element) in relation to defence spending in terms of GDP. In the case study, the DIP discharge stemming from the SDP was measured and expressed in economic impact terms through applying the National Social Accounting Matrix (NSAM).

During the course of the literature review it became evident that there is an extensive range of theories that govern numerous aspects of this research. Denzin and Lincoln (1994:279) state that a theory is not necessarily about a pre-existing discovered reality. Theories are merely interpretations made by examining certain perspectives. Most theories are 'temporarily limited', as their very nature allows endless interpretation and permutations leading to further research, debate, rhetoric and discourse.

3.2 Motivation for the Research

According to Cheldelin, *et al.* (2003:17), research projects are traditionally undertaken for one of two fundamental reasons. The one is a need for better understanding and the other a need to solve problems. In this research the focus was primarily on 'better understanding.' Kothari (2004:10-11) notes several reasons that motivate research. The most appropriate ones for this study were a '*desire to get intellectual joy from doing some creative work*' and the '*desire to be of service to society.*' In this research the latter desire was related to creating a better understanding of the abstruse subject of countertrade.

²¹⁴Presentation on Qualitative, Quantitative and Mixed Methods Approaches to Research and Inquiry – *cf.* <http://spahp.creighton.edu/OfficeOfResearch/share/sharedfiles/UserFiles/file/Galt_SPAHP_Methods_Presentation_082609...>

3.3 Research questions

The primary research question is *'Can countertrade be considered as a form of development and consequently what are its manifestations in the defence sector?'* It is accepted that a myriad of complimentary research questions could have been formulated here, but suffice to stress that this study explores the consequences of defence countertrade, referred to as defence offsets arrangements for national development, using the South African perspective for comparison. Although defence offsets have raised controversy in many contexts, this study considers them as having a possible developmental influence. This is premised on the central role the government plays in ensuring national economic development where countertrade remains an important tool through which active industrial policy may be pursued. Such policy includes developing and maintaining a defence industrial base (DIB) in countries that have the capability (AMD, 2006; Defence Review, 2014; DTI, 2014²¹⁵).

South Africa is the key case study focus of this study; however, other countries such as Japan (*cf.* Chinworth and Matthews, 1996), Turkey (*cf.* Zanotti, 2001),²¹⁶ and Israel (*cf.* Hoyt, 2007) are also considered, although briefly. Recent developments in Malaysia (*cf.* Balakrishnan, 2008; Matthews and Yip, 2013), Brazil²¹⁷ and China (*cf.* Power, 2012) have focused attention on defence industrial development as part of these countries' broader industrial development objectives.

This study also considered how the use of government procurement can leverage developmental benefits. The variety and magnitude of international countertrade practices are reviewed to address the question of divergent terminologies and practices. Technology, a key aspect of development and countertrade, is addressed and questions related to the military industrial complex within the state, and those related to international defence spending trends over the past two decades are considered in relation to specific economic rent concerns and defence offsets. The research also addresses specific questions related to the non-transparency of defence transactions that can lead to fraud and corruption, particularly corruption in the South African SDP.

²¹⁵Reference here is to the IPAP 2014 of the DTI – *cf.* <<http://www.thedti.gov.za>>

²¹⁶Turkish Congressional Research Service Report to Congress. Ref R41761 – *cf.* <<http://www.crs.gov>>

²¹⁷Reference is based on the presentation made at the GOCA Conference 22-23 September 2013 by the Brazilian air force – see also CTO, Vol. XXXII No. 8. April 28, 2014

3.4 Theoretical Research Perspectives

3.4.1 Epistemological traditions

According to Soini, *et al.* (2011:6),²¹⁸ epistemology is the knowledge of all things, and it thus deals with knowledge production and with different knowledge claims that have various degrees of truth, belief, and justification. Soini, *et al.* (*ibid*:10) state that epistemology is not a stance a researcher has to decide beforehand; rather it is a tool used to formulate research questions and find reasonable answers. Maxwell (2011: Chapter 1) perceives epistemology as the how and what people know, in most instances, based on assumption. The nature and reality of such knowledge is commonly referred to as ontology. Maxwell (*ibid*) adds that in qualitative research there are different epistemologies at play that should bring about a range of juxtaposing paradigms that, through investigation, lead to enhanced understanding.

Denzin and Lincoln (2011) point to interpretative research that can be undertaken within any of the three major research paradigms, namely, positivism, hermeneutics, and action research. In deciding on the most appropriate paradigm for this study, consideration was given to a number of social research epistemologies, methodologies and approaches, each with its own preferred areas of application.

The mixed approach (Johnson, *et al.*, 2007) was chosen since it specifically includes relevant *action research* aspects (*cf.* McNiff and Whitehead, 2011). For example, I personally did the work covered in the case study: this falls in the categories of *practitioner research* (*cf.* Cochrane-Smith and Lytle, 2009) and *insider research* (*cf.* Drake and Heath, 2011). I was employed at Armscor (drafting the DIP policy, evaluating, negotiating and contracting DIP obligation in the SDP) and subsequently at Denel (part of SADI), from where I both observed the manifestation of DIP activities in SADI, and was exposed to various international countertrade and offset practices and requirements (part of Denel's defence export business). Lastly, I was involved in *reflexivity research* (Alvesson and Sköldberg, 2009) based on my in-depth contextual knowledge and understanding of the case study. Maxwell (2011) propagates the use of a multiple epistemological perspective within a single methodological framework when undertaking qualitative research.

²¹⁸Epistemologies for Qualitative Research. *Qualitative Psychology Nexus Vol. 8. Centre for Qualitative Research*

3.4.2 Action research

The main reasons I decided to use the *action research approach* was my practical workplace experience related to countertrade (with DIP as the case study) and the desire to contribute to improving the knowledge of others concerning this rather abstruse subject. McNiff (2000:58) remarks that '*professionals are assumed to be the best judges of their own practice...action research systematically reflects on and evaluates the what...then aims to improve on it.*' Action research provided an enabling environment through which my personal practical knowledge could be expressed while I reflected on why it worked, or not. The findings were then tested through triangulation against academic and scholarly referenced works. According to McNiff and Whitehead (2011), this reflective process could influence the way others think (and learn). In this particular study, the process involved thinking about countertrade and offsets in relation to development aims and objectives.

McNiff and Whitehead (2011) emphasize that action research does not stand alone, but is complimented by a number of other research approaches (described below). In this study, action research covered a range of issues related to understanding why there are concerns about countertrade and offset practices, and how to gather evidence to address these concerns. The ultimate aim of the study was to test the validity of my relatively subjective knowledge and its significance against the challenges of antithetical views. Action research remains an acceptable form of professional enquiry that enables practitioners across all walks of life to investigate and evaluate their work - in this specific study this related to the DIP policy I drafted in 1996, approved in 1997 and applied in the SDP in 1999.

3.4.3 Insider Research

An *insider researcher* is an individual who possesses intimate professional knowledge of a particular subject. Such an individual has both experience and insight into the world in which the research is being undertaken (*cf.* Drake and Heath, 2011). Drake and Heath (*ibid*) point out that this occurs from either a personal or professional perspective and is thus subjective. Researchers aim to make meaning out of the research subject and present their findings and observations in a contextualised manner to an outside audience. This research incorporates ways of knowing about practice that only practitioners can bring to their studies (*ibid*).

According to Unluer (2012:3-5), there are several advantages to being an insider-researcher: however, there are also several underlying problems associated with this position. One of the major risks of this research approach lies in the researcher's familiarity with the research subject, which can lead to a loss of objectivity and unconsciously making wrong assumptions based on the researcher's biased prior knowledge. Closeness to the situation may hinder the researcher from seeing all the research dimensions. Insider-researchers may also be confronted with duality, that is, with being in the position of researcher and also a biased practitioner. The insider-researcher may tend to assume the reader already knows what the researcher knows.

Another risk is that the insider-researcher may have, or have gained access to sensitive information and must therefore be conscious of what restrictions are relevant in relation to such information. In terms of the DIP process this included company confidential information, government-to-government agreements covered under non-disclosure and other sensitive defence and security related information covered by various levels of legislation. Unluer (2012) states that to conduct credible insider research, insider-researchers must remain explicitly aware of the ethical necessity that the parties affected by the research remain anonymous. In addition, the insider-researcher must guard against possible perceptions the reader or the persons or entities referred to in the research may have of coercion, compliance and access to privileged information at every stage of the research.

I tried to overcome these disadvantages by taking a preventative approach. I realized that I needed more information and thus conducted additional interviews and surveys (cf. Unluer, 2012). I used clarifying questions to allow the DIP respondents to reflect on their perspectives. This process helped me to confront my own blind spots. Throughout the data collection process I tried to be aware of prejudice. I attempted to minimize my prejudice by considering my research within the current social circumstances and by clarifying the research process and the researcher's role while writing my thesis. My promoters played a vital role as they could identify aspects of bias much better than I could. Advisors play a critical role in supporting the insider-researcher. The challenges of being on the 'inside' put me in a better position to recognise the importance of objectivity and to remember that there is always more than one view and argument.

3.4.4 Practitioner research

The adoption of this approach had a great deal to do with the fact that I had been a *practitioner* in the field of countertrade and offsets since 1996. For the sake of consistency, the term 'practitioner researcher' (Campbell²¹⁹ and Groundwater-Smith,²²⁰ 2007; Cochrane-Smith and Lytle, 2009) is used to describe those who are involved in a field of study which is exploratory in nature and impacted by ethical standards and the indivisibility and subjectivity of the self. The academic researcher is seen as one who contributes new knowledge to the field of study, whereas the practitioner researcher seeks to contribute to the practical knowledge of the profession. However, Denzin and Lincoln (2011) point out that these are not necessarily mutually exclusive.

According to Cupal (2008), practitioner-researchers have a desire to closely examine and learn from their own experiences and those of others in an effort to bridge the worlds of theory and practice (Schön, 1987). However, in this process the researcher faces specific epistemological barriers. Researchers with a physical presence in the research field can develop a greater understanding of the experiences and social realities, since they occupy the same physical and working (e.g. office space, work place) domains. Cupal (*ibid*, par 2) notes that this physical presence as a practitioner and same-time researcher, is the area of greatest ethical challenge for practitioner-researchers. When knowledge production is viewed as a neutral practice, using ethical guidelines to obtain a fair, balanced representation of the views of participants is workable. The challenge here is how to protect personal and organisational information that requires specific consent to be obtained.

Cupal (2008) notes that practitioners and expert researchers bring their entire lived experience to the research problem. This type of researcher is always a knowledgeable professional, which differentiates him/her from the outside expert observer: his/her particular practitioner's knowledge, although partial, always includes particulars about the past and the present, material conditions, and interactions within the research domain. Practitioner-researchers' efforts are aimed at increasing their interpersonal and organizational awareness and self-reflexivity, but are also aimed at benefitting individual and organisational interests. This puts practitioner-researchers

²¹⁹ Campbell a professor of education at Liverpool Hope University then Garnegie Faculty of sport and Education at Leeds Metropolitan University

²²⁰ Groundwater-Smith is an honorary professor of Education in the University of Sydney

in a position to better engage in organizational (or process) sense making. This research included the constant challenge of being confronted with legal issues relating to defence information, particularly with regard to the SDP's equipment configuration and the scope and financial elements of the DIP's commercial content.

3.4.5 Reflexivity Research

The last of the four approaches is *reflexivity* research. According to Alvesson and Sköldberg (2009), 'reflective' and 'reflexive' are used synonymously to describe empirical research. Reflexivity constantly assesses the relationship between acquired knowledge and 'the ways of applying knowledge' – a contextual explanation that fits my profile. McNiff (2000:181) notes that reflective practice theory was popularised by Donald Schön²²¹ in 1983. He described it as '*thinking about things and understanding one's own process of coming to know...a developmental process in itself.*' In this study, this approach was characterised by careful interpretation of development theory in relation to the aims and objectives of countertrade and offsets discourse, while reflecting on their practical manifestations against complexities related to both defence spending and economic rent arguments. Etherington (2004:30) adds that '*reflexivity has become an increasingly significant theme in contemporary social research that runs across discipline boundaries in social science.*'

Reflexivity research is a systematic process of practitioner observation, analysis and intervention that in my case was underpinned by my experience in the field of countertrade and offsets, and enhanced through my knowledge of the South African defence industry. Bolton (2010) refers to such a reflexive process as 'through-the-mirror' writing premised on practical insights and experience gained over time. Reflexivity is generally regarded as a suitable method to increase critical understanding on any given research matter (*ibid*). Reflexive narrative writing methodology has been applied in this study. It harnesses the powers of metaphor, exploration, description and reflection, while providing an insider perspective on observations made concerning the whom, the how, the what, the where and the when of the research topic (*cf.* Archer²²², 2010). Bolton (2010), however, cautions that reflective practice is more than just an examination of personal experience (*cf.*

²²¹ Schön is one of the progenitors of the reflexive practitioner approach, subsequently extensively quoted by scholars such as Archer, McNiff and Whitehead

²²² Margaret S. Archer is professor of Sociology at the University of Warwick, UK. She is a former editor of *Current Sociology* and was the first woman to become president of the International Sociological Association (1986–90) (Archer, 2010) - *cf.* <<http://www2.warwick.ac.uk/fac/soc/sociology/staff/emeritus/archer/msarcher/...>>

Jacobs and Murray, 2010; Wright and Bolton, 2012); it also has to take cognisance of political, social and antithetical views.

Young (2008:2) emphasises that the reflexive research process is subject to high levels of subjectivity. This is because the researcher is unwittingly influenced by preconceptions (and often misconceptions). This may result in the findings not reflecting a 'true' picture of what actually transpired. This problem occurs because the researcher always has to interpret the data, whether in the form of observations, interviews, surveys, text or documents collected from various sources (*ibid*:5). In addition, no matter what she/he does to ensure her/his personal opinions do not influence the research, there will always be some aspects which are not taken into account – issues that the researcher has forgotten about. Therefore reflexivity has certain limits. Since reflexivity is 'ubiquitous' (Young quoting Hertz 1997: viii), it is 'present everywhere simultaneously' (Young quoting Waite 1998:718). Young points out that this is not necessarily a problem as long as the researcher acknowledges that he has to be reflective in his research, meaning that the researcher always has to take cognisance of opposing and other views related to the research subject. This was mainly achieved through the triangulation of data and information.

3.5 Triangulation

In 1993, Hertzog introduced the concept of 'practitioner-held theory', which uses the *triangulation method* to combine quantitative and qualitative findings that describe how practitioners think. Triangulation evolved from a set of normative and relational propositions with various theoretical dimensions that place the practitioner's thinking within the context of organisational issues. This study provided an interpretation of countertrade within the context of development theory. Triangulation is seen as the direct relationship between positivist and interpretivist observations (*cf.* Fielding and Schreier, 2001; Onwuegbuzie and Leech, 2005; Livesey, 2006; Galt, 2009; Hussein, 2009).²²³ At the highest level of research complexity, one finds the 'methodology paradigm.' This includes both the qualitative and quantitative paradigms. When these paradigms are used in conjunction, the process is referred to as triangulation. Through this process information is better understood (*cf.* Hussein, 2009; Denzin and Lincoln, 2011).

²²³ *Journal of Comparative Social Work* 2009/1. http://jcs.w.no/local/media/jcs.w/docs/jcs.w_issue_2009_1_8_article.pdf

Triangulation was very useful in removing many of the limitations posed by the respective research approaches used in this study. Triangulation was used to ‘qualify’ the manner (the how) in which DIP activities manifested in the SADI and in the economy, whereas the quantum of its realisation is quantitatively described through statistics given in monetary terms depicting the economic - monetary and intrinsic - value of DIP activities realised.

3.6 Sources of Data

‘Data are consequently something that exists, is [sic] (already) there, and the task of the researcher thus becomes to go gather and systemize them...and then prepares them as a tasty dish...’ (Alvesson and Sköldberg, 2009:17).

The data collection, review and capturing process used in this study is depicted in Figure 2 below. Flow process diagrammes are extensively used throughout the thesis to explain processes, a method developed by Dean Wilson in the 1950s (*cf.* Schön, 1983).

As shown in Figure 2, the process entailed examining the prefaces, abstracts, introductions and indexes of magazines, official government reports, commissions of inquiry, court records, conference material, articles, academic papers and books. Media headline reports were similarly scanned for relevant information. All this was done to get a sense of the level and adequacy of information, followed by structured reading of relevant material and recording of useful information in hand written notes (*cf.* Campbell²²⁴, *et al.*, 2004), or through capturing it electronically (i.e. using MicroSoft Office Suite, 2010).

The process also necessitated examining many dissertations and theses accessed via the e-libraries of, for example, NMMU, UP, WITS, UCT and UNISA. Data and information validity was cross verified, duplications removed and synergies and cross correlation created. (This process of data and information collection is also referred to as desk or desk top research).²²⁵

²²⁴ Anne Campbell is a professor of Education at Liverpool Hope University College, Owen McNamara is a senior lecturer at the University of Manchester and Peter Gilroy is professor of Education at Manchester Metropolitan University

²²⁵ *cf.* <<http://www.aqr.org.za>> and <<http://www.etu.org.za>>

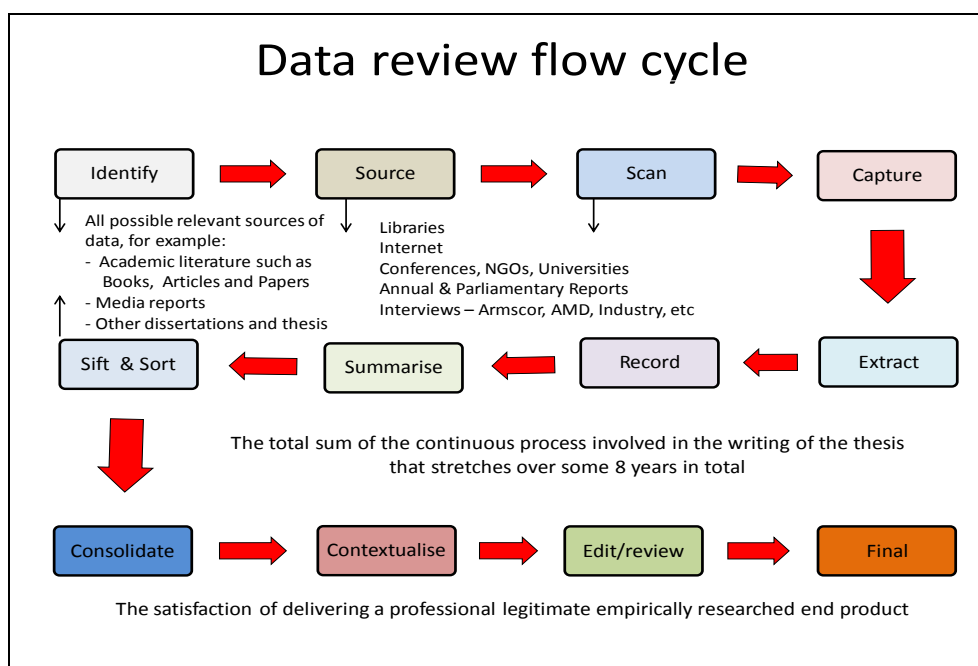


Figure 2: Data review flow cycle (Source: author)

During this qualitative approach, both content and discourse²²⁶ were analysed (cf. Archer, 2010; Denzin and Lincoln, 2011). Riffe, *et al.* (2014:13) refer to content analysis as a means to an end, a method used to answer research questions about content.

An intensive internet search²²⁷ was conducted using primary web search engines such as Google and Google Scholar. I made extensive use of the research techniques covered, for example, by Kothari (2004:6-8), using key words and combinations of words and phrases related to my research.²²⁸ I also searched for authors' names and titles and part phrases of books and articles related to specific information and data I needed.

While countertrade related conference material provides first-hand information originating from the so-called 'horse's mouth', it is seldom presented in any academic

²²⁶cf. <<http://www.thefreedictionary.com...>>

²²⁷The limitation in the use of internet sources lies in the fact that many sources of information are often questionable and not legitimate reflections of empirical data. I exercised care in the selection of sources, verifying credibility by considering whether the person was a scholar or an acclaimed academic at any given recognised international or national institution. Where possible, a footnote (reflecting on any given author or source's credibility) is provided in this thesis. The internet is easy to use and remarkably fast and thus substantially assisted with time-consuming research activities

²²⁸Key words such as (but not limited to) aspects of: 'international countertrade, offsets, industrial participation, defence procurements, defence deals in South Africa, the SDP, arms deal, corruption and fraud pertaining to South Africa, research methodology, economic rent, development, globalisation, international treaties, defence spending and industrial participation, military complex, pacifism, countertrade, DIP, NIP, Armscor; GFC, GSC, Saab, Gripen, Hawk, BAE Systems, Agusta, Ferrostaal, Thyssen-Krupp, Shaik, Zuma, government procurement, WTO, EDA, EC/EU, treaties, SDP, fraud and corruption', etcetera

empirically approached format. Because of the presentation formats used, information is at best sketchy and simplistic and can mostly be used to substantiate key elements of the various countries' practices and report on their respective policy achievements, which are covered in more depth by this research. Organisers of these types of conferences also exercise copyright, and otherwise limit distribution to conference members only. However, I was privileged to attend numerous international countertrade conferences between 1997 and 2009, and I maintained some records of presentations made at these forums. I also participated occasionally as guest speaker - the most prominent being SMi.²²⁹

Researching DIP proved to be the most difficult. Academic material and empirical data specifically related to actual manifestations of DIP in terms of economic, socio-economic and industrial impacts are scarce in the public domain. This is primarily due to the non-disclosure agreements between Armscor and the respective obligors governing the subject of DIP from both a national security and a commercially sensitive point of view. Internationally this is equally true, as found, for example, by Rowe (1997), Brauer and Dunne (2004, 2009) and Fletcher (2009), and Wellmann (2010). During the DIP research phase of this study, extensive use was made of various Armscor annual reports that contained information on the SDP's DIP annual discharge progress, although only in the form of amounts. These were cross-verified against documents in the open domain, such as the DOD's annual reports and strategic business plans. Some information could also be gleaned from media coverage and periodicals, and from various witness statements made during the Arms Procurement Commission's hearings (2013 and 2014) covering SDP and DIP issues.²³⁰

During 2011 and 2012 a complete rewrite of the 1996 Defence Review commenced. The end result - approved by Cabinet on 19 March 2014 - was used to elaborate on issues related to the South African military complex, including the DIB, defence spending and specific issues concerning the DIP process (DOD, 2014).²³¹

During the data collection process, the thesis' bibliography was meticulously and progressively updated in order to keep track of all the sources of information that were accessed and assessed.

²²⁹ A list of these presentations can be found in Section D of the bibliography

²³⁰ Cf. <<http://www.armscomm.org.za/hearings?...>>

²³¹ Cf. <<http://www.dod.mil.za>> and <<http://www.defenceWeb.co.za>> and <<http://www.sadefencereview2012.org/publications/publications.htm>>

3.7 Performing an Economic Impact Assessment on DIP

I commissioned an econometric expert, Ben van der Merwe, from the reputable developmental economist company, Urban-Econ in Pretoria, to assist me with performing an economic impact assessment exercise on the DIP.²³² We agreed that the National Social Accounting Matrix (NSAM) would be used. I explained to Van der Merwe what the DIP process entailed to determine what type of information he would need to perform this exercise. Using the statistics in Table 16 (chapter 10, based on the Armscor Annual report of 2013) and Appendices F, we determined what parts of the DIP's monetary value could be used for the respective elements of the NSAM. We decided that the Standard Industrial Classification (SIC) series 38 'manufacturing' – that falls in the transport sector – was the most appropriate element for this exercise. (Defence equipment falls into one of the sub-series of SIC38). We also agreed that all the SDP equipment was of a 'transport nature', that is helicopters, aircraft, submarines and ships. I then assisted him, through the use of Table 17 (in chapter 10) together with the more detailed DIP activity information that is recorded in Appendices F and G, to identify the types of industrial economic activity that occurred. Van der Merwe then used this information to populate the NSAM to arrive at the final EIA results (cf. Table 15, chapter 9) related to DIP's contribution to and impact on four categories of economic activity, namely, production, gross national product (GNP), employment opportunities and employee income. These results were then used to substantiate the interpretive analysis of DIP's actual economic impact manifestation and contribution in the defence industrial base in South Africa (see chapter 9; also part of the findings and conclusions chapter 11).

The National Social Accounting Matrix (NSAM) is a database (that consists of computable tables) that reflects a given economy's structure. It is an important building block in the compilation of the NSAM fixed-price model. The general, or partial equilibrium structure derived from the NSAM, depicts the inter-relationship between the economic sectors and the various role-players (private sector, households, government, and where relevant, the rest of the world) in a particular economy. Based on these relationships, NSAMs serve as excellent tools for project

²³² I am most grateful to Ben van der Merwe from Urban-Econ, Development Economists of Pretoria, who was so kind as to assist me with this process by utilising the same methodology that was applied by the DTI in their assessment of the NIP programme in 2006 (cf. DTI NIP Report of 2007). Urban-Econ Development Economists is a specialist-consulting firm in local economic development and all related fields. They have been involved in economic development in the Southern African context for nearly three decades and contributed significantly towards strategically shaping the economic environment on national, regional and local levels and localities

impact analysis. Because the NSAM is compiled for a specific period of time, it gives a description of the economy for that particular period (*cf.* DBSA, 2014).²³³

The NSAM represents the link between two, often distinct fields of statistics, namely, economic and social statistics. It reflects the economic relationship between these sectors of the economy by identifying monetary transactions (expenditure and receipts) between them. A complete set of capital flow variables for the various sectors of the economy is given. In general, social statistics lack a framework that ensures consistency across a range of statistics from different sources. NSAMs provide this, ensuring consistency not only between social statistics in the matrix, but also between these social statistics and national accounts (*cf.* Stats SA, 2010).²³⁴

In the case of the SDP's DIP, to determine the economic impact of this particular intervention in the economy, the NSAM model was populated with the DIP's monetary data including the particular categories of interventions. Due to the extensive backward and forward linkages inherent in the social accounting matrix, the resulting 'ripples' from the initial intervention will flow into other sectors. Eventually, these 'ripples' can be totalled to determine the impact on economic production, GDP, employment and household income. For example, the total expenditure on the range of SDP equipment over a specific period (i.e. 2000 to 2012) can be used to calculate the economic impact on the wider economy. This is done by calculating the total 'capital injection' that will be made into the economy from spending. Then, using economic multipliers, the wider economic impact can be computed taking into account direct, indirect and induced effects.

3.8 Designing the Key-Informant Interview

Kvale (1996) suggests that interview research be conceptualised in seven stages – thematising, designing, interviewing, transcribing, analysing, verifying and reporting. The qualitative interview researcher should have extensive knowledge of the research topic so as to be sensitive to nuances and expressions of meaning within different contexts. I have a sound knowledge of countertrade and extensive knowledge of the SADI, the DIB, the military industrial complex and the whole DIP

²³³DBSA Social Accounting Matrices (SAMS) – *cf.* < <http://www.dbsa.org/EN/DBSA-Operations/Proj/Tools/Pages/SAMS.aspx> >

²³⁴Statistics South Africa National Accounts - *cf.* <<http://www.statssa.gov.za/publications/Report-04-03-02/Report-04-03-022005.pdf>>

process, its aims and objectives, as I was involved in its establishment and subsequent implementation.²³⁵

In accordance with what Du Plooy (2002) advocates, this research carefully assessed its targeted entities and organisations for interviewing. My selection was based on my having been an active participant in these particular entities and organisations (i.e. Armscor, Denel, SADI, AMD) and having worked closely for many years with those individuals who were interviewed, or requested to fill out the respective surveys. The theme of the respective interviews and surveys was focused and directed at the research itself. This is in line with what Kvale²³⁶ (1996) and Denzin and Lincoln (1994) advocate. Kothari (2004) refers to the process as deliberate sampling.

The survey was conducted in three phases, the first in 2007. A second survey - part of the finalisation of the thesis - followed in 2012. The third phase was during 2014: this was to further substantiate the findings and observations that had been made, particularly those related to DIP and the SADI. The surveys' main purpose was to determine how the final DIP results were viewed and what changes were anticipated, or had already been made to the DIP policy as a result of the lessons learnt since its practical commencement in 2000. Because of commercial confidentiality none of the questionnaires aimed to extract micro information but focused on macro issues only.

The rationale for my survey sample is as follows. In 2007, I had undertaken a review across some 50 respondents at the time when the bulk of DIP was to have been delivered²³⁷ (cf. Appendix H.1). DIP obligations for all the SDP equipment had to be discharged by year seven, that is, 2007. The only two exceptions were the direct DIP (i.e. direct work share) on the Hawk aircraft that was to be completed by 2009, and the single seater Gripen aircraft due to be delivered by 2011. It only later (cf. Burger, 2014)²³⁸ surfaced that almost R 1 billion of DIP on the corvette combat suite will only be finalised by 2016 as a result of a subsequent order by MBDA for surface-to-surface missiles.

²³⁵cf. my Biography under Appendix I

²³⁶According to Kvale (1996), the qualitative interview researcher should have extensive knowledge of the research topic so that he/she may be '... sensitive to the nuances of meanings expressed and the different contexts into which the meanings may enter.' In this instance the author had such knowledge

²³⁷With hindsight this proved to be quite useful, as numerous individuals involved at that stage had either died or left the companies they worked for – some companies no longer exist today – for example ATE

²³⁸cf. <<http://www.armscomm.org.za/hearings/...>>

During 2011, I interviewed Simphiwe Hamilton, the Executive Director of AMD,²³⁹ and Pieter Burger and his colleagues from the Armscor DIP Division.²⁴⁰ Armscor is the sole custodian and implementer of the DIP policy and responsible for managing the entire DIP process.²⁴¹ Both AMD and Armscor provided written feedback (as per the questionnaire in Appendix H.2). Subsequent to this interview with Armscor officials and completion of the DIP survey questionnaire, Armscor refused the use of the information for any purposes, including this thesis.²⁴² Armscor did not provide any explanation for their decision. During May 2014, I requested a reconsideration of their position and again received a negative response. I suspect this is related to the Arms Procurement Commission (APC) of inquiry into the arms deal. I subsequently also requested Armscor originals of the documents presented by their DIP officials to the APC, as some of the 'pdf' copies on the APC's website are of relatively poor quality. This request was also turned down. Nevertheless, the information on the APC's website remains rather useful (it was previously not in the public domain at all).²⁴³ Some specific documents have been copied out as part of the set of appendices in support of my research.

In 2014, I conducted follow on surveys using interviews²⁴⁴ combined with a third questionnaire (cf. Appendix H.3) with a number of key persons who have an intimate knowledge and understanding of the SADI, the SANDF/DOD/Armscor and the DIP process. These included Brig Gen (ret) Otto Schür²⁴⁵, Brig Gen (ret) Paul Gerber²⁴⁶ and Helmoed²⁴⁷ Römer-Heitman. The list of people approached was much longer, but I experienced numerous no responses, or declined responses. Certain responses had a caveat on the survey's use and/or the identification of the respondent. I attributed this to the on-going APC hearings.

²³⁹ AMD represents more than 90% of all SADI companies in South Africa. This is in terms of both turnover and exports. Arguably most AMD members would have had varying levels of participation in the DIP process and would have provided feedback to the AMD board on a regular basis. I have been a private member of AMD since 2009

²⁴⁰ Both Andre Botha and Wouter Klomp have since retired from Armscor, leaving the DIP division staffed with one seasoned DIP manager

²⁴¹ Armscor DIP Division played a key role in overseeing the SDP's DIP discharge process. The DIP Division remains the only entity where a complete report concerning the successes and failures of the SDP's DIP programme is available, the exact commercial details thereof ostensibly 'guarded and protected' under the banner of non-disclosure constraints

²⁴² Email from Pieter Burger, Armscor dated 16 November 2011 (09:25 AM)

²⁴³ The majority of testimonies made during Phase 1 of the APC's hearings were done under oath, further substantiated by an array of official documentary evidence – also declassified defence documents

²⁴⁴ These were by means of personal discussions and by telephone and via email

²⁴⁵ Brigadier General Otto Schür is a retired SAAF senior officer with vast experience in the DOD acquisition process pertaining to the SD specifically (c. 1998 till 2002). He then joined the executive at Denel Corporate till 2013; Denel being one of the major DIP participants involved with ALL the SDP equipment. He is now with a privately owned aerospace group, Safomar. He is actively involved with SADI strategy and planning with AMD, and involved in the 2014 Defence Review's redrafting. He is now on the AMD workgroup making proposals to Armscor concerning further DIP policy changes

²⁴⁶ Brigadier General Paul Gerber is a retired SAAF senior officer (a Mirage fighter pilot) who later joined the Grintek Group as Group Business Development Manager and worked with DIP and as well as other countertrade related matters from 1995 till 2005. He was then a consultant to SAAB Grintek until 2006 after which he joined Aerosud as Defence Marketing Director. He was also involved in redrafting the 2014 Defence Review with AMD. He was also one of the contributors to the 1997 DIP Policy

²⁴⁷ Helmoed Römer-Heitman is a well-known prominent South African defence analyst and an acknowledged defence advisor to the MOD, the SANDF and foreign defence companies. He is an active contributor to many defence related articles in a variety of magazines and journals (periodicals)

Although I gleaned a relatively small and select set of responses it must be noted that these nevertheless covered AMD (the SADI representative body), the DOD's views on the SDP's DIP, the state owned Denel (the largest group of defence companies and single largest group of SADI DIP beneficiaries), and from private industry Grintek and Aerosud - all as primary beneficiaries and participants in the SDP's DIP since 2000. My focus was thus on quality, not quantity.

3.9 The South African Case Study

A case study is '*an empirical inquiry about a contemporary phenomenon (e.g. a 'case') set within its real-world context – especially when the boundaries between phenomenon and context are not clearly evident*' (Yin, 2009:18). Case studies are a useful means to assist others to understand complex social phenomena (Yin, 2009). According to Yin (2012), a case study (in this instance, the South African DIP process) should try to capture data that supports the hypothesized understanding of the research question, in other words, why the research was undertaken. Yin compares case study evaluators with 'diligent investigators' who understand the objectives of their inquiry and can identify relevant and variable sources of evidence. Case studies can take the form of analytical, statistical analysis, 'hopefully resulting in new learning about real-world behaviour and its meaning' (Yin, 2012:4).

The case study element of this research considered several dimensions of the DIP commitment of approximately R 15 billion that stemmed from the biggest defence equipment transaction in the history of South Africa. Its baseline cost in 1999 was around R 30 billion. The 'where, how, when, what and who' elements of the case study considered the actual manifestation of the DIP activities in the SADI as contractual obligations. As mentioned previously, defence industrial participation, often also referred to as defence offsets, is a prominent element of international countertrade practices. Through the case study the South African DIP policy of 1997 could be benchmarked against international practices such as threshold values, discharge period, the types of desired activities, technology and penalty provisions.

3.10 Limitations of the study

A number of research limitations were experienced in this study. The first directly relates to the limitations of the respective research approaches used. This pertains to

a possible loss of objectivity due to the intimate knowledge I have on the research subject's countertrade aspect. The risk lay in the probability that I could be unconsciously making wrong assumptions based on prior knowledge that could be considered biased or overly subjective. Ethical considerations are also seen as a research limitation, since they consciously prevent the use of certain categories of information for ethical, professional, confidential and national security reasons – these are discussed below.

Further limitations lay in the fact that although abundant academic material on the subject of development theory and countertrade in general is available, empirically based academic material on countertrade and offsets, particularly empirical case studies, are much scarcer (although available). Any significant empirical material addressing any of the detailed commercial aspects of DIP is simply not available in the public domain. One of the main reasons such information is not published in any substantive manner can be attributed to the fact that it is governed by strict non-disclosure rules agreed to between foreign obligors and government – in South Africa's case the South African DOD through Armscor. In the case of the SDP, all the foreign contracts were underwritten by the sellers' respective governments (*cf.* Steyn, 2014), hence constituting a government-to-government agreement.

Defence transactions are deemed sensitive in view of the state's national security concerns governing the details of defence equipment procured for the SANDF. This also relates specifically to the direct DIP activities between foreign obligors and the SADI. To put this in context, one example would be where DIP included equipment produced by Saab Grintek²⁴⁸ to supply certain sophisticated electronic warfare equipment. The fact that it is supplied is not a secret, but the exact content is top secret. In this regard, one must realise that the state will always prohibit public insight²⁴⁹ into its strategic military capabilities entrenched in the variety of defence equipment that is operationally deployed in order to prevent such capabilities being compromised.

All information pertaining to defence is protected by South African law because of the particular nature of the defence-related industry that is involved in dealing with sensitive equipment. This equipment provides an operational winning-edge in times

²⁴⁸Avitronics in particular

²⁴⁹This is done through the Protection of Information Act, Act No. 84 of 1982, which is to be replaced by the Protection of State Information Act of 2012 – this Bill remains a subject of controversy as it is seen as an attempt to restrict the public from insights into government's actions

of military engagement and therefore has a direct bearing on national security, particularly on the offensive and defensive capabilities of the SANDF. What is also important to note is that within the defence fraternity (the military complex) there is a system of documentation classification in use. Therefore, any document marked with a specific level of classified information²⁵⁰ must be treated accordingly. This implies that any official in the service of the DOD, SANDF and Armscor is prohibited by law from disseminating any such information without proper prior approval being obtained.²⁵¹

Over and above its strategic sensitivities, DIP activities are of a commercial, confidential nature owing to international competition. Information pertaining to DIP contains a host of commercially sensitive transactions related to cost (pricing) – in the contracted defence markets price still plays a role as it directly translates into competitiveness and profitability.

Official and/or legal documents pertaining to both DIP and the 1999 SDP transaction were inaccessible: this was also the experience of Brauer and Dunne (2004, 2009) and Wellman (2010) in her NIP related doctoral thesis. The Auditor General (in the joint report on the SDP (2001)) stated that '*obtaining classified documents proved to be a cumbersome process*'. Since 2011, the APC echoed this cry. The APC had to wait for documents to first be de-classified before they could be released for the hearings – even then not all documents requested were made available.²⁵² Ethical issues pertaining to the above series of limitations related to the use of confidential material is covered in section 2.10.

Countertrade conference organisers (such as SMi of the UK²⁵³) as a standard rule do not distribute the contact details of attendees to non-attendees to prevent unwanted solicitation, particularly from consultants. Protection of personal contact details was a hurdle in the sense that I could not make personal contact with attendees of those conferences that I could not attend. International countertrade organisations (such as GOCA), and regional associations (such as ECCO, the DIOA, the LCR and APCA) only distribute member details and conference proceedings to their respective paid-

²⁵⁰ These levels range from lowest that is restricted, to confidential, secret and top secret, being the highest level of classification

²⁵¹ There are three laws prohibiting dissemination of information, namely, the Defence Act No 42 of 2002, the National Strategic Intelligence Act No 39 of 1999 and the Armscor Act No 51 of 2003 – these Acts by implication include former employees

²⁵² cf. <<http://www.armscomm.org.za/hearings/...>>

²⁵³ Conference presentations are only available to conference attendees and customers who have purchased conference documentation - cf. <<http://www.smi-online.co.uk>>. SMi is one of the UK's leading conference producers in the defence and security sector

up registered members. When I left Denel in 2009, I lost my membership status and therefore any access to many such conference materials.²⁵⁴

The limited access to Armscor's detailed DIP empirical data, remained the single biggest limitation to this research. However, some DIP information surfaced in the public domain subsequent to the APC's commission of inquiry into the SDP.²⁵⁵ Despite this, not much new information regarding the exact scope and content of DIP transactions, their transactional costs, sustainability, profitability, the impact of DIP on equipment costs, etcetera, was provided. Armscor also failed to provide any information on how the 1999 DIP contract baseline changed over time – that is, what was originally 'promised' and what materialised as actual activities used to discharge the respective obligations (Armscor was not questioned about it either - probably due to the APC not fully understanding the SDP's DIP contracting baseline.) My observations are substantiated by the many 'empty data fields' on Burger's DIP report of 2014 (*cf.* Appendix F).

Due to the general interest in and critical questions raised²⁵⁶ concerning the cost of the equipment, the APC made extensive enquiries, and in each case detailed explanations - many highly technical in nature - were provided by officials from the DOD, Arms of Service, and Armscor. What is interesting to note is the testimony of the SDP's chief negotiator, Jayendra Naidoo, who testified on 9 June 2014 that the negotiation terms mandate from government was very clear. The SDP's ensuing negotiations were based on concluding affordable contracts, which combined objectives to ensure that technical, industrial and financial imperatives would be fully satisfied.

What must be emphasized is that the majority of testimonies to the APC were under oath. Under SA Law this means that should it later be found that such testimonies were false, the persons who made them would be guilty of perjury. This fact underwrites the level of credibility of the information used from the respective testimonies made to the APC to further substantiate the analysis, observations and propositions in this thesis.

²⁵⁴As a private individual I cannot afford to pay membership fees to some or all of these organisations/associations – nor carry the cost of attending these respective conferences

²⁵⁵*cf.* testimonies of De Beer (4-6 March 2014) and Burger (12 March 2014) – *cf.* <<http://www.armscomm.org.za/hearings/...>> (De Beer was one of my subordinates during the SDP DIP process)

²⁵⁶Critics' as referenced by the Commission include for example Fernstein, Holden, Van Vuuren and Crawford-Browne – *cf.* <<http://www.armscomm.org.za/hearings/...>>

However, practical experience informs us of the prospect that certain government furnished information may not always be an exact or true reflection of facts. It is thus worthwhile to note what national policy states about official records. South Africa's Department of Arts and Culture (DAC), in charge of National Archives, (2006:1) states *'...records are the output of the business and administrative processes of a governmental body. In other words, the final proof that a business or administrative process was transacted. It serves as essential proof of the business that was conducted and should remain unaltered over time for as long as they are needed. As evidence of official business records have on-going use as a means of management, accountability, operational continuity, legal evidence and disaster recovery. They also form the memory of the institution that created them, and by extension, they are part of society's memory and the broader cultural heritage.'*

According to the 2006 DAC policy, the trustworthiness and accessibility of government records are the means of demonstrating transparency and accountability; they are the legal foundation upon which openness is built. The DAC Policy, for example, states that *'The Promotion of Administrative Justice Act'* (Act. No. 3 of 2000) aims to ensure that administrative action is lawful, reasonable, fair and properly documented: any deliberate act to destroy records constitutes a criminal act. Furthermore, *'The National Archives and Records Service of South Africa Act'* (Act No. 43 of 1996, as amended) defines a record as recorded information regardless of form or medium. Examples are given as being correspondence files, maps, plans, and registers of records, of media that includes newspapers, microfilm and electronic formats. The DAC Policy states that public records are those created or received in the course of official business, which are kept as evidence of a governmental body's functions, activities and transactions. Authenticity refers to the degree of confidence that a user can have that the record that he or she has access to, is the original authentic record (2006:24). The DAC Policy holds that audit trail data is fundamental to prove the authenticity of records, hence it must only be accessible to authorised personnel and auditors (2006:26). *'An authentic record is one that can be proven to be what it purports to be, to have been created or sent by the person purported to have created or sent it, and to have been created or sent at the time purported'* (2006:113).

During my research I inevitably relied on some government records to the extent these were available in the public domain. These included websites, annual reports,

and particularly various testimonies made under oath at the APC, which included a host of other official records (related to the SDP and the DIP). The steps that I took to prevent the use of suspicious records were to primarily focus on those records in the form of officially signed meetings minutes, policies, procedural documents and copies of legal agreements (typical examples are included as Appendices B to E). The reliability of testimonies made under oath lies in legislation that would invoke the penal system for perjury if information was later found to be false. The bulk of the supporting documents that were tendered to the APC were not 'reproduced', but declassified originals, hence the risk of human error or manipulation has little relevance. 'Reproduced' documents, in the form of narrative, qualitative and quantitative records are less trustworthy, since they can easily contain misrepresentations or administrative errors.

3.11 Ethical Principles Applicable to this Research

I gave careful consideration to the ethical issues relevant to this research (*cf.* Hofstee, 2006; Bolton, 2010). Ethical issues related to the ready availability of data relevant to the research topic, and the research methods used as being suitable, practical and feasible to extract data and information in a meaningful manner. All reasonable endeavours were made to remove subjectivity or prejudice or sensational, emotive, or speculative arguments about the researched subject matter. Nevertheless, where and when required I expressed my views and opinions, particularly when there was a need to qualify, emphasise, or demonstrate a specific issue - or in instances when I wanted to focus the reader's attention on any specific matter I had observed. The challenge here was the difficulty of detaching the factual framework from the assumptions of theorists and reporters. Once having considered facts, inferences may be drawn concerning the special points of interest.

However, the information and data collected and reflected upon related directly to development theory and its discourse, accepted research methodology, international countertrade and offset practices, and to the commercial business activities of the SADI, and certain international companies. This information and data reflected on the applicability and practicability of the DOD/Armcor DIP process. Assurance was given that the use of the information and data collected in this manner would not be exploited for any other purpose, nor compromise any commercial confidential information or the national security concerns of any party, entity, organisation or

process observed or reported on in this research – this *ipso facto* included the observation of certain legislation that protects certain types of information and data.

3.12 Summary

All research is aimed at creating understanding through the interpretation of both qualitative and quantitative data. Understanding is required to control and/or contain, and/or accept certain phenomena as they appear, or otherwise to change them through various processes involving aspects of development, intervention, facilitation, prediction, forecasting, manipulation, influencing, suggestion, prediction and/or recommended adjustment.

This study identified a need for further research on the topic of countertrade as a possible developmental tool. Efforts to analyse and assess DIP were primarily based on qualitative information substantiated by relevant quantitative data collection. However, what could not be researched in depth from a quantitative point of view were the in-depth economic and socio-economic aspects of DIP, nor its cost, nor its profitability. Empirical data remain obscured by non-disclosure agreements, limiting and actually preventing access to such commercially sensitive information. It is hoped that this information will surface once the APC has completed its arms deal investigations, although at the time of the research, the Department of Defence had already indicated to the APC that some documents will remain classified and not be made public (*cf.* Adv Skinner, APC, 18 February 2014 who stated: '*Documents which by law are protected from public disclosure will remain protected.*').

Having been exposed, as researcher, to a multitude of countertrade and offset practices, whether regulatory, or assessment, or negotiation, or monitoring, or control, or contracts management, or claims processing, or evidence collection, or business development advantaged me, since I could share this insider knowledge through this research with due care to prevent subjective and biased reporting.

The research findings and conclusions of this study are ultimately intended to lead to a fuller comprehension of the researched topic.

CHAPTER FOUR: AN ANALYTICAL REVIEW OF INTERNATIONAL COUNTERTRADE THEORY AND PRACTICES

4.1 Introduction

This chapter deals with several international countertrade practices that are used as a means of deriving reciprocal trade or other benefits through leveraging government procurement (Coetzer, 1995; West, 1996; Brennan, 1998; Shanson, 2004; Balakrishnan, 2007; Taylor, 2011; Yülek and Taylor, 2012), or through an applied trade practice driven by country needs, particularly in the issue of bartering.

The account given in the ensuing sections is aimed at explaining the various forms of countertrade as they appear today. Under the banner of countertrade there are numerous types of transactions that resemble normal commercial, trade, finance and business processes and activities. Hence the observation made by Hammond (1999) that those involved in countertrade are limited only by their own imagination and creativity in putting these complicated transactions together. The reader is taken through a step by step explanation of how the various countertrade elements are applied in practice.

Today, there are still large geographical areas (i.e. parts of Africa, Latin America, Europe, and of the ASEAN²⁵⁷ communities, including countries within the Russian Federation) suffering from a constant shortage of money and enormous international debt (estimated to be around USD 79 trillion).²⁵⁸ According to the debt statistics for April 2014²⁵⁹ - in order from the highest debt ratios as a percentage of GDP - the following top ten countries are listed – Japan, Zimbabwe, Greece, Italy, Iceland, Portugal, Ireland, Jamaica, Lebanon and Cyprus (South Africa lies at position number 81). For decades, the use and availability of money resulted in a decline in barter, although it never disappeared. Even today lack of money (hard currency or coinage) forces many nations to resort to barter-type activities, including debt swaps. Market sophistication has, however, led to the principle of commodity trade and structured finance deals of an exceedingly complex and intricate nature (*cf.* Korth, 1987; UNCITRAL, 1993; Martin, 1996; Rowe, 1997; Brennan, 1998; Shanson, 2004; Rogan, 2002; Verzariu, 2004).

²⁵⁷ Association of South Eastern Asian Nations

²⁵⁸ World Bank's Quarterly External Debts Statistics, 2nd quarter 2012 - *cf.* <<http://www.web.worldbank.org>>

²⁵⁹ *cf.* <<http://www.economicshelp.org/blog/774/economics/list-of-national-debt-by-country/>> - based on statistics from the IMF, Eurostat and CIA agencies

In its simplest form countertrade can be graphically explained as shown in Figure 3, which depicts the process of ‘I buy from you on the condition that you provide something in return.’

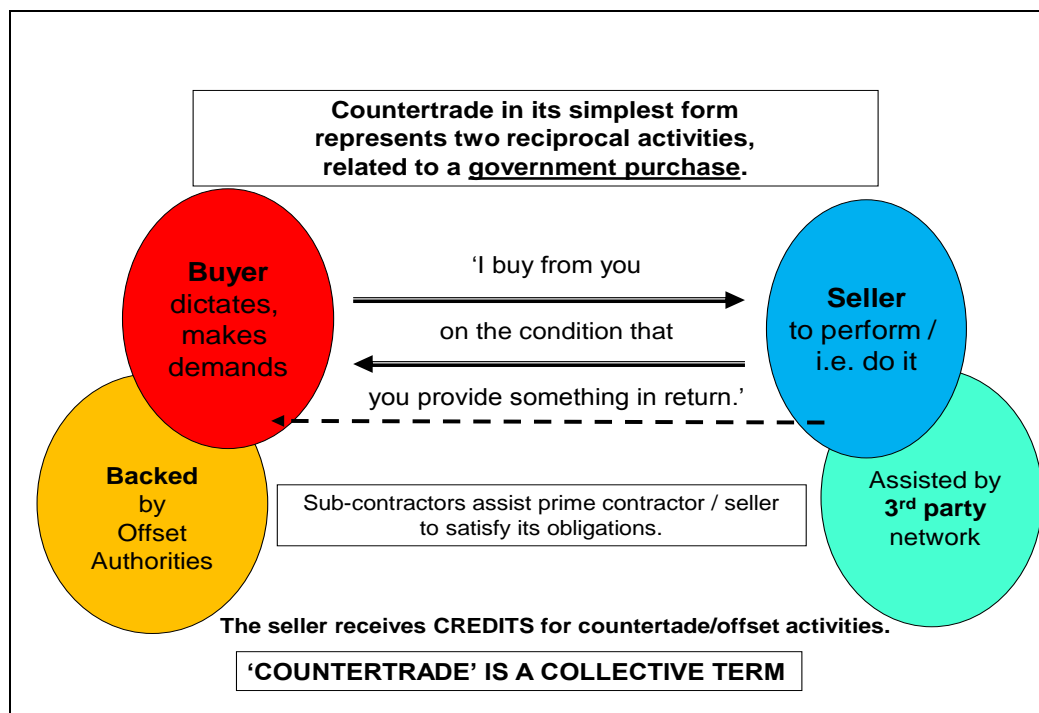


Figure 3: Countertrade in its simplest form (Source: author)

The latest information on countertrade use reveals it as a globally practiced reciprocal trade mechanism, used by some 80 countries (cf. Appendix A).²⁶⁰ The WTO (in terms of their General Agreement of Trade and Tariffs and the general Agreement on Government Procurement (GPA)²⁶¹ discourages the use of offsets as a discriminatory factor when conducting international procurements. However, WTO exceptions make it possible for countries (particularly those in a developmental phase - and also for national security and health reasons) to use these forms of trade. Both the US Government and the EU are discouraging the use of defence offsets.²⁶²

Countertrade occurs under two kinds of market conditions. The one is where there is a natural need for trading but it is constrained in some way, for example, by an absence of currency or an oversupply. Under these conditions countries can resort to bartering, which involves a commodity for commodity exchange with no money. The

²⁶⁰ CTO, QB July 2012

²⁶¹ cf. <http://www.wto.org/english/docs_e/gattdocs_e.htm> - please note that the acronym of GPA does not always correlate with the WTO published text

²⁶² EU Directive 2009/81/EC - cf. <<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2009:216:0076:0136:en:PDF>>

second market condition is one where countertrade is purposefully structured to secure reciprocal benefits as a condition of a commercial sales transaction - defence or civil in nature. This is referred to as leveraged procurement and manifests primarily as defence offsets (although not limited to it) involving the defence industrial base, which is the concern of this study.

The countertrade 'umbrella structure' I developed (Figure 4 below), illustrates graphically how the various elements of the countertrade phenomena can be grouped (*cf.* Van Dyk²⁶³, 2004:253). This is based on the research I conducted and is enhanced through my personal experience: it thus differs from Brennan's (1998) account. I identified three broad categories of countertrade found internationally that manifest as commercial compensation, industrial participation and what I view as 'other'.

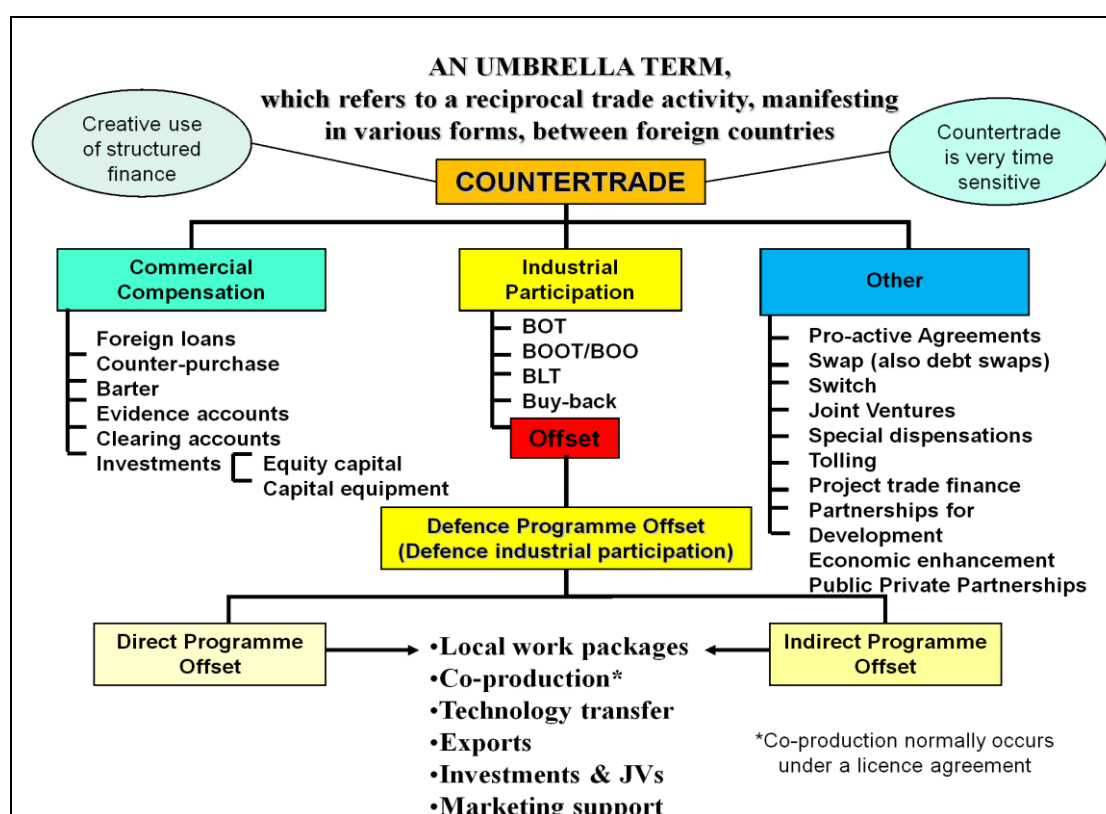


Figure 4: Countertrade – an umbrella term (Source: author, *cf.* Van Dyk, 2004:253)

²⁶³The first iteration was in 1996/7, when I drafted the Armscor Countertrade procedural manual. Ref JUL-97-28/1.

Hennart (1989) notes that in the late 1980s, bartering was the most popular non-currency based countertrade transaction while buy-backs and counter-purchase were the most popular currency based transactions and the two most prominent reciprocal trade elements. These are explained in more detail below. Table 3 shows how countertrade's composition has changed over the past 20 years.

Table 3: The changing composition of countertrade			
Angelides, 1992	LCR²⁶⁴, c. 2011	US, 2013 (2012 base date)	Yülek and Taylor, 2012
1. Offsets = 47%	1. Offsets (no percentages, just listed in order of priority)	1. Sub-contracting = 48,2%	1. Co-production/licenced production = 30,95%
2. Counter-purchase = 32%	2. Counter-purchase	2. Purchases = 35,7%	2. Technology transfer = 23,81%
3. Barter = 9%	4. Tolling	3. Technology transfer = 16,1%	3. Sub-contracting = 20,63%
5. Buy-back = 5%	2 Buy-back	Note (i) – sub-contracting is assumed to mean direct work share on the equipment	4. Construction and infrastructure = 9,52%
3 Evidence accounts = 5%	6. Switch Trading	Note (ii) – Purchases are assumed to mean exports and sales	5. Finance and Investments = 9,52%
4 Bilateral clearing = 2%	Note: LCR – did not indicate any percentages	Note (iii) – the US' 18 th Offsets report of Dec. '13 did not provide any further countertrade and offsets-related transactional break down information in order of priority or preference, except to record that these entail a combination of co-production, licenced production, subcontracting, technology transfer, training, investments, purchasing and credit assistance and compensation.	6. Countertrade / buyback / barter / other = 5,55%

(Source: author's summary derived from the works of Angelides, 1992, the LCR, the US Dept of Commerce and Yülek and Taylor, 2012)

Note: With reference to the Table 3 above, Yülek and Taylor (2012:29) agree that these results are consistent with direct offsets leveraging associated with maintaining and retaining the capabilities of a country's defence industrial base (DIB), and are also used for acquisition strategies. Yülek and Taylor add that buy-back and barter (counter trade²⁶⁵) agreements represent a notable change from past decades, and while counter-purchase agreements are still prevalent, it is clear that buy-back and barter have fallen out of favour with purchasing governments. Historically, buy-back and barter arrangements were most commonly used to conserve foreign exchange, or establish a credible commitment (i.e. reciprocity) to support the transaction. In the current global economy, conserving hard currency is not a driving force in international public procurement (*ibid*).

²⁶⁴ London Countertrade Roundtable (LCR). c. 2011 – cf. <<http://www.londoncountertrade.org/countertradefaq.htm>>

²⁶⁵ Assuming this means 'commodity trading'

As no reports specifically covering evidence accounts and bilateral clearing agreements could be located, it is assumed that these practices remain limited in their application. It must also be noted that this study did not endeavour to analyse the pros and cons of each type of countertrade transaction, as these fall outside the scope of this research and would have required a thesis on its own.

The reader is alerted to the fact that each of the following countertrade elements/activities explained below evolved over time with various permutations and nuances, and therefore cannot be exclusively attributed to any single academic, scholar, countertrade practitioner, economist, commercial, financial or international trade practitioner or institution.

The reader's attention is furthermore directed to the fact that the range of credible sources available is not so wide that it could be used for a diverse series of substantiations. There may therefore appear to be an 'over reliance on certain sources', for example, Horwitz, Coetzer, Martin, Treahan, Brennan, Yülek and Taylor. This is because these sources contain specific analyses related to certain types of countertrade transactions and practices that are not as comprehensively covered elsewhere.

For example, Horwitz (1989) seems to be the only one who published a 'lexicon' (*The Countertrade and Offset Lexicon*, 1989), although there was never a reprint. Horwitz's lexicon substantiates the definitions of many of the transactions dealt with in support of Coetzer (1995). Coetzer is one of the few professionals²⁶⁶ who made a comprehensive legal transactional analysis of the various elements of countertrade in his publication, *International Countertrade Contracts: Principles and Practices*, 1995. The third source, Treahan, is a seasoned and experienced countertrade practitioner. He provided detailed flow process transactional analysis from a practitioner's point of view in his publication the *Red Book: Government Laws, Regulations, Policies & Practices on Offset & Countertrade. 1999-2000 edition*. The 'Red Book' was published by 'World News'.²⁶⁷ The fourth source is Brennan's *Government Pro-active*

²⁶⁶Coetzer was an attorney at the Supreme Court of South Africa, so his publication is much more legally focused

²⁶⁷cf. <<http://www.prnewswire.co.uk/news-releases/red-book-helps-international-traders-and-bankers-cut-through-red-tape-156108755.html>>. 'World News' was a bi-weekly international trade magazine that contained information on various countertrade transactions. This publication stopped circulating mid-2000. World News was dissolved in 2008/9 - cf. <<http://www.companieslist.co.uk/02644512-world-news-ltd>>. (Sandy Treahan was the owner of this publication and in 1998/1999 had aspirations to form the 'World Offset and Countertrade Organisation (WOCO)' – I was approached by Treahan to become one of the first directors and founder members of WOCO, but this endeavour failed due to too many divergent views between Treahan and the other identified directors (one from the US and one from Italy, names withheld due to non-disclosure reasons) – the now existing GOCA actually fulfils the vision that Treahan had in mind

Countertrade: A decade of deals, 1998. He provided a countertrade transactional flow process analysis very similar to that of Treahan's (1999). All the aforementioned sources were consolidated, enhanced and expanded through my own practical experience and my interaction with seasoned international countertrade entities. Some specific practical examples were published periodically by CTO Data Services Co, UK.²⁶⁸

However, this does not imply any disregard for the range of other publications that contain numerous interpretations and flow models that over time have tried to explain the various countertrade transactions,²⁶⁹ for example, those published by Verzariu, 1985, Francis, 1987, Alexandrides and Bowers, 1987, Meyer, 1989, Martin, 1996, Rowe, 1997, Sumer and Chuah, 2007, and the UN's Commission for International Trade Law (UNCITRAL) 1993.

4.2 Types of Countertrade Internationally

What initially happened on the international countertrade front over the past 25 years is well recorded. For example, Martin (1996) did some ground-breaking research establishing synergies in and between the uses of various countertrade practices employed globally. He achieved this by analysing the collective records and accounts (4 139 in total) of countertrade deals researched, for example, by Jones and Jagoe²⁷⁰, Hveem²⁷¹, Lecraw²⁷², Hennart²⁷³, and Caves and Marin²⁷⁴.

Some of the flow diagrammes below combine different views of the various processes involved in countertrade.²⁷⁵ My own observations during the course of my involvement in the practical side of the countertrade phenomenon assisted me to effect various adaptations to the respective countertrade transaction flow models. My knowledge and insights into countertrade were influenced by specialist international

²⁶⁸ CTO Data Services Co. (est 1983) is the publisher of 'Countertrade & Offsets' – a bi-weekly newsletter providing global intelligence on special trading arrangements – CTO has provided a publishing licence to Epicos, Greece to publish CTO reports. CTO also publishes a quarterly bulletin containing the countertrade and offset policies of all the countries in the world

²⁶⁹ I consulted and assessed numerous sources (cf. chapter 2) and various countertrade flow models. The most basic and easy to understand structures were chosen in an effort to assist the reader to comprehend this rather complex commercial reciprocal trade process and its variety of sub-set components and intricate activities

²⁷⁰ Jones, S.F. and Jagoe, A., 1988. *Third World Countertrade*. Produce Studies Ltd, Newbury

²⁷¹ Hveem, H., 1989. *Countertrade: The Global Perspective*, Institute of Political Science, University of Oslo

²⁷² Lecraw, D., 1989. *The Management of Countertrade Factors Influencing Success*. *Journal of International Business studies*, 20, 1989

²⁷³ Hennart, J.F., 1989. *The Transaction Cost Rationale for Countertrade*. *Journal of Law Economics and Organisation*, Vol 5

²⁷⁴ Caves, R. and Marin, D., 1992. *Countertrade Transactions Theory and Evidence*, *Economic Journal*, 102

²⁷⁵ During 1996 and 1997 I was made responsible for developing a countertrade procedural manual for Armscor under the guidance of my former manager, J.C. (Koos) du Plessis. The document was titled 'Armscor Countertrade: POLICY and PROCEDURAL MANUAL JUL97-28-1' – several of these flow processes were researched, 'created' and refined over many subsequent years of practical exposure to international countertrade. This was followed in September 2001 with a 'Countertrade Development Department Strategic Plan' for Denel, ref CTD4/12/1B dated 11/10/2001 – this is a Denel confidential document

countertraders and offsets service providers (skilled practitioners) whom I met and interacted with over many years, for example, the Asia Pacific Countertrade Association (APCA) in Singapore, Stemcor, UK,²⁷⁶ Sandy Treahan (an independent researcher, World News, UK), Blenheim, UK, the Rotch Group and Consensus from the UK, the former German WestLB Investment Bank (before it was dissolved on 30 June 2012),²⁷⁷ Centrobank of Austria²⁷⁸ and Christoph Kamm of ABB, Switzerland.

In addition, my experience with many countertrading countries, such as South Africa, Egypt, Israel, the Philippines, Malaysia, Singapore, Indonesia, South Korea, the Netherlands, the UK, Brazil, Colombia, Pakistan, Finland, Norway, Sweden, Turkey, Australia, Kuwait, Saudi Arabia, Oman and specifically, the United Arab Emirates²⁷⁹ provided me with many insights. As a result of my exposure to countertrade practices and the many sources at my disposal, it was possible to determine synergies and similarities in the various forms of countertrade (discussed below).

4.2.1 Barter

Barter is the oldest form of countertrade. It covers the direct exchange of commodity-for-commodity of equal value, with no money involved (Horwitz, 1989:9; Martin, 1996:13; Treahan, 1999:19; Blanchard, 2006:497; *Barter Economy*, 2010).²⁸⁰ After WWII bartering became a popular means of trade owing to high levels of unemployment and a scarcity of cash (Allison, 1981:90). In this form of countertrade, the export of goods and services is often delayed until sufficient revenue has been earned from the sale of bartered commodities (Rowe, 1997). A country's clearing bank represents the seller and the buyer when the bartered goods are exported or imported. Sometimes barter is used when the buyer is either reluctant or unable to pay for goods according to the original agreed terms. 'Cash-strapped' countries normally use this mechanism that can involve multiple parties at the same time (Coetzer, 1995:93-99; Treahan, 1999:19).

Swiss company, Business International, for example, stated that in the late 1970s and mid-1980s 'soft oil' prices caused several countries to offer various forms of oil

²⁷⁶cf. <<http://www.stemcor.com/Finance.aspx>>

²⁷⁷As of June 30, 2012, the 180 year old WestLB ceased to exist as part of EU conditions tied to a total 17 billion euros (\$21 billion) of aid to bail out the bank following the 2008 financial crisis - cf. <<http://www.bloomberg.com/news/2012-06-29/westlb-s-fall-from-grace-is-lesson-in-investment-bank-hazards.html>>

²⁷⁸Raiffeisen Zentralbank Oesterreich AG, head office in Vienna - 30 years of in-house expertise - cf. <<http://www.centrotrade.net/raiffeisencentrobank.html>>

²⁷⁹Since 2001, I was closely involved in the UAE offsets as a result of having joined Denel. The UAE is one of Denel's more prominent clients

²⁸⁰cf. <<http://www.economywatch.com/economy-articles/barter-economy.html>>

barter deals to avoid a drop in oil earnings. They opted for transactions that were designed to hold onto markets by reducing the real cost of their oil. Countries known for doing this were Algeria, Iraq, Iran and Indonesia. However, Egypt has been doing barter deals for many years.²⁸¹

In 2008, Malaysia indicated that it planned to engage in palm oil bartering to support its rice demands,²⁸² and Pakistan was reported to have considered bartering for cotton to avoid exhausting depleted forex stocks.²⁸³ Another example is India, which provided sugar, tea and cotton to Pakistan in return for wheat.²⁸⁴ Sudan was reported bartering oil for Chinese guns: this deal was 'defended' by the Sudanese as a complete package of oil revenue, military equipment and political cover.²⁸⁵

Gisin (2007:47) - quoting the editor of *BarterNews*, Bob Meyer - observes that the biggest ever barter deal, referred to as '*astronomical*', was the UK Saudi oil for guns deal – Al Yamamah.²⁸⁶

According to the 2010 UN Conference on Trade and Development²⁸⁷ (UNCTAD), unaccounted for barter deals among nations means that the global economy is much larger than what is reported by official government statistics. Countries can engage each other in barter transactions that will balance any surpluses or shortfalls of these commodities.

UNCTAD has estimated that bartering of products that takes place outside the official money-based GNP sector of the world's economies, amounts to nearly USD 16 trillion. This amount is not included in the official global GDP figure of approximately USD 48 trillion.²⁸⁸ Barter structuring entails transactional flow processes, depicted in Figure 5, and involves multiple parties, pointed out by Coetzer (1995:98).

²⁸¹ CTO, QB July 2012

²⁸² CTO, June 9, 2008

²⁸³ CTO, November, 24, 2008

²⁸⁴ CTO, April 24, 2008

²⁸⁵ CTO, November 27, 2006

²⁸⁶ This deal is known as the Al Yamamah deal and is a series of defence sales by the UK to Saudi Arabia, which have been paid for by the delivery of crude oil per day to the UK government. In chapter five more detail concerning this deal is provided in context

²⁸⁷ Barter News, 2010 - cf. <<http://www.baternews.com>>

²⁸⁸ *ibid*

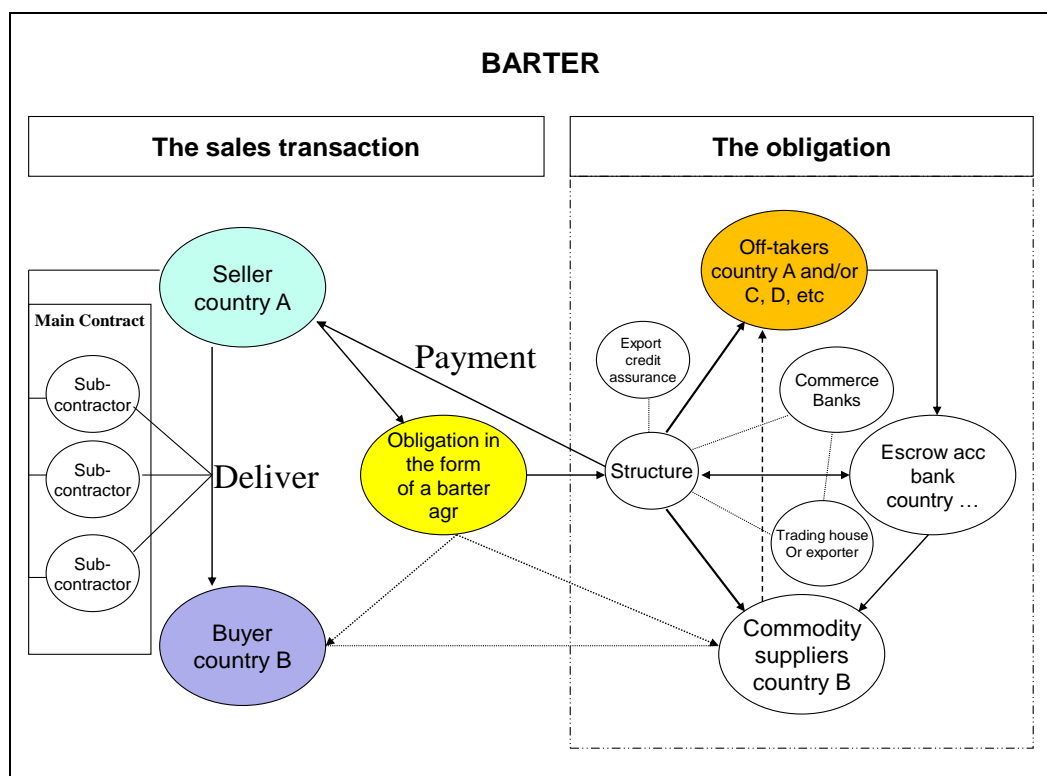


Figure 5: Barter (Source: adapted by the author)²⁸⁹

4.2.2 Evidence Accounts

Another type of countertrade is evidence accounts, which monitor cumulative export and import Dollar value turnovers within a specific period of between one and three years (Coetzer, 1995:135). The main aim is to balance the monetary value of accounts related to goods export with those related to goods import between two specific countries (Horwitz, 1989:37).

This is particularly relevant to large government-to-government bilateral agreements that involve multinational corporations, or traders with extensive on-going export and import business activity in specialised areas and in collaboration with their trading partners in specific countries (Coetzer, 1995:138; Treahan, 1999:26).

Evidence accounts are normally maintained by the central (reserve) banks (Horwitz, 1989:16) of the trading partner countries, or alternatively by commercial banks designated by the central banks of the respective countries (Horwitz, 1989:37;

²⁸⁹**To note:** Whenever I indicate in any of source references in the various figures/diagrammes in this chapter as related to the respective elements of countertrade in particular, as 'Source: **adapted by the author**' - such adaptations are based on primarily similar flow models done by, amongst others, Francis, 1987; Montague, 1989; Rowe, 1997; Brennan, 1998; Treahan, 1999 and processes used by, for example Stemcor, UK, and former West LB, Germany

Coetzer, 1995:135-138). Figure 6 below (Treahan, 1999:26) depicts the basic transactional flow process that evidence accounts traditionally follows. The balance of trade is monitored by the two countries' appointed banks, as explained by Coetzer (1995:137). The actual practice involves a much more detailed range of activities that cannot all be captured here.

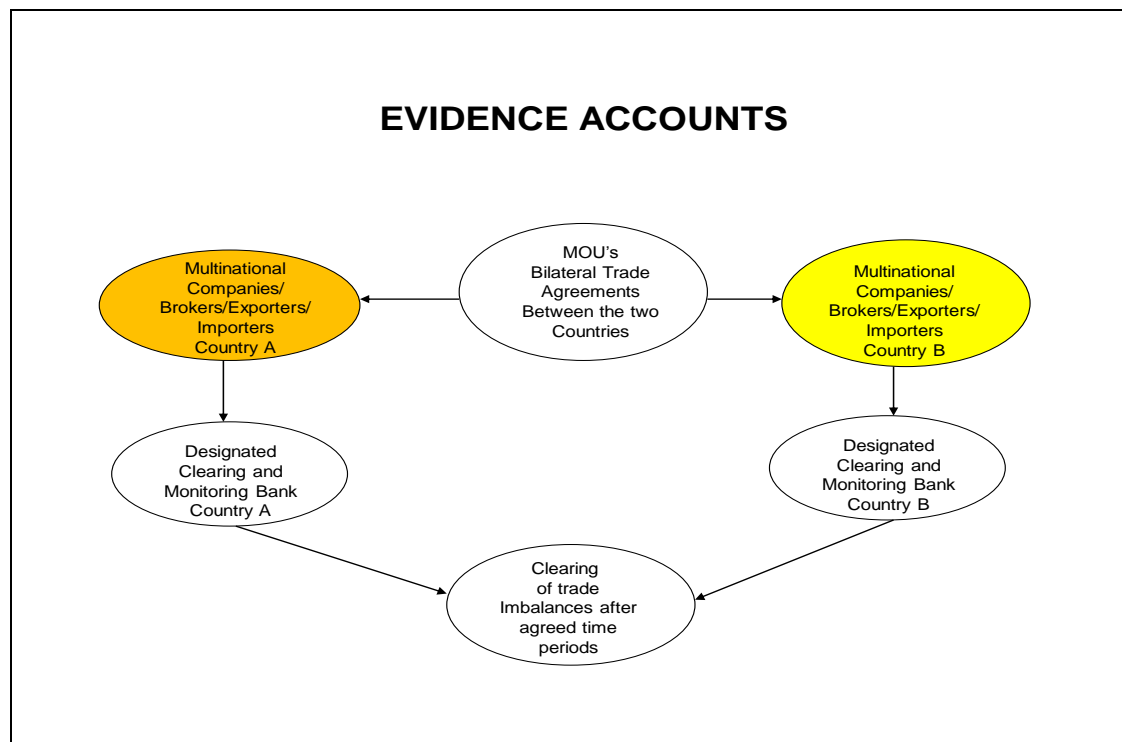


Figure 6: Evidence accounts (Source: Treahan, 1999:26)

4.2.3 Build-Operate-Transfer (BOT)

As explained in the thesis' *'Lexicon of terminology'* (section III), there are a number of derivatives of BOT-related type transactions (cf. Horwitz, 1989:14). These countertrade transactions normally include substantial turnkey projects related to infrastructure projects in power, toll-roads and the transport sector, harbours and dams. They involve a consortium of foreign investors and suppliers with local partnerships. The infrastructure required is *built* and *operated* for profit over a pre-agreed number of years, then *transferred* to a pre-agreed entity (private and/or government-owned). Turnkey projects lower exchange hazards by shifting risk from the buyer to the seller. All revenues generated from the project are used by the consortium to pay the suppliers of machinery, equipment and services, and for

servicing any debt and the running operation costs of the plant (Horwitz, 1989; Rowe, 1997:13; Treahan, 1999:22).

As a general practice, one of the members of the consortium is always a government body that may ultimately take over the project from the private BOT consortium at the end of the fixed term (Treahan, 1999:22). An example of a typical substantial transaction of this nature involves France (Alstom and Areva) and China who are building and operating a nuclear plant with two 1 700MW nuclear units. This plant is being built through a joint venture with the Chinese and full control is expected to be transferred to China by 2015.²⁹⁰ Other versions of BOT are build, transfer and operate (BTO); build, operate, own and transfer (BOOT); build, operate and own (BOO); build, lease and transfer (BLT); and build, lease and operate (BLO). In each instance, the contracting model, duration, terms, etcetera are different. Implementation inevitably takes a few years and return on investment happens over a longer period – normally 15 years (Horwitz, 1989:14).

Figure 7 provides a schematic synopsis of what a BOT type transaction may consist of. As can be seen, such a transaction is rather intricate as it involves up-stream and down-stream and even side-stream activities: in economic terms these transactional flows are also referred to as backward and forward linkages.²⁹¹

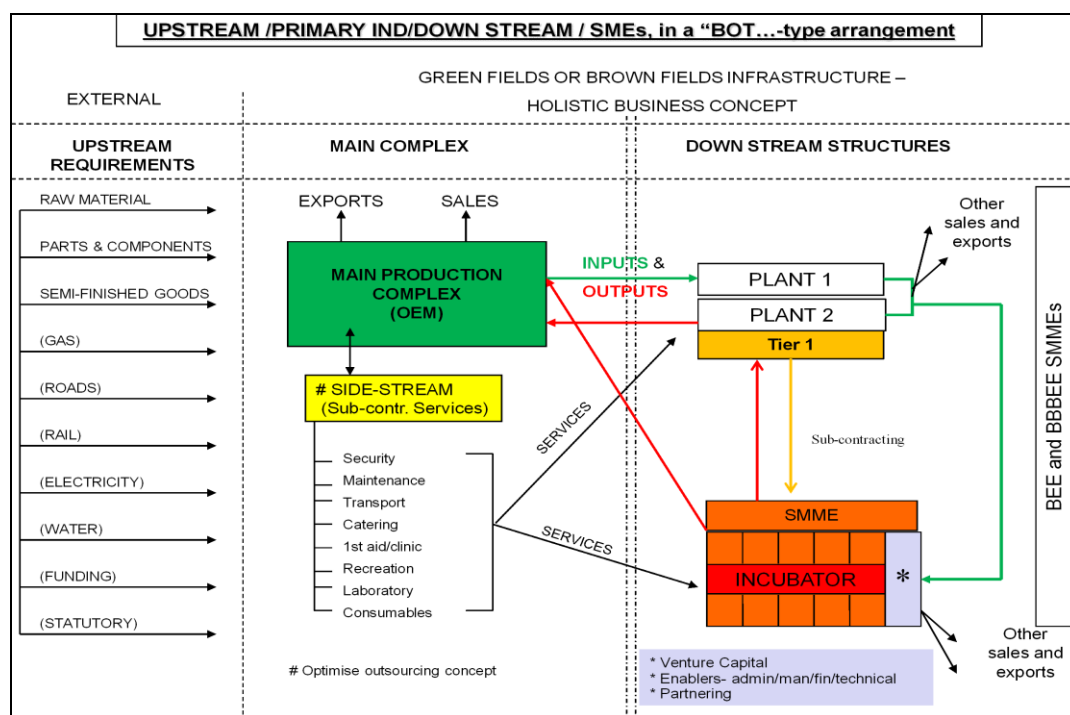


Figure 7: A BOT type transaction (Source: author)

²⁹⁰CTO, October, 27, 2008

²⁹¹Backward linkages can be defined as follows: 'the growth of an industry leads to the growth of the industries that supply inputs to it. Forward linkages exist when the growth of an industry leads to the growth of other industries that use its output as input' - cf. <http://wiki.answers.com/Q/What_is_the_difference_between_forward_linkages_and_backward_linkages>

4.2.4 Buy-back

This form of countertrade tends to be long-term and involves much larger financial transactions. It is in nature very similar to a BOT (and derivatives) structure. Under its provisions, a supplier of capital goods agrees to repayment, partial or in full, sometime in the future, from the resulting output of the capital goods exported to a country, including its own (Horwitz, 1989:14; Coetzer, 1995:126-128; Rowe, 1997:8; Treahan, 1999:22). This kind of arrangement often extends over several years making it difficult to estimate the annual volume of trade (Rao, 2008).²⁹²

An example of this type of transaction is the reported deal between Italian aerospace engine manufacturer, Avio, which certified a Polish company to produce cogwheels and various sub-assemblies for turbine engines. Under an offsets agreement Avio will buy back production over a five year period.²⁹³

Several parties can be involved in a buy-back transaction and it normally involves investments (in the form of equity, capital equipment, loans, management and infrastructure support, and technology transfer) and turn-key plants established in the buyer country by the seller (*cf.* Martin, 1996:32).

The machinery and equipment supplier will need to finance the acquisition. A broker may be involved in the country of import. The importer who needs the equipment plans the installation of machinery and purchase of raw material taking local content and schedule production into account. The production output may be transported directly by the supplier, or sold through a broker in a third country. Bankers act as trustees of the fund until the final payment is made to the supplier. Implementation can take a number of years (Coetzer, 1995:123-128).

Brennan (1998) found that buy-back was a significant form of compensation used in the late 1980s and early mid-1990s and at the time constituted the most favoured form of countertrade applied by developing countries. In most cases this resulted in the setting up of a production plant using the capital and technology of the investor,

²⁹² *cf.* <<http://www.citeman.com/3949-extent-of-counter-trade.html>>
²⁹³ CTO, February 26, 2007

complemented by a guaranteed off-take²⁹⁴ of the production output. The process flow involved in buy-back transactions is depicted in Figure 8, which is self-explanatory.

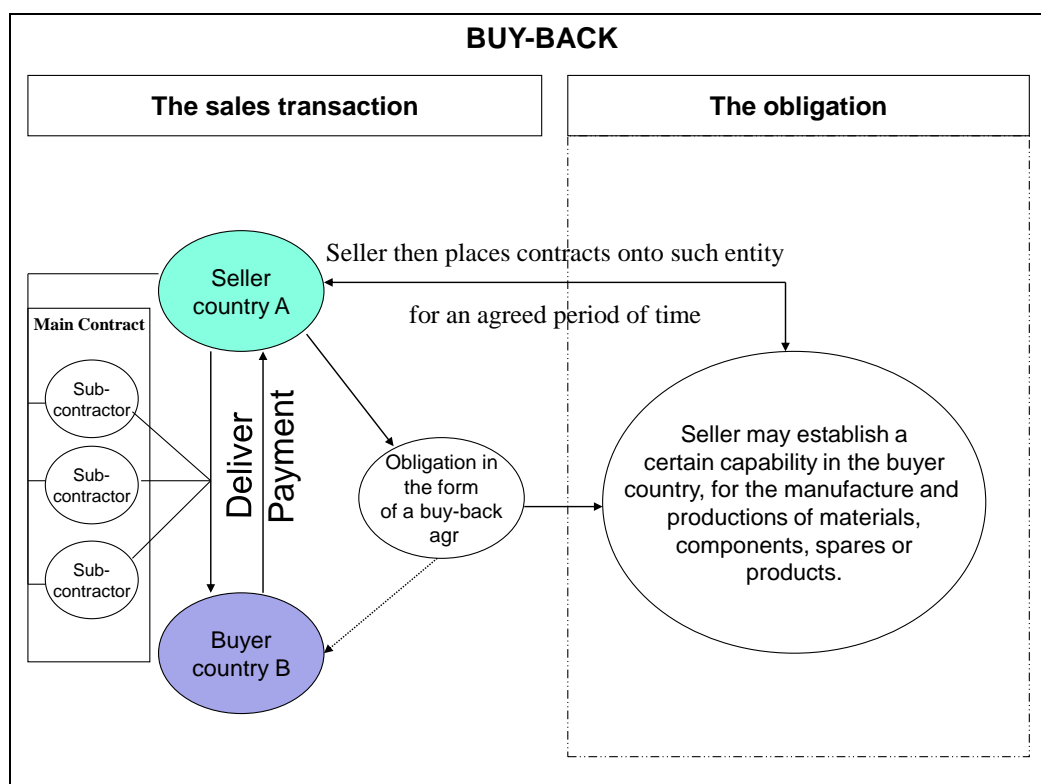


Figure 8: Buy-back (Source: adapted by the author)

4.2.5 Co-production

Co-production is used by many oil-producing countries. In view of the size and overall impact of such a project, there are a limited number of leading multinational oil and gas companies that can take part in ventures of this kind. Downstream petrochemical activities are fairly lucrative and primary industry beneficiation can be secured through downstream co-production (Horwitz, 1989:23-24; Treahan, 1999:24).

An oil and gas company, for example, can enter into a Joint Venture (JV) agreement with a developing country's government to search for oil/gas reserves, explore and produce oil and gas either on- or offshore. The oil and gas company makes the total investment in exchange for its rights, which are limited to the number of years in the JV deal. Oil and gas thus produced are shared in accordance with the agreement between the parties and sold on the global or local market (Treahan, 1999). This inevitably poses risks and profit-sharing questions and the venture may take some

²⁹⁴This type of transaction is very sensitive to market forces related to supply and demand. A sudden fall in international demand, as has been experienced internationally (e.g. 2007) - for example, in the fabricated metals sector - can have a crippling impact on the plant's output

time to develop fully into a profitable business. Economies of scale, productivity, efficiencies and demand are key factors affecting the viability and sustainability of such projects.²⁹⁵

In the defence arena, examples of this type of co-production agreement are the A400M Airbus military transport, the A380 cargo and passenger aircraft²⁹⁶ and the Euro Fighter (Typhoon) aircraft that involves the European defence industrial base specifically (*cf.* Hartley, 2008). Verzariu (2002) questions whether countries wanting to engage in co-production ventures have the capacity and capability to do so. In addition to the offsets examples given above, Jovovic (2013)²⁹⁷ points out that a growing number of defence programmes are collaborative in nature, due to the inhibitive expensive costs associated with new generation equipment development (*cf.* Martin, 1996: 35).

In the civil arena, Boeing is applying co-production. Figure 9 (below) is a self-explanatory example of co-production and shows Boeing's work share on its 787 Dreamliner.

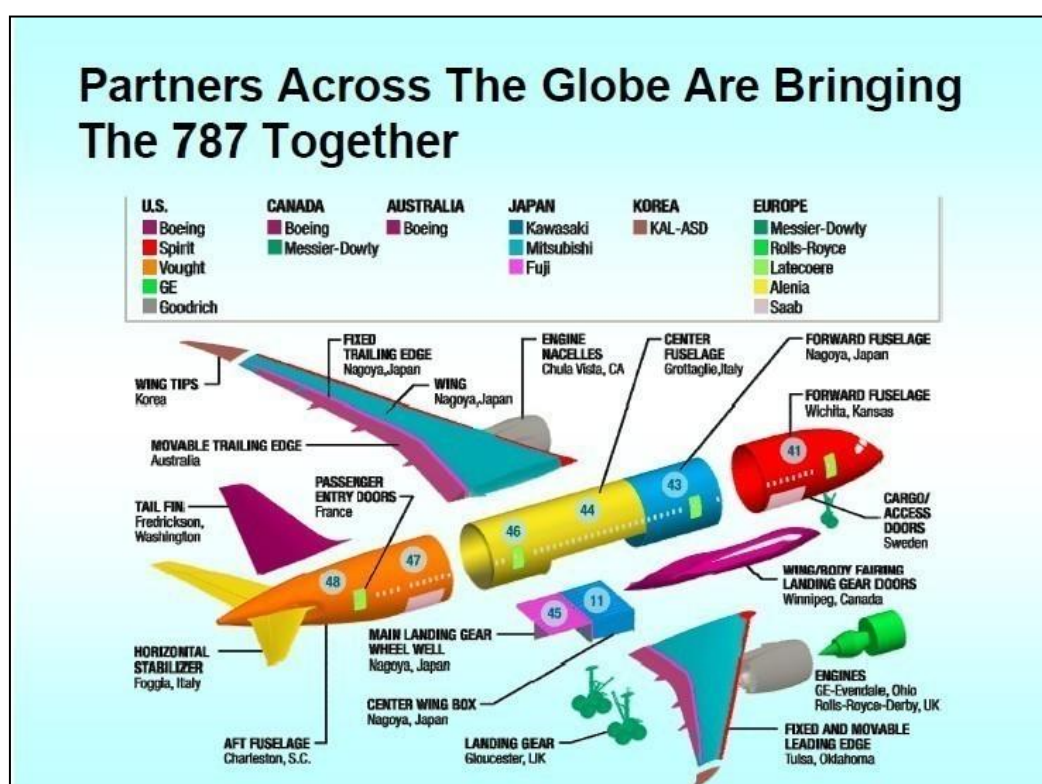


Figure 9: Co-production on the Boeing 787 (Source: Mulcahy, GOCA, 2007)

²⁹⁵ Co-production (also shared production, that is shared on the basis of risk and profit) today is generating increasing momentum due to the globalised nature of manufacturing and trade, whether in computers, electronics, white goods, aircraft or vehicles

²⁹⁶ Co-production is in the UK, Germany, France, Belgium, Malaysia and South Africa - *cf.* <<http://www.airbusmilitary.com>>

²⁹⁷ *cf.* <<https://www.avascent.com/blog/2013/11/27/global-offsets-grow-unabated-amid-evolving-requirements-goals/>>

4.2.6 Blocked Funds

Another form of countertrade is blocked funds (also referred to as blocked accounts - Coetzer, 1995:287), which comprises a monetary process imposing extremely strict fiscal controls: the central bank of a country will not allow repatriation of currency because of shortages of hard currency.

Blocked funds²⁹⁸ are generated when a foreign manufacturer operating in a country cannot transfer its earnings, capital and/or profits to the country of origin – a pool of cash deposits that cannot be repatriated (Horwitz, 1998:12,13; Treahan, 1999:21).

Shortages of hard currency are prevalent in countries with small or slow-moving economies. Blocked funds normally involve large sums of money and are used as a form of countertrade where the borrowing country makes deposits in a bank of mutual agreement from where payments are effected. However, the Asian financial crisis of 1997, (comparable with similar crises in Chile, 1992, and Mexico 1994-95) can be used to demonstrate how countries react in such crises by applying, for example, the principles of restricting the movement of funds (currency) to safeguard reserves (*cf.* Mishkin, 1999). Another interesting case, of the late 1990s, was that of China that prevented foreign corporations repatriating funds from their Chinese investments further restricted by rules on currency conversions, withheld taxes on dividend and interest payments to non-Chinese residents, and placed limits on royalty payments. Despite these restrictions and because of the attractive investment opportunities for foreign investors in Chinese business, investors had little desire to withdraw their investments but rather grew them (Butler, 2012:364).

Banks, brokers, traders and industries use various methods - and offer large discounts - within a country's foreign exchange regulations to repatriate funds and assist in lowering the country's external debt (Coetzer, 1995:287-288; Treahan, 1999:21).

Government's and the Reserve Bank's involvement in these deals is inevitable, notwithstanding that all parties have to manage bureaucracies and work through a large amount of red tape.

²⁹⁸ *cf.* Campbell R. Harvey, 2012 at <<http://financial-dictionary.thefreedictionary.com/Blocked%20funds>>

Figure 10 (below) shows that in this process there are numerous role players and stakeholders interacting in a very intricate and complex manner to get the funds for the Seller (in country A) released by the buyer's (in country B) central bank.

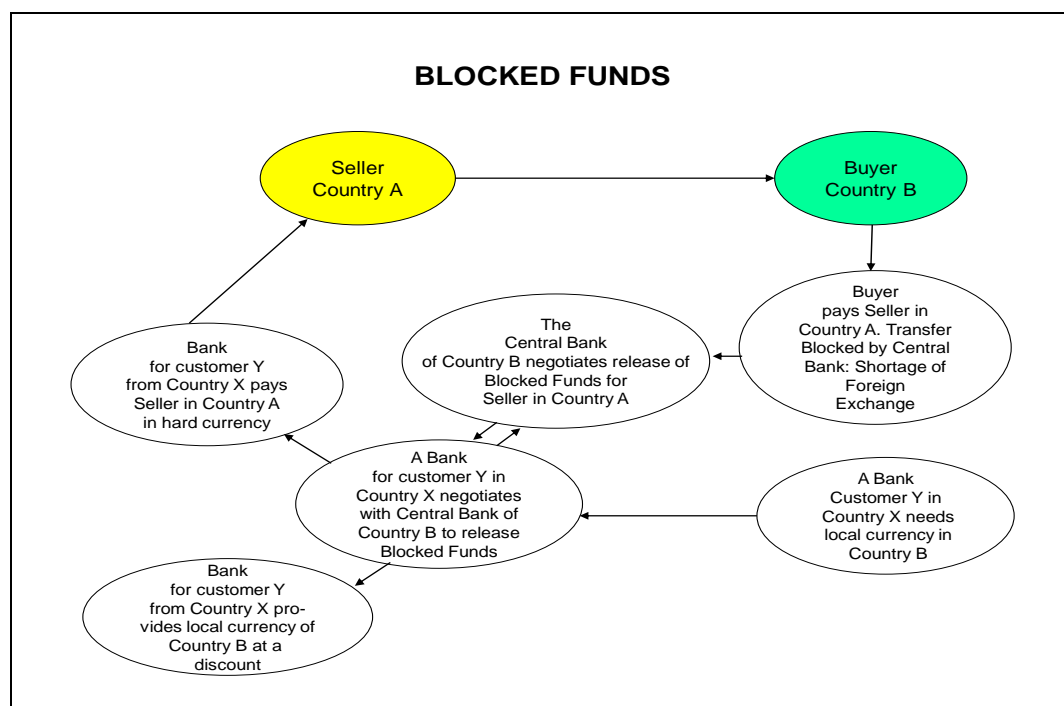


Figure 10: Blocked funds (Source: adapted by the author)

4.2.7 Counter-purchase

Counter-purchase agreements take various forms to suit the needs of the capital goods exporter. The exporter, as a condition of sale of its goods to the buying country, agrees to market and buy for cash or on credit, goods and/or services from that country (Horwitz, 1989:25; Coetzer, 1995:101-112; Rowe, 1997:8-9; Treahan, 1999:25).

The value of the counter-purchase could be less than, equal to, or higher than the original export order. Counter-purchase may specify the markets in which the goods received may be sold; it may carry penalties for non-performance and include other rigid conditions. This form of countertrade can yield results fairly quickly and is one of the more favoured and profitable avenues; it is also referred to as a commodity trade deal (*ibid*; also Martin, 1996:32).²⁹⁹ The challenge here is that the buyer is exposed to risk if it has not properly secured an off-take (buyer), its market, or consumers for the goods purchased.

²⁹⁹Counter-purchase deals can, however, be a very restrictive process if the buyer country is too prescriptive about the types of commodities that would qualify. Again supply and demand dictate its success

An example of this type of deal is that of Fred Krupp Huttenwerke AG of Germany that, in 2008, won a USD 9 million order to supply big capacity hydraulic cranes from Machinoimport in Russia by agreeing to buy back 15 percent of the contract value in Soviet machine tools and equipment.³⁰⁰

The counter-purchase transaction depicted in Figure 11 (below) illustrates the selling transaction flow between seller country A and buyer country B. As part of the reciprocal obligation now incurred by Seller A, it engages with various 'off-takers' (buyers) in its own country and other countries to purchase commodities originating from buyer country B.

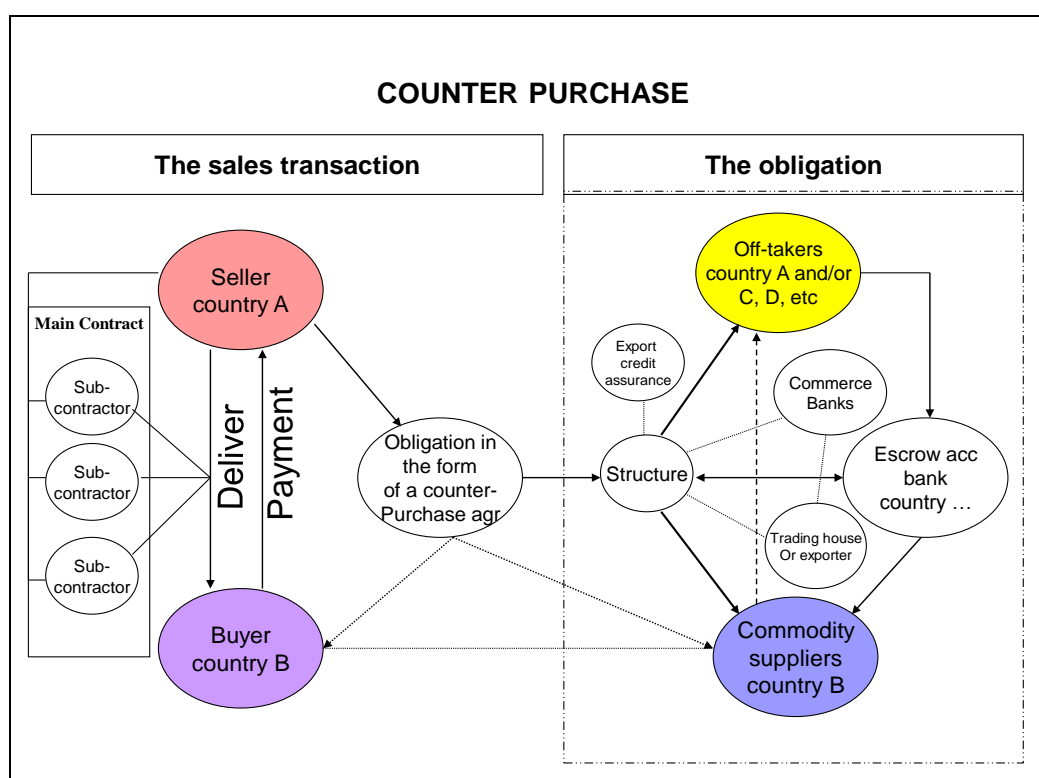


Figure 11: Counter-purchase (Source: adapted by the author)

4.2.8 Joint Ventures (JVs)

In this type of countertrade, companies in industrial countries attract local companies through offering full participation in all aspects of commercial activity, including the financing process. JVs can involve two or more parties in any related industrial sector (see Figure 11). In most countries, JVs are considered to be private contracts between two or more parties that specify the role of each party in the venture, and

³⁰⁰ cf. <<http://www.citeman.com>>, September 5, 2008

stipulate objectives, liabilities, management and risks (Treahan, 1999:27). JVs are a form of business partnership involving joint management of risk and profits between two enterprises often based in different countries (Horwitz, 1989:50). JVs are also used as measures to restrict unwelcome competition (Coetzer, 1995:118).

Certain countries require that its citizens hold equity positions; laws specify that majority equity in the JV is in the hands of these citizens. However, in most countries, 100 per cent foreign ownership is allowed. A JV should ideally be a legal entity in the country in which the JV activity is performed. It is essential that one fully comprehends the commercial, financial and mercantile laws of each country. A JV may take some time to yield the desired results. However, if a foreign party was to acquire part of a running concern, this could contribute to the internationalisation and credibility of local companies, strengthening their export position. JVs are common in both offsets, and BOT-type projects (*cf.* Coetzer, 1995).

Figure 12 (below) depicts a typical offsets type JV transaction, where the one party to the JV will be a foreign entity (i.e. the offsets obligor) and the other party an entity in the buyer's country. Such a JV is then used as a means to discharge a portion of the offsets obligation through co-production.

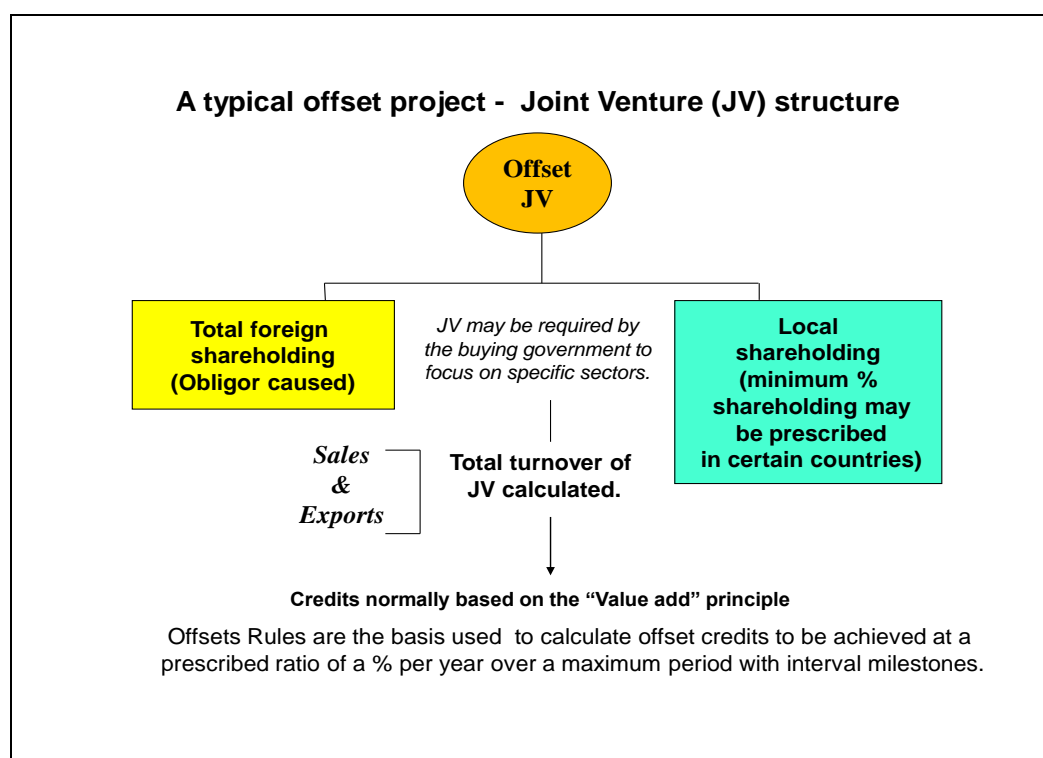


Figure 12: An offset type JV structure (Source: author)

4.2.9 Offsets

Offsets are known to be part of government-to-government sales of not only defence equipment, but also infrastructure projects and/or expensive technology related to manufactured goods, for example, civil aircraft, transport equipment (rolling stock), telecommunications and power generation projects.

Offsets are applied in an either *direct* (e.g. as direct work share on the equipment bought) or *indirect* (e.g. as export of manufactured goods) manner (Horwitz, 1989:62; Martin, 1996:33; Rowe, 1997:10; Treahan, 1999:28).

Marvel (1993, 1995) notes that offsets transactions are factors of international defence sales used by foreign buying governments as a trade management tool to preserve exchange and target select industrial sectors to enhance their industries' capabilities through forced technology transfer. Marvel agrees that if offsets are well managed, truly multinational companies can be created. Hew (2002) believes that countertrade in the ASEAN region, will in time become much more 'offsets-focused', as a means of 'catching up' with Western technological advances.

According to Martin (1996:39), offsets are used to grow infant industries in buyer countries, to protect local markets, to further job creation and employment, to justify the economic benefits of spending, to reduce the adverse impact on balance of payment, and to create industrial competitiveness from the seller's point of view. Over the past two decades offsets have grown in importance, particularly in developing countries (Salzman, 2004).

(Chapter 5 discusses some quantitative dynamics of offsets, while chapter 9 contains various examples of both direct and indirect offsets³⁰¹ as they manifested, for example, in the discharge of the South African SDP's DIP obligations.)

4.2.9.1 Direct Offsets

Under a direct offset, the seller is required to include locally produced content in the products it is selling to the buying country or company. In some cases, technology will be transferred and/or JVs established to manufacture a product and/or to build a

³⁰¹ cf. <http://www.baesystems.com/article/BAES_020430/offset?_>

production facility to produce sections of the final product that are then sold to the country in question (Horwitz, 1989:62; Treahan, 1999:28; Yülek and Taylor, 2012).

In general, a direct offset is used when civil aircraft and defence equipment are sold to and align with the industrial development goals of a country (Verzariu, 2004).

Some countries use a direct offset to secure business for their indigenous defence industries (such as Canada, Australia, the UK, Nordic countries and South Africa; this even applies to the USA).³⁰²

It must be noted that 'direct offsets' are as applicable to civil contracts as they are to defence equipment (Verzariu, 2002, 2004). There is no difference between producing parts locally for a main battle tank (MBT) or a locomotive, or for a fighter or passenger aircraft; the same principles apply. This is discussed in more detail in ensuing chapters.

4.2.9.2 Indirect Offsets

An *indirect* offset can be part of the defence and/or civil industrial sectors and entails the same type of work-share as a direct offset – the main difference is the end product. In the case of an indirect offset, the buyer (country or company) requires the seller to undertake economic, industrial and social development projects approved by the buyer (Horwitz, 1989:62; Martin, 1996; Treahan, 1999:28; Verzariu, 2002, 2004; *The Economist*, 2013).³⁰³

The ratio of these projects, in general, is dependent on the policies of the relevant country. In Figure 13 (below) the flow process depicts the transactional relationship between the seller (country A) and the buyer (country B).

The seller incurs an offsets obligation which is then discharged through a multiple process of sub-contracting, purchasing, technology transfer, etcetera. All these offsets transactions are tracked by the offsets authority in country B to discharge the seller in country A of its obligations.

³⁰² Although the USA denies that it is practising any form of countertrade, particularly offsets, the 'Buy America Act' forces foreign companies selling to the US military to share production with US companies, or to contract the US through these companies – this tantamount to offsets as leveraged procurement with an element of reciprocity

³⁰³ cf. <<http://www.economist.com/news/business/21578400-more-governments-are-insisting-weapons-sellers-invest-side-deals-help-them-develop>>

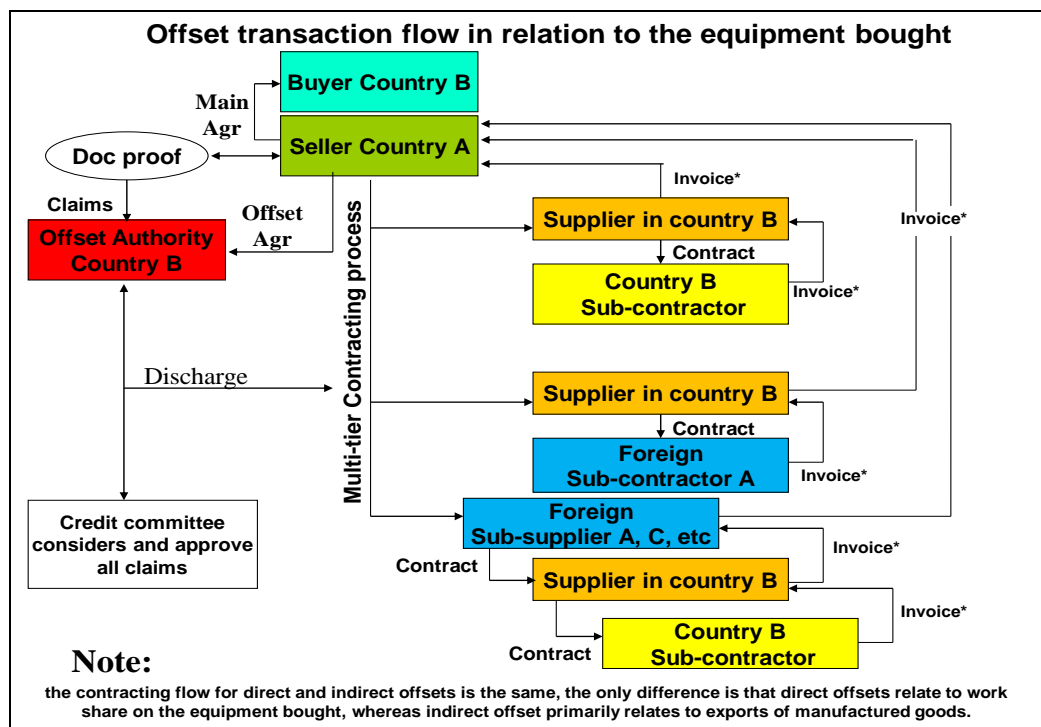


Figure 13: Offsets transaction flow process (Source: author, cf. Van Dyk, in Warwar, 2004:262)

4.2.10 Swaps

According to Coetzer (1995:157), the main purpose of countertrade swap agreements is to save transport costs; therefore they are used primarily for oil, mineral ores and chemicals. Coetzer (*ibid*: 158) adds that swap deals often result in switch trading agreements (discussed below).

'Debt swap' practice is another dimension of 'swaps'. For example, Russia was reported to have 'forgiven' Libyan debt in return for a package order of military equipment worth USD 2,2 billion.³⁰⁴ Another transaction involved Finland that waived Russian debt in exchange for receiving research and training equipment from Russia to the value of USD 30 million.³⁰⁵ In the case of Slovakia, Russia undertook to finish the construction of a nuclear power plant in partial payment of its debt to that country – the value of this deal was not reported.³⁰⁶

Since the late 1990s, the traditional countertrade swap has made way for another concept referred to variously as offsets swaps, trade-offs, waivers or abatements.

³⁰⁴CTO, May 28, 2007

³⁰⁵CTO, August 28, 2006

³⁰⁶CTO, April 24, 2006

These involve exchanging the offsets obligations of industries supplying defence equipment to the defence forces of the same seller and buyer countries. For example, Denel sold missiles to the Finnish navy and the Finnish government imposed offsets obligations on Denel. Denel then bought armoured vehicles from Patria, Finland under a supply contract with Armscor, which then required Patria to perform DIP in South Africa. Through a multiparty agreement between the four entities, these mutual obligations were waived (incidentally this transaction is recorded in Appendix F).

Such offsets swap transactions may involve multiple countries and they take time. One condition that normally applies is that the offsets obligation swap has to take place within the same 'obligation period' and is usually done on a 1:1 credit basis. This type of transaction requires specific upfront agreements between the obligated companies and the relevant government authorities in each country.³⁰⁷

The UK government regards this type of 'abatement' process as a government-led bilateral arrangement that aims to reduce bureaucracy in order to assist small and medium enterprises (SMEs) (Brosnan, 2007). Subsequently, the Netherlands, UK and Denmark were reported as having signed a document named '*Best practice for the application of abatements in Offset.*'³⁰⁸ It is not yet clear how this agreement will be affected by the EC Directive of 2009 that imposes a ban on the use of defence offsets.

The process of trade-off/swapping is depicted in the flow process in Figure 14 (below).

³⁰⁷ It is my experience that this is an exceptionally laborious and time-consuming activity and subject to a lot of bureaucracy. During my term of office at both Armscor and Denel, I successfully structured and executed several substantial deals to the direct benefit of Denel (cf. Annual Reports of 2007 and 2008) with countries such as the UK, Finland, the Netherlands and the UAE. This was confirmed by Armscor's P. Burger (2014) in his testimony to the Arms Procurement Commission - cf. <<http://www.armscomm.org.za/hearings/...>>

³⁰⁸ CTO, November 24, 2008 - cf. the case study contained in the advisory report of 24 July 2012, from the Canadian Association of Defence and Security to the Minister of Defence, citing a Netherlands example of a swap transaction - cf. <<https://www.defenceandsecurity.ca/UserFiles/File/IE/CADSI%20IRB%20Report%20Final%20July%2024%202012.pdf>>

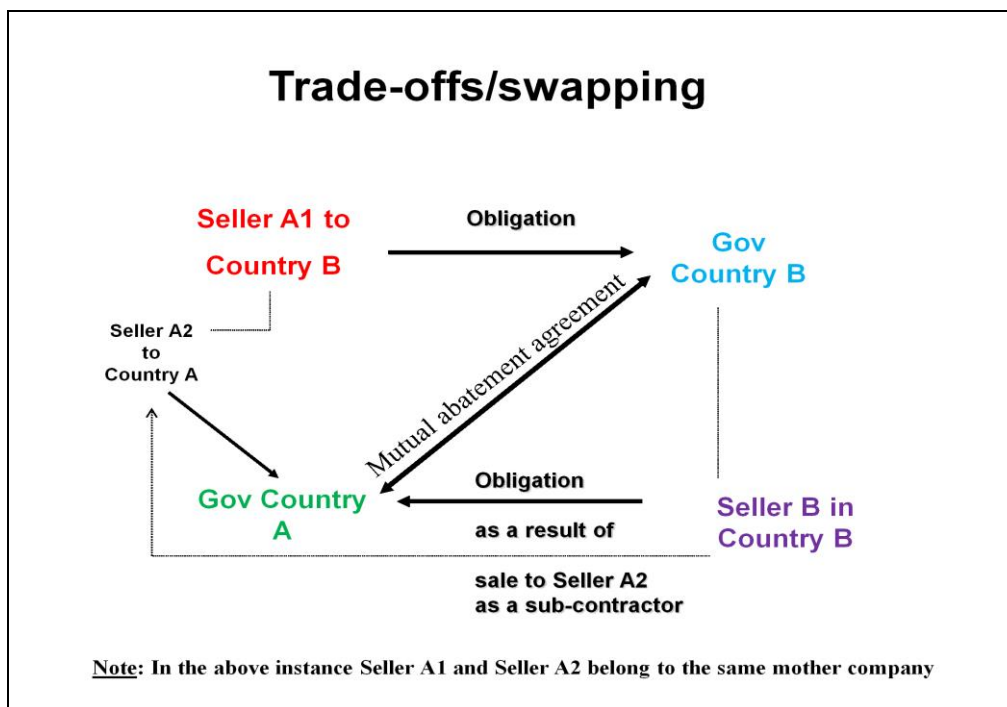


Figure 14: Trade-offs and obligation swapping (Source: author)

4.2.11 Tolling

Tolling can be used as a form of countertrade in which a seller exports raw materials to a factory in a developing country, using its spare or unused capacity to produce the finished goods (Treahan, 1999:34).

The factory supplies the finished goods to its customers, who pay the seller in cash for the raw materials supplied. The supplier retains ownership of the raw materials and the finished goods until the supplier receives payment from the factory's customer(s) (Rowe, 1997; Dool, 2006).

A typical example of how the tolling principle is used is the transaction reported between India and Nigeria. In terms of this transaction, India signed a tolling deal with Nigeria involving liquefied natural gas to be used in a facility built in Nigeria that would export production to India.³⁰⁹ Using the flow process (depicted in Figure 15, below), the above example can be demonstrated by equating Nigeria with 'country A' producing liquefied gas, exported to the factory in India ('country B') where it is used to produce other goods, then sold and the revenue used to pay Nigeria ('country A') – transactional circle complete – although this is a perpetual process and not a once-

³⁰⁹ CTO, December 11, 2006

off. It must be noted that there are similarities between tolling and buy-backs and BOT derivatives.

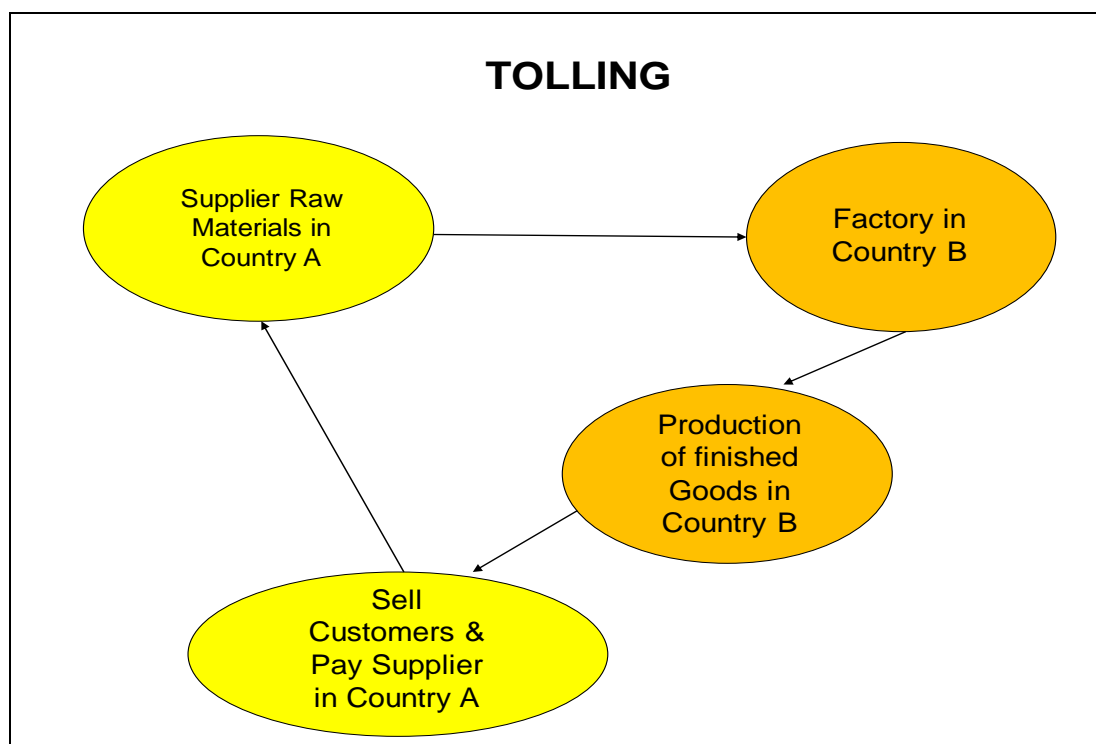


Figure 15: Tolling (Source: adapted by the author)

4.2.12 Switch Trading

As a rule switch trading is a by-product of another form of countertrade agreement, such as a clearing account agreement (Coetzer, 1995:148). If a country shows a disparity in its long-term bilateral trading agreements, switch trading is used to balance an ambiguous surplus (also see evidence accounts). These transactions typically involve switching the destination and documentation of goods on the high seas, and implicate different markets and many buyers, sellers and brokers (Horwitz, 1989:74; Treahan, 1999:32). Coetzer (1995:157, quoting Weigland, 1980)³¹⁰ notes that switch trading is not for the faint of heart as they are extremely risky deals. The multitude of role players in a 'switch-type transaction' is depicted in Figure 16 (below).

³¹⁰Weigland, R.E., 1980, 'Apricots for Ammonia...' *California Business Review*. Vol 22

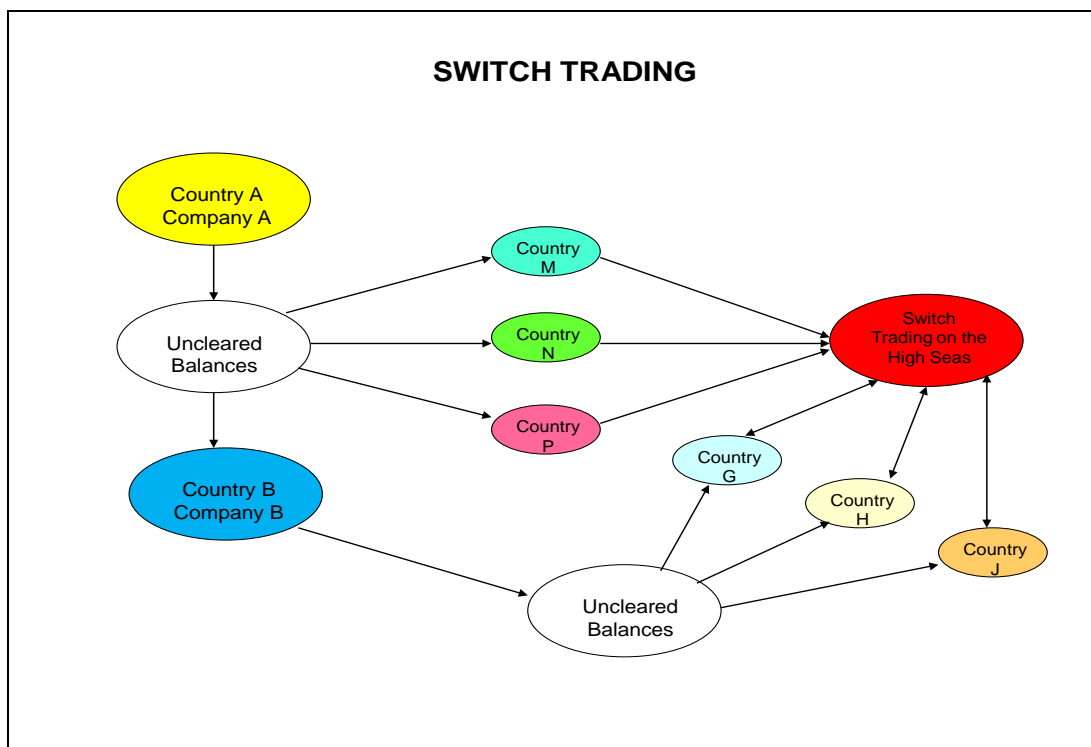


Figure 16: Switch trading (Source: adapted by the author)

4.2.13 Economic Enhancement

Rogan³¹¹ seems to have coined and pioneered the concept of economic enhancement in early 2000. According to Rogan (2000), the aim of economic enhancement is to leverage the government's buying power to provide the maximum benefit to a country's economy. It involves the coherent and elaborate use of a diverse range of financial tools and techniques. These tools and techniques are used to extract the maximum additional economic value in major state procurement operations, which would otherwise not have taken place.

Rogan (2000, 2001, 2002) adds that economic enhancement focuses on the specific needs of local entrepreneurship, government initiatives and economic planning by combining these with sound, innovative financial structuring. Economic enhancement facilitates programmes that are both cost-effective to the client government and beneficial to the targeted growth of the national economy. It furthermore creates a correlation between national economy objectives - with results being realised in a

³¹¹Grant Rogan founded Summit Corporate Services in 1998 that specialised in countertrade, offsets and Economic Enhancement; he is also the Founder of the Blenheim Capital Group (that succeeded Summit) and CEO, Blenheim Capital Services Limited. Established in 2006, Blenheim Capital ('Blenheim') is a provider of offsets consulting, advisory and transaction services to governments and corporations around the world. Over the past 28 years Rogan has further developed offsets and financial investment opportunities for a host of multinational corporations and has advised several governments primarily concentrated in Eastern Europe, the Middle East and Far East - cf. <<http://www.blenheimcapitalpartners.net>>

consistent manner - and provides a method by which the local client and the supplier can work together to produce efficient and successful projects.

Economic enhancement's goal is to derive benefit for local government, the economy and the country's people while at the same time endeavouring to use to maximum effect the skills, resources and corporate planning of the supplier to encourage a harmonious working team and a mutually beneficial outcome.

Foreign companies are required to take on and manage the performance risk of investments, and are incentivised by profit, rather than pure obligation (*ibid*).

The following PPP type model (Figure 17, below) serves as one example of how the above can be used to create the type of economic enhancement Rogan propagated.

The prominence of government on the one side and the role of the private sector are clearly evident.

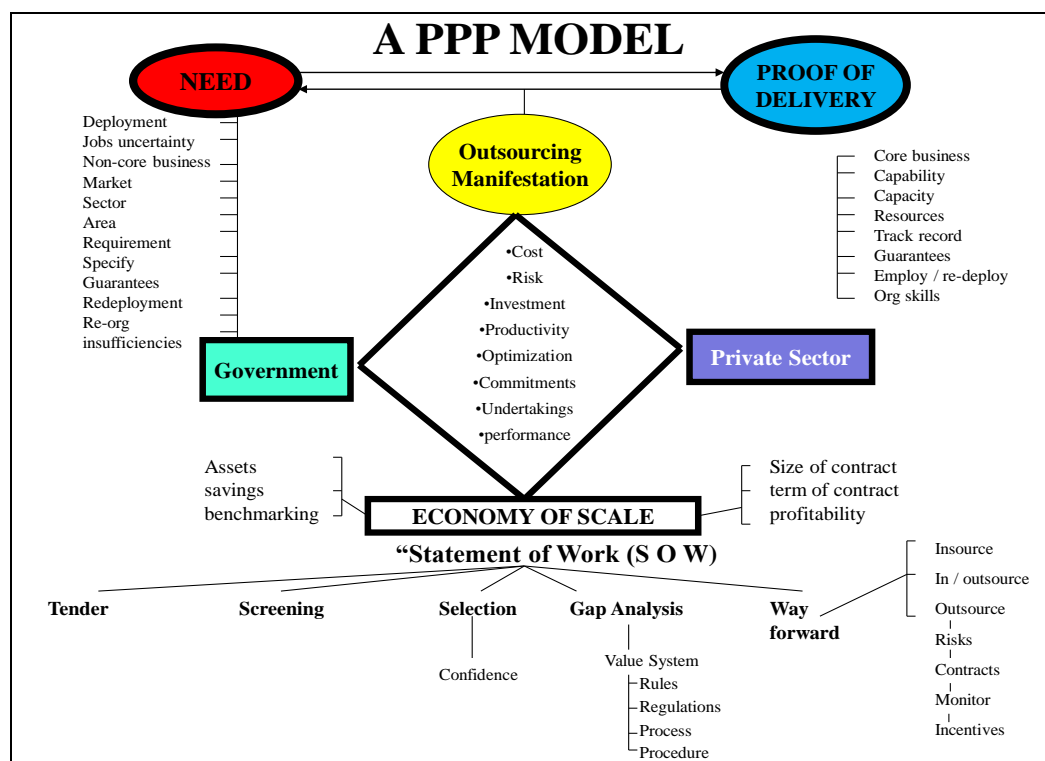


Figure 17: An example of a PPP type model (Source: author)³¹²

³¹²I developed this model c. 2008 after having attended a National Treasury PPP workshop, as I found it useful when considering developing countertrade proposals while in service with Denel

4.3 Penalties Related to Countertrade

4.3.1 Non-performance Penalties

Coetzer (1995:291) states, *'In regard to breach of contract, the basic legal doctrine is that if one of the parties breaches an agreement, the other contracting party may demand and collect monetary damages as a result of the breach.'*

Penalties for non-performance are usually contained in the countertrade agreement and constitute a self-enforcing remedy that is not reliant on any court action. Enforcing non-performance punitive actions may be subject to dispute resolutions and/or arbitration proceedings (Horwitz, 1989:65). Depending on how well this issue was negotiated by the obligor, there should be the prospect of corrective action preceding any calling up of penalties by the buying country. Penalties are covered through various types of guarantees such as bank guarantees, or a standby letter of credit (L/C), or performance bonds, which can normally be called up on a first demand basis (Coetzer, 1995; Rowe, 1997:45). However, the buyer may impose separate conditions in the main supply contract that would give him the right of non-payment or retention of money in the case of non-performance on the countertrade obligation (Rutter, 2007).

Almost all countertrade contracts contain penalties for failure to fulfil obligations.³¹³ These penalties are normally calculated as percentages of the unfulfilled obligation: alternatively, and less desirably from the seller's perspective, penalties are calculated as percentages of the total amount of the obligation, or of the value of the primary transaction (Horwitz, 1989; Coetzer, 1995).

4.3.2 Liquidated Damages

In most countertrade regimes, a contractual requirement for the seller, who becomes the obligor, is to submit a guarantee for liquidated damages, which is commonly referred to as a non-performance penalty (Coetzer, 1995:291). Penalties vary considerably from a low, generally used 5 per cent to a high of 100 per cent - cf. Appendix A.

³¹³This is reflected in the country table based on the CTO, Country QB of 2012 – cf. Appendix A

A liquidated damages stipulation establishes a predetermined sum that must be paid if a party fails to perform as promised (Coetzer, 1995:291). Damages for breach of contract by either party may be liquidated in the agreement at an amount that is reasonable in the light of the anticipated or actual harm caused by the breach - paying liquidated damages absolves the defaulting party of any further obligation. A penalty may, on the other hand, constitute a sum that is disproportionate to the actual harm. It serves as a punishment or deterrent against breaching a contract. Penalties are granted when it is found that the stipulations of a contract have not been met.³¹⁴ Certain countries do not accept liquidated damages, only penalties which are a much more onerous recourse, since it does not release the obligor from its obligation and is used as 'punishment' (*ibid*).

The Armscor DIP policy (par 5.8) as revised in September 2012 (Armscor, 2012) has increased the traditional 5 per cent penalty to 100 percent. No reason for this step is known as there were no penalties applied in the SDP's DIP discharge process (chapter 9 and 10).³¹⁵

4.3.3 Blacklisting

Although this is not always publicly acknowledged, some countries resort to blacklisting sellers. This means that although a seller may have opted for a penalty as a 'walk-away liquidated damages settlement', the non-performing party is still blacklisted as a non-credible supplier in that market. The impact on a company's reputation and consequently its business is incalculable. An example is Romania that publically acknowledged that it had blacklisted three companies, although no names were provided.³¹⁶ Already at the bidding phase of a defence procurement action, various countries nowadays require that prospective bidders provide a clear record of their offset commitments and achievements as part of the tender assessment and adjudication process. The latest Armscor DIP policy of 2012 (Armscor, 2012)³¹⁷ states this blacklisting condition openly. On the other hand, South Africa's National Treasury prescribes that any supplier on which a restriction was placed (i.e. through a penalty for non-performance) '*...will be loaded in National Treasury's central*

³¹⁴cf. <<http://legal-dictionary.thefreedictionary.com/Liquidated+damages>>

³¹⁵I have personal knowledge of at least two tenders, post 2009, in which Armscor apparently ran into problems with DIP obligors – the 2009 'Package' tender for mobile power supply and the 2013 HF radio tender – the SADI source confirming this preferred to remain anonymous

³¹⁶CTO, February 26, 2007

³¹⁷Armscor A-POL-6100, revision 005 of 26 September 2012

database of suppliers or persons prohibited from doing business with the public sector...' (National Treasury, 2010, paragraphs 23.1 to 23.7).

4.3.4 Best Effort Obligations

In contrast to penalties and liquidated damages, the best effort (Coetzer, 1995:260) performance model relies solely on the morals and goodwill of companies/sellers (as obligors) and their governments. A best effort agreement means that while a certain result is not guaranteed, good-faith efforts will be made to achieve the best result in the circumstances.³¹⁸ Although the obligation is a firm and contractually agreed commitment, it holds no legal implication for the seller in the event of non-performance. However, in relation to offsets, there are not many countries that allow best effort discharge. At this stage, anecdotal evidence points to probably only the UK and Israel still following this practice.

Martin (1996:408) finds that financial penalties for non-fulfilment of offset commitments proved to be better 'incentives' than the much vaguer 'best endeavours' approach.

Without any legal and binding document stipulating the obligation, obligated companies/sellers attend to such obligations on an incidental basis and little time and resources are in fact allocated and spent on any active execution programmes. Resources, time, effort and money are required to discharge obligations; these always pose a substantial business risk to any obligor.

4.4 Pro-active Countertrade (Pre-offsets)

Pro-active countertrade is a term that I started using while at Armscor (1997) and it is described in the Armscor defence industrial participation policy.³¹⁹ This approach subsequently resulted in several transactions being approved by Armscor³²⁰ (Armscor, 2000 - also discussed in chapter 9).

Shanson (2004) refers to pro-active countertrade as pre-performance offset, or 'anticipatory offsets', that is, offsets performed in anticipation of a forthcoming tender.

³¹⁸ Cf. <<http://www.businessdictionary.com/definition/best-efforts.html#ixzz2INWar8yl...>>

³¹⁹ Armscor DIP policy: A-POL-6000 of 1997, cf. Armscor Annual Report 1999/2000 – cf. Appendix B

³²⁰ What is DIP? – cf. <<http://www.armscor.co.za>>

A pre-offset is a banking arrangement where a foreign supplier that believes that it may be successful in securing a supply contract for its country, decides to do business in another country on a pro-active basis. The company enters into a 'strategic partnership agreement' (or pre-offset/pro-active/banking agreement) with the countertrade authorities of the other country.

In South Africa this involved a proactive DIP agreement with Armscor, while the DTI uses a 'SPA' – a strategic partnership agreement³²¹ - that allows banking of credits in non-defence sectors. However, credits cannot be traded and expire after four years: only parts of credits may be used to satisfy any new obligation.

In terms of either a SPA or pro-active DIP agreement, the prospective supplier may start doing 'indirect' business in the other country on the understanding that the credits thus acquired may be used at a later stage to off-set its commitment.

In the event that the prospective supplier is not successful in acquiring future business and cannot apply the credits gained, it may transfer the accumulated credits to another supplier – only in the case of DIP. Indirect business means that a potential obligor cannot commence with any direct work share activities related to the equipment that may be bought, since there is no contract in place at that time.

The pre-offset process model (depicted in Figure 18 below) allows a country to start doing business in another country before a defence contract is awarded, which normally take some time owing to defence budgetary cycles. Pre-offsets have, in most instances, a limited shelf life which varies from country to country.

There are, however, not many countries³²² that use pre-offsets, as this type of practice could 'dilute' the prospects of new business in the future if not properly structured. Dilute in this instance means that an obligor may have banked credits for previous business done and while the country had 'enjoyed' the benefit of that business at that point in time, it loses the prospects of new future business proportional to the banked credits.

³²¹cf. <<http://www.thedti.gov.za>> – industrial participation link

³²²cf. CTO, QB July 2012

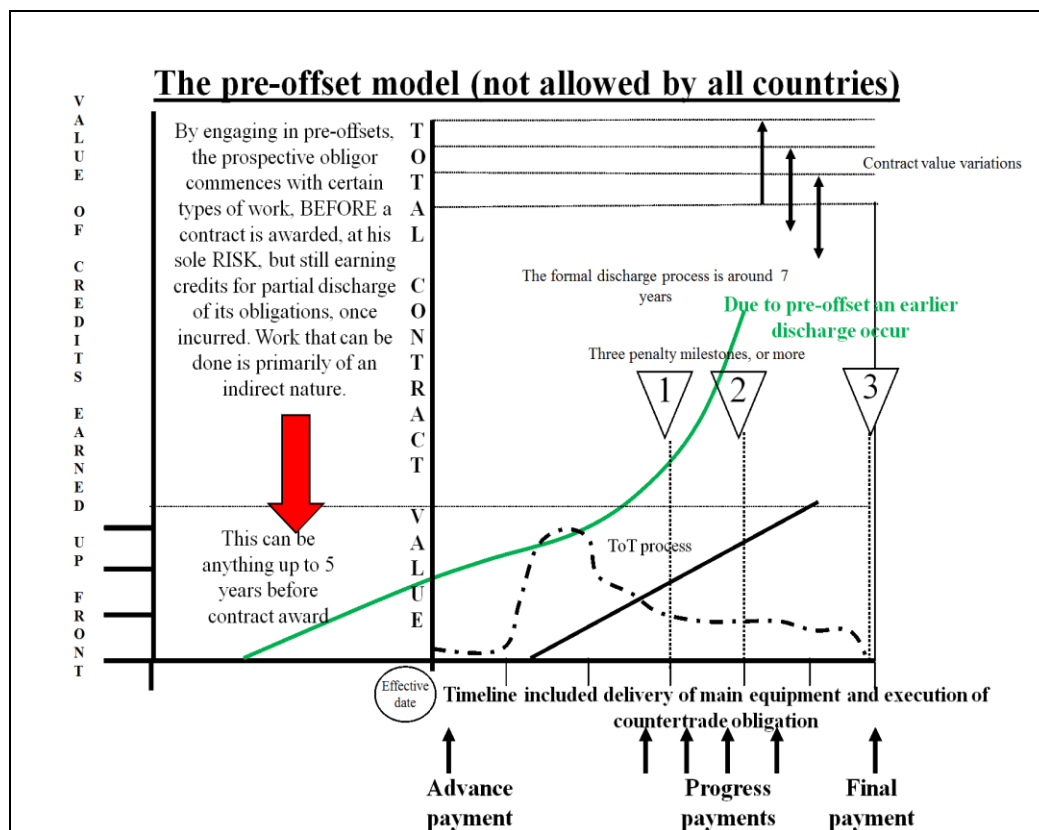


Figure 18: Pre-offsets (Source: author)

A typical example of a pre-offset deal is the one entered into between South Africa's Department of Defence and Airbus, Germany (c. 2005). The DOD bought eight A400M military cargo aircraft³²³ valued at approximately R 6,5 billion. This did not occur through a formal tender process, but was structured on the premises of a co-production type of agreement in return for an Airbus guaranteed work share package for the local industry (primarily with Denel and Aerosud). Airbus guaranteed 20 to 30 years of product support involvement.

I was involved (in 2004/5) in the initial structuring discussions of the transaction between Airbus and Denel that also involved the DTI. At the time the transaction appeared attractive with a guaranteed work share for many years to come³²⁴ - particularly for the then struggling Denel Aerostructures subsidiary. The DOD later cancelled the deal as a result of continued delays in the delivery promised by Airbus and spiralling costs.³²⁵ However, the cancellation did not have any impact on the

³²³ Armscor Annual Report of 2005/6. The deal was signed on 28 April 2005 for delivery by 2012

³²⁴ Airbus is committed to ZAR 4 billion worth of industrial and research activities with South African partners through to 2020 - cf. <<http://www.aviationcentral.co.za/military/>>

³²⁵ This contract was subsequently cancelled due to continued delivery postponement by Airbus, plus mounting costs that were estimated to run to close to ZAR 12 billion. Airbus refunded the DOD by November 2011 - cf. <<http://www.defenseindustrydaily.com/>> and <<http://www.aviationcentral.co.za/military/>>

work Airbus had contracted with Denel and Aerosud. To the contrary, Denel today is the only Tier 1 supplier to Airbus outside of Europe and played a major engineering role in the design of certain critical parts (with weight constraints) of the A400M aircraft.³²⁶ In July 2014, Denel won its fourth consecutive contract from Airbus to manufacture additional parts for the A400M, including an air-refuelling system.³²⁷ Airbus' business with Aerosud is growing in a similar fashion.³²⁸

Although the 2012 DIP policy (A-POL-6000, revision 005 of 26 September 2012) still provides for the signing of pro-active DIP agreements (par 5.9) the Armscor Annual Report of 2012/13 (Armscor, 2013:40) alluded to a review of the pro-active approach. No details were provided as to what this review will entail, except that DIP will in future be more prescriptive.

4.5 General Aims and Objectives of Various Country Countertrade and Offsets Policies

The reader's attention is drawn to the fact that for the ensuing country countertrade analysis, I used the UK based CTO Data Services company publication, '*Countertrade & Offset*' and its quarterly publication: '*The Offset Guidelines Quarterly Bulletin*' that focuses global intelligence on special trading arrangements covering countertrade and offsets across the world.³²⁹ The '*Quarterly Bulletin*' remains the only comprehensive publication that contains full text copies of various countries' countertrade-related policies, practices and guidelines, complemented by explanations by CTO.

The analysis summarised below (section 4.6) provides an overview of the countertrade policy statements across some 80 countries.³³⁰ These have been consolidated in a comparative table matrix format (cf. Appendix A). This analysis is a 'face value desk top review' and does not contain any academic or theoretical discourse, propositions, or empirical research, or any criticism or comment on any of the countries' countertrade policies. The comparative analysis in Appendix A shows

- also <<http://www.timeslive.co.za>>, as at 19 December 2011

³²⁶ Cf. <<http://www.defenceWeb.co.za>> 1 October 2013 (Denel has the expertise of doing air refuelling systems – an expertise they have acquired when converting Boeing 707 passenger aircraft with the aid of Israel during the sanctions era)

³²⁷ Engineering News, July 2, 2014. SA aerostructures company wins more Airbus A400M work.

³²⁸ Cf. Römer-Heitman at <<http://www.defenceWeb.co.za>> 14 November 2013. Airbus issues A400M contracts to South Africa's Aerosud

³²⁹ For more information and/or registration to CTO contact <editor@cto-offset.com>

³³⁰ CTO, QB July 2012

that threshold values vary widely and start as low as five hundred thousand US Dollars. Penalties vary from a low 5 per cent to a high 100 per cent of the obligation and include possible withholding of payment under the main agreement and possible blacklisting. Certain countries apply a best-effort approach with no penal sanction. The discharge periods vary: while most follow the delivery duration of the main equipment order, many include a 7-year and longer discharge provision. The following summary provides an indication of the variety of countertrade related activities sought on a reciprocal basis.

4.6 Country Countertrade and Offsets Policy Synergy Assessment Summary

This study identified *common and similar key issues (in italics)* in the respective country policy directives, decrees and guidelines. The CTO's 'Quarterly Bulletin' publishes much more detail concerning each country's countertrade and offset policies³³¹ than what is provided for hereunder or in Appendix A. This summary was also intended as a benchmark for DIP policy in terms of types of activities, threshold, discharge period and penalties – otherwise it clearly reflects government's industrial development role. It also provides insight into various development issues arising as a result of countertrade aims and objectives, particularly in the field of defence offsets technologies required.

Countertrade objectives are generally aimed at encouraging *long-term economic activity* for the buyer country's industry. They also aim to ensure some level of work-sharing, technology transfer, training, better maintenance capability and entry to new export markets. Countertrade policies are concomitant in seeking *sustainable business*, whether for the civil or defence sector.

Countertrade is used as a means of leveraging *investment (not necessarily in monetary terms)* in primarily 'defence industrial capability and capacity,' which is seen as critical to the long-term support of the buyer country's defence force. One principal objective of countertrade is the progressive development of a knowledge-based economy through technology transfer and skills development.

³³¹The Editor of CTO QB, Lindsey Shanson, confirmed by email to me in May 2014, that the QB 2012 baseline I used has not changed in any substantive manner and was still applicable at that time – I am not a subscriber to this QB due to financial considerations – however, anticipated changes have been indicated in Annexure A

Countertrade in the form of industrial cooperation and participation can take many forms. Ultimately, it is concerned with the *co-production* of products on a system or subsystem level and the formation of international alliances between companies or governments to acquire technology cooperation and transfer of skills. The general aim appears to be building long-term relationships. Access to foreign markets remains an essential requirement of the aerospace and defence-related and civil industries of countries. OEM initiatives should ideally support new measures to improve the long-term growth of countries.

In those countries that still apply bartering (Thailand is reported to have aborted its process)³³² the list of approved traders responsible for carrying out *barter transactions* is fixed. There is normally an established list of goods authorised for barter trade. When linked to defence sales these transactions are more structured than the normal day-to-day commercial needs for commodity exchanges.

In all cases, the buyer government expects foreign suppliers to *use local sub-contractors* where it is cost-effective to do so and offers value for money. This is particularly the case when adapting existing products to meet buyers' unique requirements, since local firms will ultimately have to provide life cycle support for such equipment.

Governments use countertrade to *create opportunities for local industry participation* in various supply aspects of their defence force, whether the work falls into a priority industry capability area or not.

Certain governments focus on *R&D* collaboration between defence, industry and universities. This can be used to establish JVs based on the existing cooperative research centre models in pursuit of the possibility of joint projects with partners for the production of new types of armaments and defence equipment.

High-technology projects are generally sought in preferred sectors, such as life sciences (health), the automotive industry, environmental technology, biotechnology and other advanced specialised sectors such as aerospace and missiles. There seems to be a common preference for C⁴ (and C⁴I³RS)³³³ technologies and related

³³² CTO, QB October 2011

³³³ C⁴I³RS = command, communication, computer, control, intelligence, information, infrastructure, reconnaissance and surveillance

sensory capabilities, shipbuilding, submarine and sonar systems, guided missiles, combat vehicles, ammunition, weapons, explosives, general military equipment and various levels and areas of MRO.

Many of the technologies various countries would like to acquire are relevant to specific *net-centric*³³⁴ *defence needs*. This has become a high-priority area of defence development, particularly for homeland security needs. Key technologies seem likely to become an increasingly critical requirement in the fields of electronic warfare, advanced radar signature control (stealth), aerospace, command, communication and control, information warfare, man-machine interaction, underwater applications, various types of precision weapon systems, ballistic protection, unmanned vehicles, modelling, simulation and camouflage technologies.

Developing human resources and infrastructure and improving economic competitiveness occur in various other disciplines, such as nanotechnology, lasers, biotechnology, environmental protection, renewable energies, civil aerospace industry, other industry information technologies, telecommunication, environmental technologies, medical equipment, renewable energies and other electronics. Foreign supplier resources are usually targeted through countertrade to increase the countries' industrial and technological efficiencies and opportunities for specialised labour.

Foreign Direct Investment (FDI) in science and technology, including R&D, is crucial to the future capability of the buyer country's industries. Countertrade is generally used as a tool for co-financing national and international projects of high importance. Some countries use their countertrade policies specifically to boost infrastructure development, such as health, education, the environment, social programmes, water and power generation, technology transfer and foreign investment. Projects should result in sustainable alliances with SMEs. In this process partnerships are promoted between OEMs and local industries for co-production and support services through JV structures.

³³⁴*Netcentric, or 'network-centric', refers to participating as part of a continuously evolving, complex community of people, devices, information and services interconnected by a communications network to optimise resource management and provide superior information on events and conditions needed to empower decision-makers. The concept had its origins in the US military in the 1990s - cf. <<http://www.wikipedia.com>> for further details*

Most countries are particularly interested in *developing maintenance, repair and overhaul (MRO)* capabilities mainly by securing technology transfer and new processes. These are needed to maintain, refurbish, upgrade and modernise their inventory of defence equipment while supporting other defence-industrial sectors. These, in turn, could provide technologically beneficial industrial and commercial spin-off benefits aimed at developing or establishing new export opportunities for related goods and services.

Some countries may seek an *informal offset* relationship with defence manufacturers whenever the country acquires military hardware, for example, Pakistan. It is for the supplier to take the initiative in generating proposals, preferably for projects that will offer employment or cater for the design of defence equipment and related systems, including technology transfer and training – activities that occur primarily as direct offsets.

4.7 The Rationale for Multipliers in Countertrade and Offsets

Multipliers are incentives that aim to create a more beneficial offset credit dispensation in an effort to lure obligors to engage in certain industrial activities and particularly, to secure certain types and levels of technology. It is pointed out how various countries use their countertrade policy objectives to solicit activities in key areas of their industry. They use multipliers to solicit certain types of sought-after offset activities by granting additional offset credits (Marvel, 1995; Rowe, 1997:110).

The 18th Offset Report of the US Department of Commerce (US, 2013:27) states:

'... a multiplier is a factor applied to the actual value of certain offset transactions to calculate the credit value earned. Foreign purchasers use multipliers to provide firms with incentives to offer offsets that benefit targeted areas of economic growth. When a multiplier greater than "one" is applied to the value of a service or product offered as an offset, the defense firm receives a higher credit value toward fulfillment of an offset obligation than would be the case without application of a multiplier. Conversely, foreign purchasers apply multipliers less than "one" to discourage certain types of transactions. Example: A foreign government interested in a specific technology may offer a multiplier of "six" for offset transactions

providing access to that technology. A U.S. defense company with a 120 percent offset obligation from a \$1 million sale of defense systems ordinarily would be required to provide technology transfer through an offset equalling \$1.2 million. With a multiplier of six, however, the U.S. company could offer only \$200 000 (actual value) in technology transfer and earn \$1.2 million in credit value, fulfilling its entire offset obligation under the agreement.'

To illustrate further how multipliers work, one can for argument's sake set a specific assessed activity value at 100, but the obligor might earn 150 credits, which means that a multiplier of 1.5 was used. This demonstrates that the actual impact of multipliers in practice is that they reduce the monetary value of an obligation, whereas 'negative' multipliers increase the monetary value. Negative multipliers refer to the proportional granting of credits of certain types of not particularly sought after transactions. If the offset transaction is doubtful in the minds of the authorities, only a fractional credit may be granted. This will require the obligor to invest much more time and effort to extract the full offset credit value. For example, the obligor could provide an activity for which the obligation value is set at 100, and then he might earn only 50 credits due to the impact of a 'negative multiplier' of 0.5. So in order to get 100 credits the obligor has to do twice as much. In other words the output required would have to be 200, multiplied by 0.5 = 100 credits, that is, the amount of the obligation. However, not all countries apply multipliers in countertrade and offsets transactions (cf. Appendix A).

Another example is the one quoted by *The Economist* (2013),³³⁵ for example, observes that offsets' complexities make it hard to measure the true cost of defence deals. Multipliers are applied to give extra credit to projects they deem exceptionally beneficial, particularly if they are keen to buy specific equipment. As a result, defence contractors often find their liabilities turn out to be a lot less than their nominal obligations. *The Economist* uses the example of a transaction of say USD 5 billion sale of military equipment that might come with a USD 4 billion of gross offset requirements, but after multipliers it might only come to a USD 500 million activity in

³³⁵cf. <<http://www.economist.com/news/business/21578400-more-governments-are-insisting-weapons-sellers-invest-side-deals-help-them-develop>>. *The Economist* is an English-language weekly newspaper owned by The Economist Newspaper Ltd and edited in offices in London. The publication belongs to The Economist Group, half of which is owned by Pearson PLC via the Financial Times. Its first publication was in 1843 - cf. <<http://www.economistgroup.com>>

real terms. They thus point out that some big contractors see their ability to ‘craft a package of attractive offsets as a source of competitive advantage’.³³⁶

Marvel (1995) notes that the use of multipliers is only one of the ways in which countries grant credits to obligors. In 1995, multipliers were generally more than the actual monetary value of the obligation, but today, several countries are implementing negative multipliers. This in practice reduces the monetary value of credits, requiring the obligated entity to do much more. Marvel (*ibid*) identifies several types of multipliers. Although these ‘terms’ he used then (1995), seem to be no longer applied internationally, they still explain how multipliers operate in practice. The range of multipliers used today is covered in the comparative table (Appendix A).

Marvel (1995) called one type of multiplier ‘*time-based*’: this is used to calculate offset credits over a longer period than the discharge requirement. The commitment may be based on net-present-value, but is credited with a future economic value. However, issues such as a devaluation of currency, fluctuations in the cost of money, recessions and inflation may have an impact on the actual monetary value.

A second type Marvel (1995) called ‘*negotiated*’ multipliers: these remain the most popular. Although various countries try to contain a free-hand approach by publishing multiplier guideline values, they are open to negotiation.

The third type, ‘*pipeline*’ multipliers, allows the obligor to obtain credits for the actual value of a directly caused transaction and also to claim downstream credits as a result of the obligor’s initial involvement. The period for which an obligor can claim downstream credits differs from country to country and depends on what has been negotiated.

The fourth type Marvel (1995) called ‘*consolidated*’ multipliers: this refers to the use of a base input calculation to compute a consolidated compounded credit value. This is very attractive to obligors, since for a relatively small capital layout, one can create a substantial number of credits.³³⁷

³³⁶ Quoted as per Jim McNerney Boeing’s CEO

³³⁷ In 2005/6, Blenheim Capital, UK, demonstrated this principle with Project Blue - the civil aircraft recapitalisation and leasing project with the UAE - cf. <<http://www.blenheim-capital.net>> - I worked closely with Blenheim in South Africa, Malaysia and the UAE (c. between 2001 - 2008) – also demonstrated by the DTI’s ‘unorthodox’ granting of substantial multipliers to SDP’s NIP obligors (as explained in section 10.6.3)

The DTI indicated that in the SDP's NIP they applied three kinds of multipliers: a credit, an impact and an intrinsic that were used to calculate NIP credits based on the various levels of benefits accrued (Zikode, 2014:4488).

4.8 Crediting Practices in Countertrade and Offsets

For the sake of completeness, it is emphasised that there are many crediting methodologies and formulae in use across those many countries applying the countertrade reciprocal mode of trading.

To illustrate the complexity of this process, Figure 19 below, is included as but one formula used (by Greece as the example in this instance) to calculate credits: there are many more such formulae in use.³³⁸

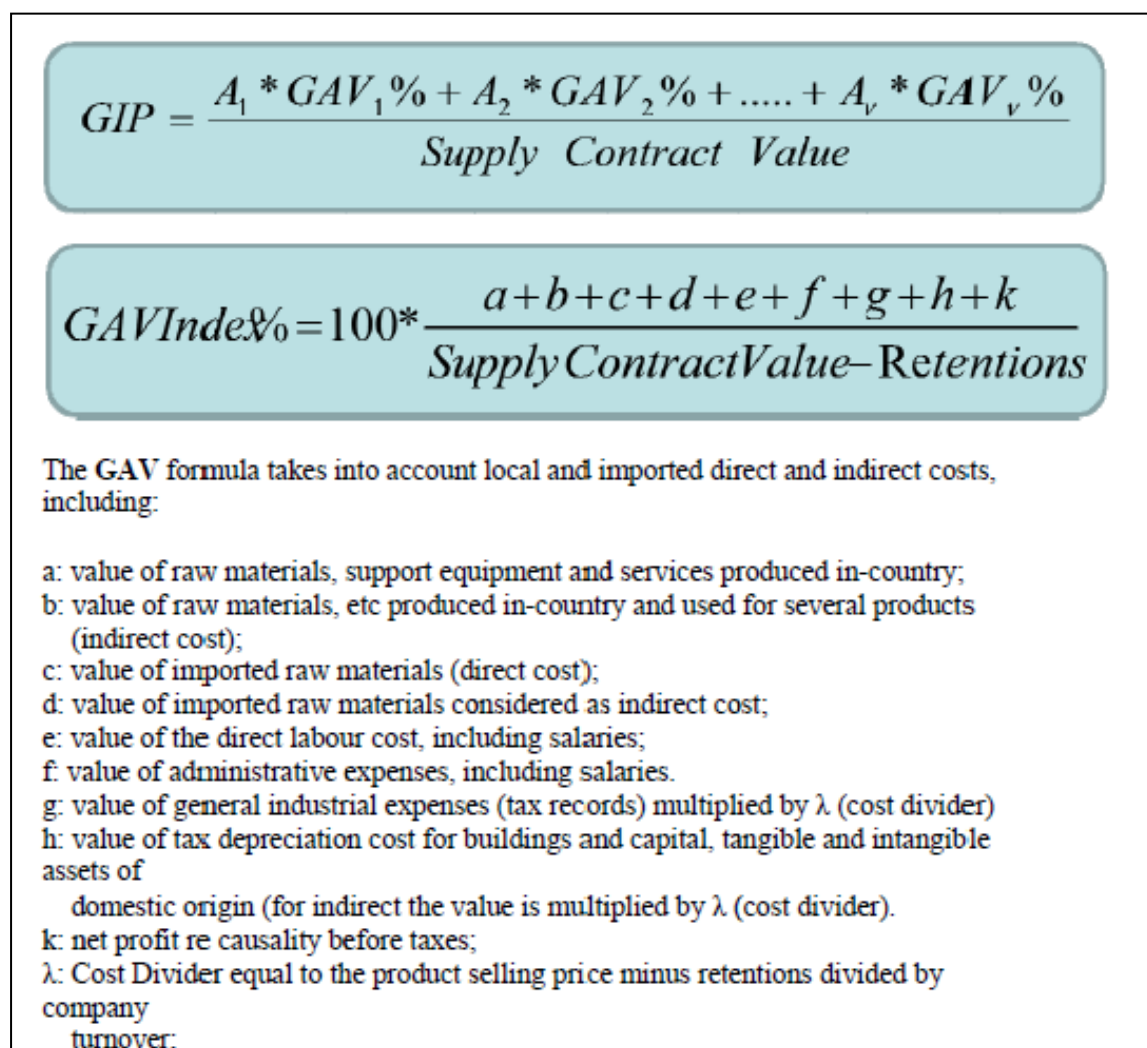


Figure 19: An offset credit calculation model - Greece (Source: CTO, QB July 2012)

³³⁸ CTO, QB July 2012.

As can be seen, it is an extremely complex and a rather intricate methodology to grasp, especially for those uninformed in countertrade. Preparation of claims, with supporting evidence that would enable calculations using this kind of formula takes an inordinate amount of effort and time. Offset contracts require dedicated resources from the obligor and buyer country to manage properly.

Offset credits are considered in terms of an input/output-based crediting model; however, this model is not to be confused with Leontief's³³⁹ 1930 economic input-output model. According to Yülek and Taylor (2012), in the case of the input model, an offset credit value can be written as a function of capital, labour, technology and other resources.

The value of capital and labour is straightforward, as their original costs and current market values are readily available. The offset values of technology transfer and tacit information are more difficult to quantify.

Using the output model,³⁴⁰ offsets are designed to transfer economic benefits to the buyer government's economy. They use accounting, market prices, observable sales and cost data to verify the success (i.e. profits) or failure (i.e. losses) Yülek and Taylor (2012).

4.9 An Econometric Approach to Assess Countertrade and Offsets

Gleditsch, *et al.* (1996:325) quote Mariano (1987, 1989) of the Philippines Institute of Development Studies, as having used an econometric analysis model to visualise and understand how and at what levels countertrade manifested and affected the national economy of the Philippines.³⁴¹

This macro-economic model reflects a Keynesian approach with a multiplying, demand-oriented effect. When considering Figure 20 (below), the impact and influence of countertrade becomes more visible.

³³⁹Wassily Leontief is a professor and a Noble Prize Laureate (1973), who in 1930, developed the first economic input-output model that analyses the relationships and interdependency of sectors in the economy to determine productive or non-productive results - cf. <<http://www.unc.edu/...>>

³⁴⁰These types of models, also referred to as 'metrics', are covered in the US 18th Offsets report (p5) – December 2013

³⁴¹Countertrade has been practised by the Philippines since 1993 - cf. <<http://www.pitc.gov.ph>>

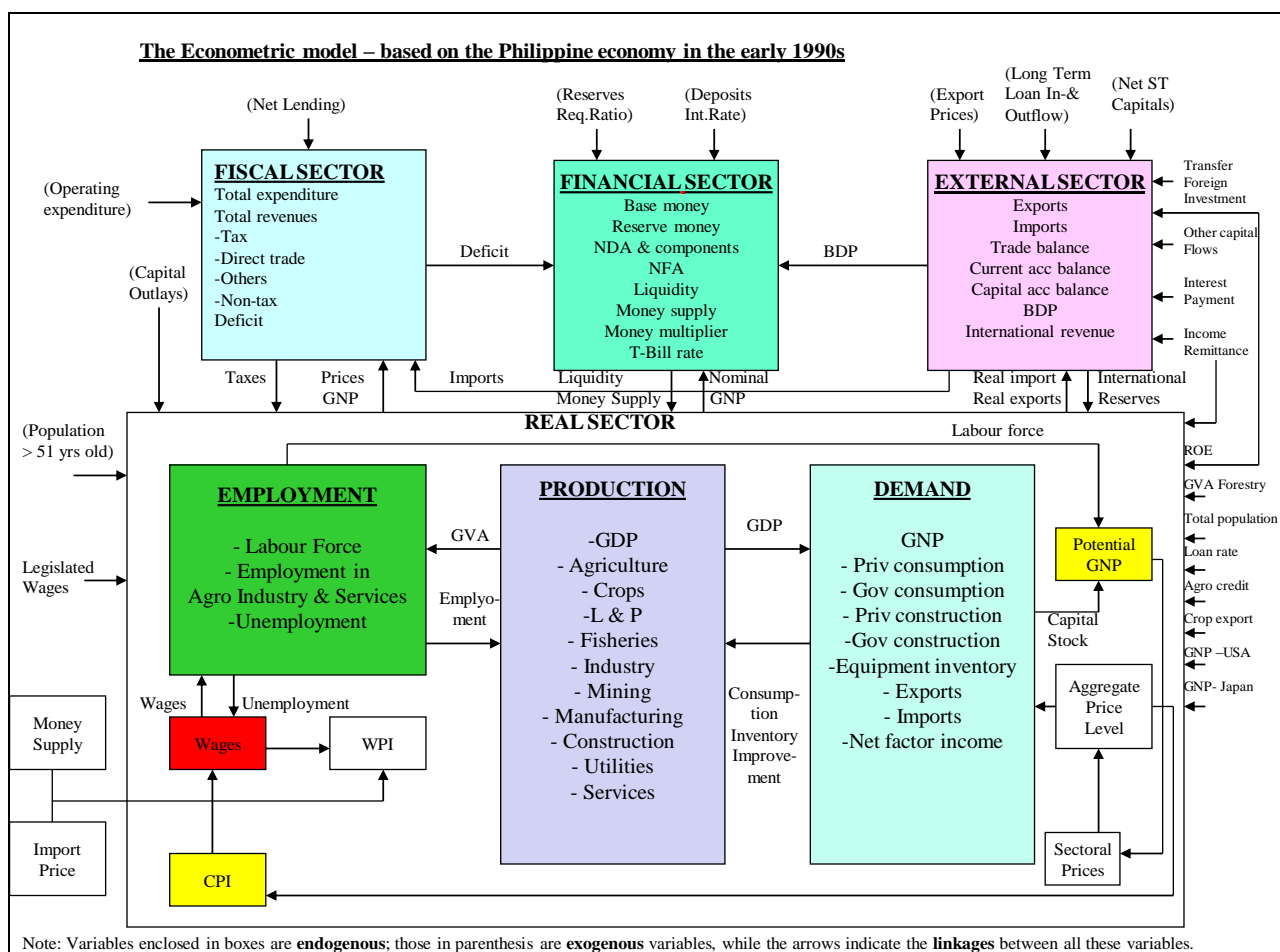


Figure 20: The econometrics model of the Philippines (Source: Gleditsch, et al., 1996:326)

For example, a study of various countries' development policies could indicate how these policies could be enhanced through a well-structured countertrade programme to establish bilateral relations, balance imports against exports, secure loans and investments, create an employment/labour force, contribute to sectoral development, supply earnings to government related taxes and duties, improve money supply, production and wages, the balance of trade deficit and the overall impact on GDP, increase demand, consumption and investment in capital goods, and enhance socio-economic, socio-political and geo-political objectives.

According to Ghatak (1986), econometric modelling usually suffers from difficulties with misplaced aggregation and illegitimate isolation, mainly because of market imperfections, aggravated by explanatory variables which are not independent of one another. This problem is also referred to as 'multi-co-linearity in econometric modelling'. Since there is a need to analyse important sectors of the economy and their inter-relationships to provide greater consistencies between aggregate supply

versus aggregate demand, development planners increasingly have to rely on the use of 'input/output techniques' (*ibid*), as for example invented by Leontief in 1930³⁴² (referred to earlier).

An econometrics study done by Molinas in Paraguay in 1998 highlighted the need for closer collaboration between the civil and public sectors. Issues that he considered to stimulate economic development were linked to aspects such as the proximity and location of productive units, infrastructure affecting business, product distribution channels, quality, price, productivity and the pivotal role of human capital (and gender) in the process. This study points to the fact that in any given countertrade project, exactly the same types of considerations could be equally valid. Exactly the same trends are evident as those related to general development phases associated with industrial planning, investment, production, distribution and consumption, and economic development (also the view of Molinas in 1998).

According to Ranis (2004), the first modern theorists to build on classical dualism were Rosenstein-Rodan in 1943, followed by Mandelbaum in 1945 and Nurkse in 1953. In their own ways each pointed to the existence of surplus labour as a potential resource which, once reallocated from agriculture to higher productivity pursuits in non-agriculture, would constitute a key driver for development (Ranis, 2004). Ranis points out that mostly in the last decade, there was a strong emphasis among development economists and academicians on the micro-foundations of development issues. Development economists and policy-makers have since become more concerned with micro-level decisions, realising their role in the growth of an economy. The role of microeconomics in understanding poorly functioning markets has also come to the forefront of development economics research. The importance of poorly functioning land, labour and credit markets is being studied extensively (*ibid*).

However, when the issue of defence spending is discussed, particularly in developing countries, there has always been a more serious debate on the issue of 'economic rent' - discussed earlier (Hartley, 2011; Yülek and Taylor, 2012). This debate is based on the theory that military spending is diverting scarce capital resources away from more productive sectors.

³⁴²cf. < <http://www.unc.edu/...> >

Gleditsch, *et al.*'s (1996:21, 23, 51, 114, 156-159, 173-174, 187) case studies of a number of countries (e.g. Germany, Italy, Japan, Greece, Philippines, South Africa) point to mixed results concerning the effects of reduced military spending on GDP: in the short- to medium-term the Keynesian effects are negative, but over the longer term (10 years plus) turn favourable. Gleditsch, *et al.* (1996: 201) note that '*Increased military spending can potentially have a direct positive effect on economic growth through increased capacity utilization, production and employment caused by Keynesian-type demand effects.*'³⁴³ In their econometric approach to government military spending, Gleditsch, *et al.* (*ibid*) note how government and military expenditure (that affects the level and rate of GDP in developing countries) has been the subject of considerable controversy and many studies. They argue that the results obtained depend in a very large part on the methodology employed and its implied assumptions about externalities and aggregate economic constraints.

Gleditsch, *et al.* (1996:387-388) point out that for policy-simulation studies, traditional macroeconomic models are increasingly being displaced by computable general equilibrium (CGE) models. This makes it particularly important to contrast the implications of using variable methodological approaches. Gleditsch, *et al.* (*ibid*) subsequently compared the results of a macro-econometric approach with a computable general equilibrium model. They found that there is a peace dividend in the case of the CGE model approach if one assumes an equilibrium labour market and no externalities of public services or private production. In contrast there is no peace dividend³⁴⁴ in the case of the econometric model.

Dunne, *et al.* (2005) remark that many papers in the defence economics literature have found military expenditure to be a significant determinant of growth. The difference seems to come largely from the use of different economic benefit assessment models. For example, in defence economics, the '*Feder–Ram model*' tends to be widely used, although it is not used in the mainstream growth literature. Dunne, *et al.* (*ibid*) argue that this model suffers severe theoretical and econometric problems and should be avoided. The augmented '*Solow model*' has been widely used in the more general growth literature and was applied to military expenditure by, for example, Knight *et al.* in 1996 (as observed by Dunne, *et al.*, 2005). Dunne, *et al.*

³⁴³This may possibly have been true for countries such as the UK, the USA and maybe China, India, and the EU. It was also true for the former USSR, but globalisation has to a large extent removed this prospect altogether - countertrade has played a significant role in achieving this

³⁴⁴Conventional wisdom suggests that reducing military spending may improve a country's economic growth, but empirical studies have produced ambiguous results on this point. Worldbank research report, November 1999 - cf. <<http://elibrary.worldbank.org/doi/book/10.1596/1813-9450-1577>>

(*ibid*), however, point out that although the ‘*Solow model*’ has fewer theoretical weaknesses, it is too narrow given the range of variables that have been found to be significant determinants of growth. They view it implausible that the main effect of the share of military expenditure is through technology. The ‘*Barro model*’ of 1990, which is also popular in the growth literature and was applied to military expenditure by, for example, Aizenman and Glick in 2003 (as observed by Dunne, *et al.*, 2005), allows for security effects on output and seems potentially more promising. Security is measured by military expenditure relative to the threat, which produces a non-linear effect to military expenditure.

Demand effects operate through the level and composition of expenditure. The most obvious is the Keynesian multiplier effect, which is, an exogenous rise in military spending increases demand and, if there is spare capacity, increases utilisation and reduces unemployment of resources (Dunne, *et al.*, 2005: 450). Dunne, *et al.* (*ibid*) note that ‘under consumption’ theories reverse this causation and explain military expenditure as the government’s need to manage demand, and that military expenditure opportunity costs may crowd-out other forms of expenditure, such as investment. The extent and form of crowding-out following an increase in military spending will depend on prior utilisation and how the increase is financed. The government’s budget constraints require that an increase in military expenditure be financed by cuts in other public expenditure, increased taxes, increased borrowing, or expansion in the money supply. The way the increase is financed will have further effects (e.g. a larger deficit may raise real interest rates, which feeds back on the economy). Increases in military expenditure will also change the composition of industrial output through input–output effects. Dunne, *et al.* (*ibid*) add that similar arguments apply to cuts in military expenditure, but that these effects may not be symmetric.

In this research, the econometric diagramme (refer to Figure 19 above) depicted by Gleditsch, *et al.* (1996:326), was found to be very useful to illustrate at what levels of any given country’s economy countertrade could possibly occur and be measured, qualified and quantified. Although the DIP was not specifically put through an econometric modelling, it remains useful to observe some key aspects, for example, its possible manifestations and impact in the *fiscal sector* owing to the government’s prospective earning power through taxes and direct trade. Another example could also be DIP’s relevance in the *financial sector* owing to the vast numbers of financial

transactions flowing through various parts of the public revenue system (and national budget), and various banks and company accounts, and also through international loans and export credit agency guarantees. Otherwise the DIP as an offsets programme could impact the *external sector* owing to the levels of imports and exports, while affecting the national trade balance, since long-term loans are an integral part of the SDP transaction. Therefore, by using Figure 19 as a reference point, the DIP could have been relevant in the *real sector* (that covers aspects of demand, production and labour), primarily through work-sharing, as it encompasses employment (i.e. labour and wages), and production and leads to certain exports and technology transfers.³⁴⁵ This study did not perform an econometric modelling on DIP, but primarily focused on its economic impact related to production, the GNP and jobs.

4.10 Summary

This research shows that countertrade appears to be a well-entrenched international trade practice, which cannot be viewed as simply another theoretical discourse. The fact that countertrade practices are employed globally by 40 per cent of the world's total number of countries³⁴⁶ bears witness that this reciprocal trade mechanism deployed through various levels of government procurement satisfies a wide range of developmental aims and objectives.

The impact (i.e. the benefits argument) of countertrade seems measurable through econometric analysis or social economic impact assessment (EIA)³⁴⁷ methodologies. EIA methodologies use different types of econometric modellings, while considering industrial and socio-economic impact and job creation benefit assessments. They also determine certain economic rent considerations and contribute to both GDP³⁴⁸ and GNP³⁴⁹. This is a rather complex process and countertrade benefit modelling should preferably be attempted by seasoned professional economists. Earlier research (cf. Martin, 1996:33,408) alludes to a lack of empirical data and access to what data is available: this will inevitably complicate modelling endeavours.

³⁴⁵Note that in the South African context the NIP economic impact assessment of 2006 is illustrative of this approach. cf. <<http://www.thedti.gov.za>>

³⁴⁶cf. <www.infoplease.com> World World Statistics> indicates there are 196 independent countries, of which 80 (cf. Appendix A) applies countertrade in some or other form

³⁴⁷For example the macro-economic impact assessment (MIA) on the NIP programme in 2006 (DTI, 2007).

³⁴⁸Gross Domestic Product – GDP, is the monetary value of all the finished goods and services produced within a country's borders in a specific time period, though GDP is usually calculated on an annual basis

³⁴⁹Gross National Product – GNP, is a measure of a country's economic performance, or what its citizens produced (i.e. goods and services) and whether they produced these items within its borders

According to Wood (2000), there is an emerging global political order that extends beyond traditional borders. Globalisation is expanding markets, which pose challenges to the state, the government, institutions and societies, while raising awareness of social and political issues related to development. New foreign investment geography is emerging (referring to countries such as Brazil, Russia, India, and China – now called BRICS - South Africa joined this forum in 2011) where a strong financial monopoly once existed: these states used to have absolute control over money in their territories (*ibid*). This has changed to a financial oligopoly with a finite number of autonomous entities all vying ceaselessly to shape and manage demand.

Capital mobility, due to ICT technological advancements, has provided the means for the almost instantaneous movement of capital. Wood (*ibid*) questions whether globalization will continue if one considers the intrusive influences of the WTO, the IMF and the WB – all very much still controlling the spending patterns of countries and creating trade and other regulations within the framework under the guise of development.

In conclusion, *The Economist* (2013), for example, asks:

'How long can the offsets boom last? Some analysts think they will eventually peak as developing countries become more self-sufficient in defence equipment. But in the shorter term, their growth will be fuelled by American and European contractors' intensifying efforts to sell outside their shrinking home markets, to big developing countries whose defence budgets are growing...Offsets may be little-noticed side deals, negotiated in the shadows, but when it comes to weighing up bids they are at the front of decision-makers' minds.'

CHAPTER FIVE: THE MAGNITUDE OF COUNTERTRADE AND DEFENCE TRADE

5.1 Introduction

It was reported in chapter four that reciprocal leverage of countertrade, particularly in defence related procurement transactions, occurs at a global level; it is therefore prudent to understand the magnitude of these transactions in relation to global defence spending.

As reported in earlier chapters, offsets are not only related to defence transactions, but also apply to the civil complex, particularly high value procurements. In view of the diminished range of active industrial policy options open to governments, it can be argued that internationally, governments act as the key role players in leveraging the 'power of procurement' to pursue varied development objectives (Balakrishnan, 2007; Yülek and Taylor, 2012; Erwin, 2014). Purchase leveraging is used to advance industrial (including defence), economic and socio-economic goals and objectives. Procurement contracting is a means to use the oligopsonic power of the buying country to 'bargain' a reciprocal benefit from another country (Watermeyer, 2012). These transactions may include a wide range of economic and other transfers, including technology (*ibid*).

This chapter reviews some international acknowledgements related to various countries' countertrade and offsets programme achievements. It specifically considers certain SIPRI statistics related to the USA, the biggest exporter of arms, and makes projections of exponential growth over the next five years, despite contracted defence markets. Table 4 (section 5.4) indicates that between 2010 and 2012, 50 per cent defence spending had occurred compared with the previous decade's (2000-2009) spending. The biggest growth in defence spending is predicted to occur in the Gulf States (discussed below).

5.2 The Magnitude of International Countertrade

Since the mid-1980s, various studies have appeared on the subject of countertrade. However, what makes comparisons difficult is the divergent use of countertrade terminology, as explained in chapter one. It is not always possible to ascertain what

aspects of countertrade transactions are quoted or referred to, unless specifically stated by a given researcher or source. It is therefore difficult to distinguish exactly what kind of countertrade is covered by the array of findings and figures quoted below.

For example, according to Verzariu³⁵⁰ (1992), by the early 1990s countertrade – encompassing not only arms, but many other types of arrangements - represented between 30 and 40 per cent of all international trade. Verzariu (1996) notes that during the 1970s and 1980s, countertrade made up 25 per cent of international trade (down from his earlier observation in 1992). According to Marin and Schnitzer (2002), by the late 1990s, countertrade agreements accounted for 10 to 20 per cent of world trade. Kahn (2002) estimates countertrade to be one-fourth (i.e. 25%) of world trade. Howse (c. 2009) argues that countertrade statistics vary from 8 to 30 per cent (similar to Brennan's 1998 observations). However, in 2007, Sumer and Chuah concluded that, at best, the magnitude of countertrade-related projections and estimates remains much of a guessing game. Kim (2011) points out that there are no reliable figures on the volume of countertrade, primarily due to the secretive nature of these transactions.³⁵¹

Jovovic³⁵² (2013) indicates that offsets are expected to reach USD 190 billion over the next five years, with an anticipated peak in 2016 of USD 33 billion per annum. He (*ibid*) also refers to an offsets boom later this decade due to delayed defence investments. According to the 2012 study by Avascent,³⁵³ estimates show that from 2005 to 2011, approximately USD 214 billion in total offsets obligations were generated worldwide. While Avascent acknowledges that exact figures on the scale of discharged obligations are not publicly available, anecdotal evidence suggests a significant portion remains outstanding.

On the other hand, in 2010, UNCTAD estimated that the bartering of products that took place outside the official money-based GNP sector of the world's economies at the time, amounted to nearly USD 16 trillion. This amount, UNCTAD reported, was

³⁵⁰In April 2004, Pompiliu Verzariu retired from the US Department of Commerce where he was director of the Financial Services and Countertrade Division at the International Trade Administration, a focal point for US government efforts to promote the export of US private financial services abroad. He is a leading expert on countertrade and offsets issues - cf. <<http://csis.org/expert/pompiliu-verzariu>>

³⁵¹An internet search could not locate any newer information than this, also confirmed by Lindsey Shanson, Editor of CTO, UK

³⁵²Jovovic is a researcher at Avascent

³⁵³Avascent, Washington DC, USA is, according to their website, the leading provider of business consulting services to firms operating in industries at the intersection of business, technology, and government policy - cf. <<http://www.avascent.com>>

not included in official global GDP figures of approximately USD 48 trillion for 2010.³⁵⁴

5.3 Arguments Around Diverting Scarce Resources and Disproportionate Defence Spending

'Diversion arguments' are consistent with the 'rent seeking theory' (*cf.* chapter 2). Sandler and Hartley (1995) emphasise that to understand the nature of defence economics, one must first know the nature of economics itself. According to these authors, economics is a structured process that efficiently allocates resources among best alternative uses, taking into consideration growth and stability. An 'allocative system' is based on the premise of 'scarcity': without scarcity (and demand) there is no basis for considering resources allocation (*ibid*). Hartley (2004)³⁵⁵ notes that the opportunity costs of defence budgets represent a scarcity choice of resource allocation. Defence spending (needed to satisfy a specific or general security demand) thus causes a diversion of opportunity costs that could have been used for social development (Chaana, 2004).

In contrast, Hartley (2004) notes that defence output must be seen as a form of peace, protection and security that serves as a deterrent against any potential foreign aggression, terrorism or crime. Defence output encapsulates military production and requires capital, technology and labour input to produce output. It is also used for peace keeping, defence or offensive war, disaster and humanitarian relief and will always remain a controversial subject.

According to the latest SIPRI (2013) arms trade database, since 1988 defence spending has amounted to USD 32 trillion. Analysing the 2013 SIPRI data base on arms transfers, it can be noted that defence spending between 1990 and 1999 was USD 11 trillion, between 2000 and 2009 it was USD 14 trillion, and between 2010 and 2013 it was already USD 7 trillion. Considering the last figure and Jovovic's (2013) predictions noted earlier, it appears that defence spending may indeed be on the rise.

³⁵⁴BarterNews, 2010 - *cf.* <<http://www.baternews.com>>. An internet search could not locate any later and more recent information – an email sent to BarterNews was not responded to either

³⁵⁵Defence Studies Vol 4, Issue 2, 2004: *The Economics of military outsourcing* pp199-206

Pavlak³⁵⁶ and Odden³⁵⁷ (2014) report that since July 2010, the outlook of companies within the aerospace and defence industry has diverged significantly. Commercial aerospace entities, along with their automotive counterparts, have benefitted from resurgent demand, while defence-focused players have suffered as a result of declining defence expenditure and subsequent supply chain pressure. Defence budget reductions have not been restricted to the US, but have occurred across many key government entities, including those in Europe, where the total defence expenditure represents approximately 19 per cent of global defence spending. In a report (December 2013) cited by Pavlak and Odden (2014), the European Defence Agency indicated that in 2012, aggregate defence expenditure among the 26 (then) member states decreased to its lowest level since 2006. According to Pavlak and Odden (*ibid*), decreases in defence expenditure are expected to continue to 2018, causing justifiable consternation among industry players both large and small. The Airbus Group projects that by 2018 the company's defence orders will have fallen by approximately one-third (*ibid*).

On a secondary level, national investment is required to establish and maintain an indigenous defence industrial base (*cf.* Hartley, 2004), particularly in areas of maintenance, repair and overhaul (MRO) (*cf.* White Paper on the SADI – DOD, 1997; Dunne and Haines, 2005; AMD, 2006; Defence Review - DOD, 2014).

5.4 Defence Spending in South Africa

Chapter seven provides a more detailed review of the South African defence industrial base present day status. With regard to the impact of defence spending in South Africa, the pre-1994 apartheid policy was viewed as directly retarding long-term economic growth. This perspective (*cf.* Gleditsch, *et al.*, 1996:306) does not take cognisance that the disproportional defence spending was viewed as necessary to combat UN sanctions and establishes a defence industrial base that could safeguard the sovereign rights of the country. Gleditsch, *et al.* (1996:307) state that ensuring optimal resource allocation to defence prevented or retarded the development of, for example, human resources. From 1962 to the early 1990s the

³⁵⁶ Vince Pavlak is a Partner in KPMG LLP's Transactions & Restructuring service group. Based in Detroit, MI, he has more than 19 years of experience leading a diverse group of supply chain advisory projects. Vince specializes in the manufacturing and automotive sector

³⁵⁷ George Odden is a Managing Director for KPMG Corporate Finance LLC. Based in Phoenix, AZ, he is a skilled aerospace and defence professional with more than 18 years of experience. A decorated veteran, he served as a lieutenant in the US Navy

South African defence budget made up 15 per cent of GDP,³⁵⁸ after which it dropped to around 7 per cent of GDP by the early 1990s (Gleditsch, *et al.*, 1996:311). Gleditsch, *et al.* (*ibid*:315) state that by 1993 the defence budget had dropped further to 5,1 per cent as a result of the peaceful end to the internal struggle towards full democracy – this is referred to as the 'peace dividend'. According to the 2013 SIPRI data base, the 1988 South African GDP allocation of 4,6 per cent to defence dropped to 2,2 per cent in 1995. Between 1996 and 2013 it dropped well below 2 per cent, with the lowest recording of 1,1 per cent in 2011. The 2013 SIPRI statistics for the period 1990 to 2013 reflect a global average GDP defence allocation figure of 2,49 per cent with South Africa's average being 1,74 per cent.

In the context of the South African defence industrial base review provided in chapter seven, the above figures clearly reflect a drastic reduction in defence spending (from 15% to 1,7%). South Africa's reduction in defence spending in turn led to a substantial decline in the defence industrial base between the late 1980s and late 1990s. Hence the 2014 Defence Review's (DOD, 2014) statement that GDP defence allocation needs to be substantially increased to cover the operational equipment requirements of the SANDF, for example, renewing/replacing a wide range of army equipment, and re-establishing maritime air patrol capabilities. After Cabinet approved the revised 2014 Defence Review, the Minister of Defence was quoted in the media (23 April 2014) as having indicated that the mismatch between the SANDF's role and defence budget allocation needs to be addressed in earnest - that it will have to be increased to at least 2,4 per cent of GDP.³⁵⁹

In this regard, it was widely purported that the 1999 SDP transaction caused a diversion of scarce resources that could have been better deployed to serve social needs (*cf.* Holden and Van Vuuren, 2011) – the so-called 'guns for butter' argument. Donaldson (2014) put the SDP cost into perspective for the first time in his testimony to the Arms Procurement Commission (APC). He stated that due to currency fluctuations, the biggest year-on-year repayment on SDP loans was in 2002/3: in that year the repayment was R 6,3 billion, compared with education (R 62 billion), health (R 43,9 billion) and security (R 42 billion). Donaldson also admitted that although the SDP's loan increased government's foreign debt it accounted for only a 5,3 per cent increase.

³⁵⁸South Africa's official 1989/1990 year book, 15th edition. During the mid-1970s and early 1980s South Africa was involved in a regional war in Angola; and also had troops in Rhodesia prior to independence; mounted periodic incursions into Mozambique and Zambia, and fought insurgencies from banned political groupings of which the ANC was the most prominent

³⁵⁹Minister N. Mapisa-Nqakula. *Engineering News*, 23 April 2014

Despite the purported negative impact the SDP transaction was expected to have on South African GDP, the following table (Table 4) provides for an interesting observation, namely, that despite the SDP repayment, from 2000 to 2014 the actual statistics show a drop in defence spending as a percentage of GDP. Donaldson (2014) confirmed that the SDP repayment has not caused an increase in defence budget allocations.

Table 4: Military expenditure – average for past 23 years (base date 2012 – USD billion))					
Country	For the period 1990 to 1999	For the period 2000-2009	For the period 2010 to 2013	Total from 1990 to 2013	Average % of GDP for past 23 years
World averages	60 071	75 028	37 280	172 380	2,49%
South Africa	44 075	42 383	18 768	105 222	1,74%
USA	4 324 409	5 421 864	2 721 398	12 467 671	3,99%

(Source: SIPRI statistics 2013)

Note: the above represents total military expenditure and not only the buying of defence equipment. The massive amount spent by the USA distorts statistical analysis and thus the best measure remains to express defence spending as a % of GDP.

5.5 International Arms Control Initiatives

This section provides additional insights into the global trade in arms discussed in the preceding sections. Vast amounts of money continue to be spent to sell and procure arms. The question arises whether this trade is adequately controlled. Development and arms transfers are not mutually exclusive and according to Chaana (2004:6), if arms transfers are not to undermine development, they must have sustainable development and human security as core goals.

Arms imports may be essential to support a state's legitimate security needs, or to improve the capacity of its security forces. The UN Charter, Article 51, specifically recognises that every state has the right to self-defence. Security, in its widest sense, remains a priority for poor people in all regions of the world and a necessary condition for improving their quality of life (Chaana, 2004:6). Similar sentiments are contained in sovereignty statements in the works of Brierly (1963) and Hinsley (1986).³⁶⁰

Notwithstanding the above acclaimed right to self-defence, the UN requires governments to act responsibly when providing security and protecting their populations, keeping to the rule of law in their decisions regarding international arms transfers.

The uncontrolled sale and transfer of defence equipment and related technologies remain of international concern. There are a number of factors causing concern, the largest relating to weapons of mass destruction, another to indiscriminate means of warfare (e.g. landmines), and yet another to small arms. The latter two are notoriously known to be abused for terrorism, civil wars, genocide and crime. Another control mechanism deployed by the UN and the US specifically relates to the imposition of sanctions as a means to stabilise certain countries or regions (e.g. Iraq, Iran, Libya, Syria and North Korea, and South Africa pre-1994).

With regard to concerns over weapons of mass destruction, there are primarily two sets of international controls. The one deals with nuclear issues regulated by the

³⁶⁰ The South African Constitution also acknowledges these sovereignty rights. The Constitution of the Republic of South Africa, 1996, was approved by the Constitutional Court (CC) on 4 December 1996 and took effect on 4 February 1997 - cf. <<http://www.info.gov.za/documents/constitution/>>

Nuclear Non-proliferation Treaty of 1970 with 189 signatory countries³⁶¹. The other deals with missile related matters under the 1987 Missile Technology Control Regime (MTCR).³⁶² The MTCR was established in April 1987 by Canada, France, Germany, Italy, Japan, Great Britain and the US, to curb the spread of unmanned delivery systems that could be used to deliver nuclear weapons, particularly those delivery platforms that could carry a minimum payload of 50kg over a minimum range of 300km.

The UN Register of Conventional Arms (UNROCA)³⁶³ was established in the early 1990s to build confidence and cooperation between states. This register is managed by the UN's Office for Disarmament (UNODA) in New York. It has six regional offices to promote awareness among various governments concerning the need for reporting. UNODA aims to monitor the movement of certain categories of conventional and small arms, including weapons of mass destruction.³⁶⁴ States are requested to report annually on the import and export of seven categories of major conventional weapons according to UN General Assembly Resolution 46/36L of 6 December 1991. These categories cover battle tanks, armoured combat vehicles, large-calibre artillery, combat aircraft, attack helicopters, warships, missiles and missile launchers.

The information provided to UNROCA is used to analyse various states' intentions and capabilities. It is used in bilateral or regional consultations to help avoid misinterpretations, miscalculations and the exaggeration of military threats that can influence arms races and armed conflicts. UNROCA is instrumental in achieving greater openness and accountability in international arms trade, but has not achieved a high level of participation. In recent years there were dramatic declines in levels of reporting according to SIPRI (2013) and the Arms Control Association (ACA) (2014).³⁶⁵ As reporting is not legally binding, states are asked to make voluntary submissions (Jaeger, 2012). UNODA reported that by 25 September 2013, only 61 countries had submitted UNROCA reports covering 2011 to 2013. Notably the

³⁶¹cf. <<http://www.un.org/disarmament/WMD/Nuclear/NPTtext.shtml>>

³⁶²cf. <<https://www.armscontrol.org/factsheets/mtrc>> MTCR members, followed by the year they joined the regime, are: Argentina (1993), Australia (1990), Austria (1991), Belgium (1990), Brazil (1995), Bulgaria (2004), Canada (1987), the Czech Republic (1998), Denmark (1990), Finland (1991), France (1987), Germany (1987), Greece (1992), Hungary (1993), Iceland (1993), Ireland (1992), Italy (1987), Japan (1987), Luxembourg (1990), the Netherlands (1990), New Zealand (1991), Norway (1990), Poland (1998), Portugal (1992), Russia (1995), South Africa (1995), South Korea (2001) Spain (1990), Sweden (1991), Switzerland (1992), Turkey (1997), Ukraine (1998), the United Kingdom (1987), and the United States (1987).

³⁶³cf. <<http://www.un.org/disarmament/convarms/Register/>> - UNROCA is managed by the UN Office for Disarmament Affairs (UNODA)

³⁶⁴cf. <<http://www.un.org/disarmament/>>

³⁶⁵cf. <<http://www.armscontrol.org/about>> updates are done continuously with latest information on various arms trade and regulatory matters. ACA's offices are in Washington, DC. The ACA was founded in 1971 – reportedly a national nonpartisan membership organization dedicated to promoting public understanding of and support for effective arms control policies

following countries did not submit reports - India, Israel, Colombia, Peru, Iran, UAE, Kuwait, Oman, Saudi, Yemen – UNODA gave no reason.

In 2012, the UN launched another attempt to curtail particularly small arms proliferation. They subsequently concluded a new 'Arms Trade Treaty' (ATT) on 2 April 2013. The ATT opened for signature on 3 June 2013 and needed 50 signatory countries to become effective. South Africa is a signatory to the ATT, which is aimed at crime control, and control over rogue militias in developing nations and regions experiencing conflict.³⁶⁶

On a regional level, the foundation for taking sustainable development into account in arms transfers was initially laid in 1993 by the Organisation for Security and Co-operation in Europe (OSCE). In 1998 the EU issued a manifesto on conduct in arms transfers. This was followed by another OSCE document on small arms in 2000 and then the international Wassenaar Arrangement of 2002.³⁶⁷

At country level, the extensive controls imposed by the US government need emphasising. As noted earlier, the US remains the biggest consumer (*cf.* Table 4), and as shown in Table 7, the biggest exporter of arms. It has established its own arms control regime contained in the '*International Traffic in Arms Regulations*' (ITAR).³⁶⁸ These regulations enforce control over all US originated defence related equipment and technologies. In the case of the South African arms deal of 1999, several countries had to first seek the US' permission before the contracts could be signed, for example, the Gripens (Sweden) and the corvettes (Germany). ITAR also imposes restrictions on the on-ward selling or disposing of defence equipment that contains US parts or sub-systems. From time to time the US also imposes specific embargoes on arms exports to many countries – over and above the UN's imposed embargoes. For example, South Africa remained on the US 'banned' list even after the country democratised in 1994; hence no US defence company could partake in South Africa's defence equipment tenders. The only exception was Bell Textron that

³⁶⁶ On 2 April 2013, the UN General Assembly adopted the landmark Arms Trade Treaty (ATT), regulating the international trade in conventional arms from small arms to battle tanks, combat aircraft and warships. The treaty aims to foster peace and security by putting a stop to destabilizing arms flows to conflict regions, preventing human rights abusers and violators of the law of war from being supplied with arms, and helping to keep warlords, pirates, and gangs from acquiring these deadly tools - *cf.* <<http://www.un.org>> and <<http://www.armscontrol.org>>

³⁶⁷ The Wassenaar Arrangement was established in 1993 (although it only became operational in 1996 with 33 founder members – today there are 41 members) to contribute to regional and international security and stability by promoting transparency and greater responsibility in the transfer of conventional arms and dual-use goods and technologies, thus preventing destabilising accumulations. Participating states (of which South Africa is one) through their international policies seek to ensure that these items do not contribute to the development and/or enhancement of military capabilities that undermine these goals and are not diverted to support such capabilities - *cf.* <<http://www.wassenaar.org>>

³⁶⁸ *cf.* <http://www.pmddtc.state.gov/regulations_laws/itar.html>

used its Canadian subsidiary to make an offer on the light utility helicopter. The US lifted its arms embargo on South Africa on 28 April 1998.³⁶⁹

The following question can also be asked: where does South Africa stand with regard to arms control, since it is the 17th largest exporter of arms? Without going into too much detail, South Africa has always had arms control legislation in place – initially covered in the DTI's export control legislation, but since 1968 transferred onto Armscor. In terms of Act 57 of 1968, the Minister of Defence was the custodian of defence equipment control and the SA Police of commercial arms (hand guns, rifles and ammunition – Firearms Control Act 60 of 2000). According to conventional arms and defence equipment control regulations then, Armscor was mandated to administer the process of import and export permits on behalf of the Minister of Defence.³⁷⁰

During 1994, Armscor was involved in an arms deal with a Jordanian citizen who brokered the purchase of AK47 assault rifles³⁷¹ for Lebanon. It later transpired that these AK47s were destined for Yemen, at that stage engaged in civil war. The ANC government appointed the Cameron Commission of inquiry who submitted their report to the President on 15 June 1995.³⁷² As a consequence, the arms control function was summarily moved to the Secretary for Defence under supervision of a multi-government departmental overseeing (scrutiny) committee, which had then to submit all defence equipment export and import permit applications to the National Conventional Arms Control Committee (NCACC). The NCACC is a ministerial committee appointed by Cabinet.

The NCACC (under the initial leadership of the Kader Asmal (since deceased)) subsequently undertook the writing of new arms control legislation³⁷³. At the same time the DTI established the Non-Proliferation Council (NPC) to oversee controls related to the various non-proliferation and arms trade treaties (NPT, MTCR, Wassenaar, etc.)³⁷⁴

³⁶⁹ cf. <<http://www.nytimes.com/1998/02/28/world/us-after-35-years-lifts-arms-embargo-against-south-africa.html>>

³⁷⁰ I was the Head of the Armscor conventional arms control section from early 1991 until mid-1996 - from mid-1995 till mid 1996 I was seconded to the Defence Secretariat (DOD) to re-establish this control function under the auspices of the DOD, and then, in 1996, I moved back to Armscor's Countertrade Department. I was subsequently involved in the initial stages of redrafting of arms control legislation, including being involved with the NPC (early 1996)

³⁷¹ AK47s being 'the spoils of the war' in Angola between 1975 and late 1980s

³⁷² Commission of Inquiry into Alleged Arms Transactions between Armscor and one Eli Wazan and other related matters submitted to the President on 15 June 1995 – cf. <<http://www.polity.org.za/polity/govdocs/commissions/cameron.html>>

³⁷³ The National Conventional Arms Control Act, No 41 of 2002 as amended, and its supporting Notices and Regulations; The Regulation of Foreign Military Assistance Act, No 15 of 1998; Anti-Personnel Mines Prohibition Act, No 36 of 2003

³⁷⁴ The Non-Proliferation of Weapons of Mass Destruction Act, 1993 (Act No. 87 of 1993), this act was initiated by Armscor prior the DTI's involvement - cf. < <http://www.thedti.gov.za/nonproliferation/ArmsControl.html>>

5.6 International Concerns Over Non-Transparency in Arms Transactions

The Control Arms campaign³⁷⁵ (2004:45) believes that there are serious weaknesses and inconsistencies in the methodology of arms deal transactions. This is aggravated by a total lack of transparency about decision-making processes. These views are supported by Transparency International's '*defence against corruption*'³⁷⁶ campaign (Magahy, *et al.*, 2010). Transparency International's Director of the International Defence and Security programme, Pyman³⁷⁷ (2012), finds that too many defence contracts are secret and that public pressure has very little or no impact on them.³⁷⁸ The lack of openness is seen as inhibiting the implementation of proper and transparent assessment of the impact of arms transfers on sustainable development. This criticism is echoed by SIPRI (*cf.* Singh, 2000:174) and viewed as contributing to corruption (Pyman, 2012).

In April 2010, Transparency International (*cf.* Magahy, *et al.*, 2010) released a comprehensive paper on defence offsets corruption risks and made a plea to all governments to introduce a series of checks, balances and control measures to remove the risk of corruption that could be created through offsets transactions. According to the 2012 Transparency International report,³⁷⁹ corruption remains a major threat facing humanity; it destroys lives and communities and undermines countries and institutions. Corruption does not only occur in defence deals, as observed, for example, by the Hollands case study of South Africa in 2007 (Hollands, 2007), although defence deals specifically are seen as key contributors to fraud and corruption. This is primarily attributable to the secretive and non-transparent nature of the selection and contracting process. In the case of South Africa, particularly, there are allegations that the SDP's offsets were merely used as channels to hide fraudulent transactions (*cf.* Holden and Van Vuuren, 2011; Crawford-Browne, 2012). The SA government remains criticised for the manner in which it conducted the 1999 SDP's transaction process (*cf.* Camerer, 2010; also Dunne and Haines 2001, 2005).

³⁷⁵The Control Arms campaign was launched in 2003 to gather support of the Arms Trade Treaty - *cf.*

<<http://controlarms.org/en/about-controlarms/...>>

³⁷⁶Transparency International is a UK-based organisation, promoting Defence Against Corruption (DAC), calling on governments and the defence industries and their respective representative organisations to work collaboratively to raise integrity and reduce the risk of corruption in offsets *cf.* <<http://www.defenceagainstcorruption.org>>

³⁷⁷*cf.* <<http://www.defenceagainstcorruption.org>>

³⁷⁸BBC News. Caroll Wyatt. 4 October 2012. Defence firms 'not open about anti-corruption measures.' – *cf.* <<http://www.bbc.co.uk/news/uk-19824473>>

³⁷⁹*cf.* <http://archive.transparency.org/policy_research/>

5.7 The Debate Around Military Industrial Complexes

On 17 January 1961, in his farewell speech to the US nation, retiring US President Dwight D. Eisenhower³⁸⁰ established the notion of a 'military industrial complex'. He stated that in the light of continued international crisis, the US was compelled 'to create a permanent armaments industry of vast proportions' (cf. Bacevich, 2011). However, Eisenhower strongly cautioned against diverting resources needed for social welfare. The military industrial complex is involved in a complex and intricate relationship with the defence industrial base supporting it, the legislature (i.e. politicians) and the national armed forces (Higgs, 1995; also Sandler and Hartley, 1995), not forgetting the role of public voice.

Internationally military industrial complexes are characterised by vast amounts of investment, and preferential procurement practices (Hartley, 2011; Yülek and Taylor, 2012) as evident from Appendix A. The '*Buy American Act of 1933 as amended*' (Luckey, 2009:5) is but one example of a government's structured intervention that directly benefits its defence industry. Very few outsider companies get the opportunity to supply the US military directly. The same applies to the UK, which ostensibly favours BAE Systems (BAES) in numerous substantial defence procurement deals.³⁸¹ The UK government (similar to the US with its Foreign Military Assistance aid programme)³⁸² openly supports and subsidises defence exports³⁸³ as a means of supporting its military industrial complex and job creation, while providing the basis for a wide range of economic benefits (Mayhew, 2005).³⁸⁴ This observation is echoed by Wood and Wright (n.d.³⁸⁵), who refer to an ecosystem of defence companies reliant on state largesse. In a more regional context, it is worthwhile noting that the EU also practises preferential procurement in the EU region. All these practices pose

³⁸⁰Public papers of the President - Dwight D. Eisenhower, 1960. cf. <<http://www.coursesa.matrix.msu.edu>>

³⁸¹cf. 'BRITISH DEFENCE FORCES - A MORE COMPREHENSIVE VIEW'. For consideration as we approach DSR 2015. – cf. <http://www.defencesynergia.co.uk/DefenceSynergia/SDSR_2015.html>

³⁸²cf. <<http://www.fas.org/asmp/profiles/aid/aidindex.htm>> and <http://www.state.gov> – this US aid programme includes FMS – foreign military sales and FMF – foreign military financing

³⁸³The UK Government has pledged its support to the defence industry which has an outstanding record of export success. This includes major air, land and sea platforms, weapons systems, sub-systems, and training and support packages. UKTI DSO has a proven ability to help UK exporters to win business overseas and achieve their international business potential - cf. <<http://www.ukti.gov.uk/defencesecurity/defence.html>>

³⁸⁴cf. <<http://www.baesystems.com>> - BAES is one of the main suppliers of defence equipment to the Royal Defence Force³⁸⁴. The US department of Defence is its other single biggest client. BAE Systems Plc. (UK) established a subsidiary (BAE Systems Inc.) entity in the US in November 1999 that operates as a semi-autonomous business, under a special security agreement with the 'US Department of Defense and Security.' It is listed in both the USA and UK. BAE Systems has a presence in several other countries, such as the UAE, Malaysia, Australia and South Africa - a company with global stature

³⁸⁵Working paper in progress as at January 2014 'Corporations and New Statism: Trends and Research Priorities.' Available from Prof Wood: <geoffreywood65@hotmail.com> [email received 14 January 2014].

serious barriers to entry for all other countries³⁸⁶ (Mawdley, 2003; European Union Directive of 2009).³⁸⁷

Put differently, new generation defence conglomerates³⁸⁸ are becoming more like non-defence companies, increasingly influenced by financial capital as they remain dependent on alternative national government support, their major customer (Dunne and Haines, 2005). In both developed and developing countries the 'military industrial complex' is reconstituting itself in more informal and less visible forms consistent with changing demands and reduced defence spending (*ibid*). As part of this process the larger companies (mostly with political support) have found new ways to influence governments.³⁸⁹ This has clear implications for any country with a defence industry, since it implies that a comprehensive defence industrial base is impossible to maintain, primarily due to economies of scale (*ibid*). Wood and Wright (n.d.) point to a 'new statism' that focuses on sovereign wealth funds, the military industrial and penal complexes, public-private partnerships and private finance initiatives, and their dynamic links with state owned corporations. Wood and Wright (*ibid*) add that although national defence industries are often presented as industrial success stories, they are rarely subject to the same market disciplines as manufacturing firms in other areas of the economy. But on the opposite side of this argument, non-defence companies are not confronted with the same challenges and constraints faced by defence companies when it comes to international arms control legislation, as discussed earlier in this chapter.

Alternatively, it has been argued that defence-related industries³⁹⁰ may serve as key building blocks for innovative and higher-end technology developments in a large number of countries (Sandler and Hartley, 1995; Hartley, 2004). Numerous defence-related technologies have over time found their way into the civil complex; therefore the old 'spin off' argument that military technology is beneficial to civil industry development no longer applies because it has gradually been replaced by the 'spin in/on' concept where the increasing use of civil technology and products in military good are more and more prevalent (Skoens and Weidacher, 1999, as cited in Dunne and Haines 2005; Römer-Heitman, 2011).

³⁸⁶ Cf. *Defence Industry Daily*, 2012

³⁸⁷ Cf. <<http://www.defenseindustrydaily.com>>

³⁸⁸ Some examples are General Dynamics, General Electric, Raytheon and Lockheed Martin from the USA, BAE Systems from the UK, Dassault and Safran from France, EADS/Airbus Group from Germany, the Investor Group of Sweden and Finmeccanica from Italy – cf. <[http://www.privatemilitary.org/defense sector](http://www.privatemilitary.org/defense%20sector)>

³⁸⁹ This issue was discussed in chapter two- in relation to the roles of MNEs

³⁹⁰ Sandler and Hartley, 1995, refer to a defence industrial base (DIB)

5.8 A Compendium of Defence Offsets Achievements

The following account contains some of the 'official'³⁹¹ views on the various countries' offsets achievement. The significance of this report is that official empirical data on defence offsets are very scarce and difficult to come by (addressed in the limitations to this research - chapter 3).

There are several accounts of the UK's offsets programme attracting benefits. Henderson (2005), for example, notes that three hundred UK companies have participated in the UK offsets programme to the value of GBP 1,2 million (2003/4 figure). Salzman³⁹² (cited in Warwar, 2004:217) notes that the effect of offsets in the UK has maintained at least 250 000 jobs over a period of approximately ten years and that its 'importance to the UK defence industry is enormous'. The UK is a significant importer of defence-related equipment from US companies; as a result it incurred obligations of approximately USD 10,5 billion by 2007. To support the UK defence industrial base in marketing, competing, and capturing US defence opportunities, Boeing's UK Industrial Participation programme, for example, has delivered in excess of USD 4 billion in exports of UK products and services over the past 13 years.³⁹³

A spokesperson (not identified) was quoted³⁹⁴ as having indicated that Turkey signed 76 offsets agreements between 1985 and 2007, of which 20 were successfully completed with a total discharge figure of USD 3,4 billion. Defence purchases were reported to have amounted to USD 16,5 billion over the same period. By 2014, the outstanding amount of offsets still to be discharged was USD 4,3 billion.³⁹⁵

In a 2007/8 audit³⁹⁶ commissioned by the Swiss Audit Authority on the Swiss offsets programme, it was found that between 1995 and 2005, approximately 1 000 Swiss companies benefited from the Swiss induced offsets programme - an estimated amount of USD 4,17 billion. In 2002, Goos reported that the Netherlands realised industrial participation benefits of Euro 225 million for their industries between 1997 and 2001.

³⁹¹'official' in the sense that this information comes from government employees and government institutions/organisations

³⁹²Brinley Salzman is the Exports Director of the UK Defence Manufacture's Association (DMA) that provided support to UK defence exporters (at the time) (Salzman, 2004)

³⁹³cf. <<http://www.politics.co.uk/opinion-formers/boeing/industrial-relations>>

³⁹⁴CTO, April 14, 2008

³⁹⁵CTO, April 14, 2014

³⁹⁶CTO, July 14, 2008

The UAE reported several multi-billion USD offsets transactions involving substantial infrastructure projects in the UAE (referring to Oasis Aircraft leasing and the Dolphin gas pipeline, although no period was stated – *cf.* Muhairi, 2003)

In 2008 Saudi reported that their countertrade programme attracted investments of SR 17 billion, and some 6 700 jobs, 65 per cent of which employed Saudi nationals. In addition, their countertrade programme led to the formation of 40 new companies and projects.³⁹⁷ However, in the Saudi offsets case study done by Kirchwehn (2014:35), he finds that the results are rather disappointing in terms of the actual projects launched measured against the magnitude of potential available resources for investment. Official reasons put forward for this lack of progress is the inability of the obligors to find good investment opportunities aggravated by an absence of reliable data on the local market and potential local partners.

In 2014, Israel's Industrial Cooperation Agency (ICA) reported that their programme achieved 500 per cent more than what was contracted – they described this as a rather unique achievement. This was measured against a baseline commitment between 2009 and 2013 of USD 4,2 billion versus a discharge of USD 12 billion. It was not explained how the latter figure was calculated in relation to the 500 per cent.³⁹⁸

The newcomer to the offsets fraternity is Colombia that joined in 2004. In 2014 Colombia reported that they had signed 47 offsets framework agreements worth USD 2,5 billion and another 40 complimentary agreements worth USD 1,5 billion – no information was provided on any discharge.³⁹⁹

In the case of South Africa, the exact details of the DIP programme stemming from the 1999 SDP are discussed in chapters nine, ten and eleven.

The following section discusses defence spending - that acts as a precursor to leveraging offsets - in more quantitatively comparative terms and in the context of global trade. Table 5 (below) contains additional data related to various countries', countertrade commitments insofar as they were reported.⁴⁰⁰

³⁹⁷CTO, June 9, 2008

³⁹⁸CTO, April 14, 2014

³⁹⁹CTO, April 28, 2014

⁴⁰⁰Examples as extracted from CTO's bi-weekly news letters, published primarily between 2004 and 2008 – used as a 'sampler' only

Table 5: Reported values of some countertrade transactions across the world			
Country	Value of transactions	For the period	Comment/observation
1. UK	GBP 5,8 billion	Up to Jun 2004	Reported by DESO.
2. Philippines. Reported by PITC.	USD 100 million USD 208 million	From 2001-2004 By May 2007	UNESCO was reported to have backed a debt swap USD 50 billion, in exchange for commitments related to education. The WB, with Japan, China and the Asian Development Bank committed USD 70 billion to fund infrastructure programmes
3. Poland	USD 6,68 billion € 7,4 billion €1 billion and USD 6,3 billion	Up to Jul 2004 By March 2006 By Feb 2007	Reported by the Ministry of Economy and Labour in 2004, 2006 and 2007
4. Saudi Arabia	USD 1,564 billion	Between 1993 to 2001	Reported by the British Offsets Office for Saudi Arabia. This only reflects UK obligations.
5. Switzerland	USD 1,9 billion USD 4,2 billion	Up to 2005 Up to 2008	Reported by Armasuisse, DOD. These are the findings of a 2008 report of the Swiss Audit Authority.
6. Turkey	USD 6,1 billion	By Feb 2007	Reported by SSM DOD. Defence purchase reported to amount to USD 16,5 billion.
7. Kuwait	USD 2,173 billion	From 1992-2006	Reported by NOC. The Kuwaiti offsets programme was the subject of two reviews by the WB and one by the United Nations Development Programme.
8. Netherlands	€ 3,6 billion	By Feb 2007	Reported by the Ministry of Economy
9. Hungary	€ 1,1 billion	End of 2007	Reported by the Ministry of Economy and Transport
10. Brazil	USD 1 billion	End of 2007	Reported by the Brazilian Air Force
11. Israel	USD 7 billion	End 2007	Reported by the ICA
12. Indonesia	€ 200 million	During 2007	The German government reportedly agreed to covert € 50 million in debt, and to 'mobilise' another € 200 million over four years for various national health-related projects.
13. South Korea	USD 1,3 billion	2007/8	It was reported that they will write off the Russian debt in exchange for various defence-related technologies. Russia, however, wanted to settle this debt by providing defence equipment.
14. South Africa	DIP: USD 2,4 billion NIP: USD 16 billion	From 1988-2007 From 1997-2007	Armescor and Department of Trade and Industry reports.
15. Russia/Libya	USD 4,6 billion	circa 2008	Russia will 'forgive' Libyan debts if in exchange Libya buys Russian arms and goods.

(Source: CTO Newsletters between 2004 and 2008)

Note: This table is provided merely for the sake of illustrating the on-going array of countertrade. It is not meant as an analytical assessment of each case quoted.

5.9 The Relationship Between Arms Trade and Defence Offsets

As discussed in chapters two and four, defence procurement is used by many countries as leverage for reciprocal trade in the form of countertrade and specifically defence offsets. According to SIPRI (2013),⁴⁰¹ since 1988 global arms trade (procurement) amounted to USD 32 trillion. When considering the defence spending of the top 50 countries (summarised in Table 6 below), it can be calculated that by 2013 there was an accumulative amount of approximately USD 116 billion in countertrade and offsets related transactions in the process of being discharged. At first glance this appears to be a substantial figure, but if one considers that the world's total merchandise exports for 2012 (WTO, 2012) amounted to USD 17 trillion, then it is not.⁴⁰² This figure implies that countertrade and offsets stemming from defence deals alone amounted to around only 0,1 per cent of estimated world trade figures.⁴⁰³

One principle of offsets is pro-rata cascading of the main obligation (*cf.* Jovovic, 2013): each sub-contractor to the main obligor is proportionally responsible for assisting the main obligor with discharging the main obligation. In the South African SDP transaction of 1999, during the selection and evaluation process, a few sub-system trade-off studies were done for the DIP. These cases (for example, the gearboxes for the corvettes, engines for the light utility helicopter, and the submarine periscopes) were the subject of specific interrogation by the APC of enquiry during 2013/2014.⁴⁰⁴ In the SDP process it became evident that OEMs proportionally cascaded sub-system obligation onto those various sub-systems suppliers (e.g. GE on the corvettes, Rolls Royce on the Hawks, etc). The aforementioned examples are provided to illustrate that the offsets world of obligations at primary and secondary levels are very often not visible at all. What also remains rather obscure is the impact of contra-obligations. Contra-obligations occur when an obligor places an export contract (e.g. counter-purchase) onto the buyer country's industry and simultaneously requires the contracted company to assume offsets obligations of the country the goods are being exported to – this aspect was described in the 'swap' section in chapter four.

⁴⁰¹ Generated 10 June 2014. Figures are SIPRI's trend indicator values expressed in constant USD at 1990 prices. For more information refer to the SIPRI ARMS Database 2014 - *cf.* <<http://www.sipri.org/database/armstransfers/background>>

⁴⁰² WTO statistics database - *cf.* <<http://www.wto.org>> as at 22 June 2014

⁴⁰³ To note: the two sets of stats do not cover the same period and is merely used for argument sake

⁴⁰⁴ *cf.* <<http://www.armscomm.org.za/hearings/...>>

Table 6: Arms transfers to the top 50 countries with estimated offsets related to these transactions (USD-billion)

Rank 2000-2013	Rank 1999-2012	RECIPIENT	2000-2013	Offsets Y/N	%	Notes
1	2	India	34 373	Y		
2	1	China	30 644	Y	AD HOC	
3	3	South Korea (ROK)	15 035	Y	50	
4	4	UAE	14 178	Y	60	
5	8	Pakistan	11 113	Y/N	AD HOC	
6	5	Greece	10 994	Y	100	
7	6	Australia	10 859	Y	50	
8	9	United States	10 509	Y	50	Buy American Act
9	7	Turkey	10 055	Y	70	
10	11	Egypt	8 410	Y	55	
11	12	Algeria	8 356	N		
12	10	Singapore	8 328	N		
13	13	Saudi Arabia	8 166	Y	40	
14	15	United Kingdom	7 818	Y	100	
15	14	Israel	6 763	Y	50	
16	16	Japan	5 760	N		
17	21	Venezuela	4 543	N		
18	19	Chile	4 433	Y	100	
19	17	Taiwan (ROC)	4 362	Y	55	
20	20	Canada	4 172	Y	100	
21	18	Malaysia	4 000	Y	100	
22	22	Poland	3 975	Y	100	State of flux
23	25	Italy	3 813	N		
24	24	Norway	3 701	Y	100	
25	23	Spain	3 576	Y	100	
26	32	Indonesia	3 487	Y	100	
27	28	Iraq	3 434	N		
28	29	Vietnam	3 382	N		

Table 6: Arms transfers to the top 50 countries with estimated offsets related to these transactions (USD-billion)						
29	26	Brazil	3 325	Y	100	
30	30	Morocco	3 092	N		
31	27	Iran	3 017	N		
32	31	South Africa	3 015	Y	80	
33	34	Myanmar	2 846	N		
34	33	Netherlands	2 781	Y	100	
35	43	Azerbaijan	2 730	N		
36	35	Germany (FRG)	2 608	N		
37	37	Afghanistan	2 468	N		
38	38	Portugal	2 213	N		
39	42	Syria	2 210	N		
40	40	Colombia	2 135	Y	100	
41	39	Jordan	2 084	N		
42	47	Bangladesh	2 034	N		
43	41	Yemen	1 979	N		
44	48	Sudan	1 831	N		
45	45	Thailand	1 797	Y	100	
46	36	Finland	1 723	Y	100	
47	44	Mexico	1 710	N		
48	54	Oman	1 582	Y	AD HOC	
49	46	Sweden	1 400	Y	100	
50	50	Romania	1 346	Y	80	
Total			298 165	Total offsets due – estimate only		115 782

(Source: SIPRI, 2013/2014 - expanded with countertrade information by the author; calculations are based on the percentages as extracted from Appendix A)

Note: The words 'arms transfers' must also be interpreted in the opposite sense of arms procurement, meaning arms bought by those countries herein listed – the procurement action then invokes the reciprocal trade action

The arms exports referred to in Table 6 above, originated from the following top 30 arms-exporting countries, (refer to Table 7, below). The assumption⁴⁰⁵ is that they were obliged to perform countertrade and offsets transactions in their own countries and in other countries. This creates a permutation of contra-offsets transactions that provides opportunities for swaps and/or abatement transactions (described in chapter 4).

Table 7: The top 30 arms exporting countries in the world

Ranking 2000-2011	Ranking 2012-2013	Supplier	2000-2013 - in USD billion	Countertrade and offsets in own country
1	1	USA	97 989	No – although the Buy American Act performs a similar objective
2	2	Russia	85 595	No
3	3	Germany (FRG)	25 611	No
4	4	France	23 036	No
5	5	UK	15 632	Yes
6	6	China	11 776	No
7	9	Netherlands	7 100	Yes
8	7	Italy	7 458	No
9	8	Israel	7 178	Yes
10	11	Sweden	6 800	Yes
11	10	Ukraine	6 958	No
12	12	Spain	6 350	Yes
13	13	Switzerland	3 465	Yes
14	14	Canada	3 132	Yes
15	15	South Korea	2 449	Yes
16	16	Belarus	1 548	No
17	17	South Africa	1 332	Yes
18	19	Poland	1 098	Yes

⁴⁰⁵This assumption is based on the analysis and account of the various countries' countertrade requirements, extracted from CTO, QB 2012

Table 7: The top 30 arms exporting countries in the world

Ranking 2000-2011	Ranking 2012-2013	Supplier	2000-2013 - in USD billion	Countertrade and offsets in own country
19	20	Belgium	1 039	Yes
20	18	Norway	1 167	Yes
21	21	Uzbekistan	1 009	No
22	22	Finland	840	Yes
23	26	Brazil	550	Yes
24	27	Czech Republic	527	Yes
25	23	Australia	679	Yes
26	28	Austria	422	Yes
27	24	Turkey	610	Yes
28	25	North Korea	573	No
29	30	Libya	367	No
30	29	Denmark	372	Yes
The rankings in the left column changed during the period and are therefore not a constant		Total	322 662	

(Source: SIPRI arms transfer database, 2013 - compiled 22 June 2014)

Note: The above table demonstrates the dichotomy dilemma created by contra-offsets required by both the exporting and importing country. A typical example is Denel's export of naval surface-to-air missiles to Finland while importing Patria vehicle hulls to produce the Hoefyster (Badger). Denel with offset obligations to Finland and a Finnish supplier with offsets (DIP and NIP) obligations in South Africa.⁴⁰⁶ Many such other examples exist.

⁴⁰⁶ This was one of my successful swap transactions, while at Denel

5.10 Cost of Engaging in Countertrade and Offsets

Over the past twenty years the cost of engaging in offsets has often been discussed. There are several elements covered under 'cost' (i.e. as related to offsets project, programme and contract management, bank guarantees, penalty cover, investments, technology transfers, etc.), which makes a detailed assessment rather problematic, as details of offsets transactions remain obscured. For example, Marvel (1995) estimates the cost at between 3 and 7 per cent, and Coetzer (1995) estimates it at 2,5 per cent. The 2001 Netherlands audit gave a figure of 2,9 per cent.⁴⁰⁷ Struys (2002) estimates a cost of between 20 and 25 per cent. The UAE's estimate is around 3 to 5 per cent (Muhairi, 2003). Having conducted a comparative study on offsets and industrial cooperation in six European countries, Eliassen⁴⁰⁸ (2003), estimated a cost of between 3 and 7 per cent. In 2006 some EDA members reported⁴⁰⁹ figures as high as 20 and 30 per cent, but it was not clear to which countries or contracts such high percentages were attributed, nor what the reasons were. The US Presidential Commission offset report of 2001⁴¹⁰ contains figures of between 3 and 7 per cent: a similar report in 2006/7 arrived at a much increased figure of between 15 and 30 per cent.⁴¹¹ Gopalaswamy (2009) provides an estimate of between 3 and 10 per cent.

In the case of South Africa, nothing official has been reported on the offsets cost (DIP and NIP), although Donaldson (2014) admitted that the National Treasury accepted that foreign suppliers have built non-compliance costs into their prices. It is my view that the costs related to the DIP portion of the SDP⁴¹² were between 5 and 10 per cent - this figure is based on the percentage of non-performance penalties required and my experience in costing export contracts while at Denel.⁴¹³ In his testimony to the APC, Donaldson (2014) made it clear that the 1999 base cost of

⁴⁰⁷ CTO, March 12, 2001

⁴⁰⁸ Prof Kjell Eliassen, Director of the Centre for European and Asian Studies of the Norwegian School of Management (Eliassen, 2003) - cf. <<http://www.bi.edu/research/employees/?ansattid=adm87004>>

⁴⁰⁹ CTO, October 8, 2007

⁴¹⁰ *ibid*

⁴¹¹ CTO, May 14, 2007

⁴¹² On the DTI side, this estimate may be much higher in view of many aborted or failed NIP investment projects (cf. Wellman's 2010 study on the failed gold NIP project of BAES)

⁴¹³ Denel's Offset Policy 51 of 22 September 2011 clearly states that offsets must be adequately costed – cf. <<http://deneldynamics.co.za/dlsysdcpolicies/Policies/POL51%20-%20Issue%202.pdf>>

R 30 billion that increased to an estimated R 46,6 billion by 2014 had nothing to do with the increase in the price of the equipment and was primarily attributable to the cost of the loans. This aspect is elaborated on more fully in chapter eight.

In calculating the penalty cost provision, a time value probability assessment can be undertaken that takes into account the probability of not meeting specific milestones in the discharge process.

The penalty cost is seldom the full percentage of the penalty itself. The actual calculations are much more complex than what can be shown in Figure 21 (below). The complexity of transactional costs in countertrade deals was observed by, for example, Hennart (1989).

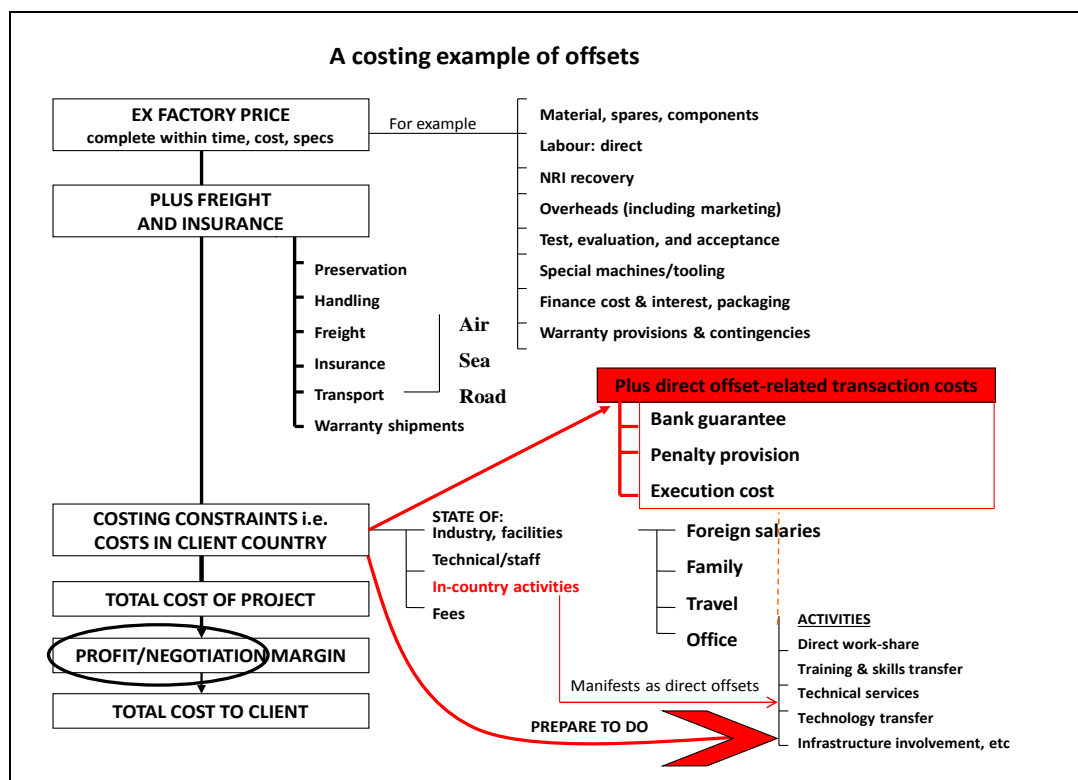


Figure 21: A costing example of countertrade (Source: author)

5.11 Summary

The general view extrapolated on in this chapter points to an expected growth in the value of offsets. Rogan (2013),⁴¹⁴ for example, states that the Gulf Cooperation Council (GCC)⁴¹⁵ is the fastest growing market for offsets in the world. He estimates that by 2020, offsets obligation will be between USD 100 billion and USD 150 billion based on existing and projected procurements. Nations like the UAE, Saudi Arabia, Kuwait and Oman, which have offsets programmes, will see the numbers grow at an exponential rate over the next four years (*ibid*). Kimla (2013) concurs that offsets are bound to increase and that Saudi will become the most prominent offsets market, valued at USD 63 billion by 2021. South Africa is predicted to remain in the top twenty of the offsets market (*ibid*).

Two other countries with substantial offsets aspirations are China and India. By 2025 these two countries are predicted to have the world's second and fourth largest economies (*cf.* Drezner, 2007). Defence spending shows a steady increase since 2009 with four of the five fastest-growing defence markets in the Middle East. It is furthermore estimated that by 2015, the combined defence budgets of Russia and China will exceed that of the EU.⁴¹⁶

In conclusion, offsets (in whatever form) are here to stay and will grow exponentially in the years to come (GOCA, 2014).⁴¹⁷ Rules for enforcement are becoming stricter and transactions more complex in nature. Despite the WTO's ruling on offsets, they will increasingly become a factor when choosing equipment, not only in defence but in relation to certain high value civil products as well (Brazil is already preparing for this,⁴¹⁸ and Malaysia is busy reviewing its offsets policies (Matthews and Yip, 2013)). However, offsets need to be incorporated into countries' industrial policies and this requires much closer cooperation between government and industry: it requires sharing of information to ensure that each side understands the exact needs of the

⁴¹⁴Interviewed by Chuter from Defence News - 18 November 2013 - *cf.* <<http://www.defensenews.com/article/20131118>>

⁴¹⁵The GCC consists of Saudi, Kuwait, Bahrain, Qatar, the UAE, Oman: founded on 26 May 1981, its aim is to promote collaborative coordination between these states in all fields to achieve unity – *cf.* <<http://www.sheikhmohammed.co.ae/....>>

⁴¹⁶*cf.* <<http://www.bloomberg.com/news/2014-02-03/global-defense-spending-to-grow-after-years-of-decline.html?>>Feb. 4, 2014.

⁴¹⁷The GOCA Conference held in April 2014 in Barcelona was attended by 350 delegates from around 36 countries. CTO, April 14 and 28, 2014

⁴¹⁸CTO, April 28, 2014

other (Haines, 2012; UNCTAD 2013).⁴¹⁹ Contracting defence markets already saw increased competition between sellers (*cf.* Brück, 2013; Herb, 2014), which inevitably increases the buyer country's potential to leverage more demanding offsets.

Denhoff, *et al.* from McKinsey⁴²⁰ (2014) state that offsets are a critical enabler for success in international markets for several reasons. At the top of the list is the fact that customers take them very seriously; governments count on the local investments that offsets generate to justify the capital expenditures required for their defence upgrades and to correct imbalances in foreign trade. The authors find that governments sometimes give offsets packages equal or greater weight than procurement costs when evaluating competing bids. Furthermore, offsets can help Western companies tap into markets that would otherwise be difficult to access. Through offsets, relationships with local partners are part of the table stakes in major military-procurement competitions. Therefore it is common for contractors to propose offsets agreements aimed at developing industrial relationships through joint production or development.

Finally, in the case of South Africa, the 2014 Defence Review (DOD, 2014) articulated the non-alignment between GDP allocation for defence and what the SANDF actually requires. It has been noted that GDP needs to increase to around 2,4 per cent, or higher to address this non-alignment. However, this cannot happen overnight, an aspect that is discussed in more detail in chapter seven.

⁴¹⁹ UNCTAD. 2013. *Trade and Development Report. United Nations* – *cf.* http://unctad.org/en/PublicationsLibrary/tdr2013_en.pdf

⁴²⁰ McKinsey & Company - a global management consultancy, USA

CHAPTER SIX: THE ROLE OF TECHNOLOGY TRANSFERS IN DEVELOPMENT AND COUNTERTRADE

6.1 Introduction

In the preceding chapters, the various elements of countertrade and its increasing magnitude were explained in relation to global defence spending. It remains evident that technology plays a prominent role in the process, particularly with regard to the developmental expectations of a buyer country using the leverage of government procurement to extract such benefits from foreign sellers.

The concept of 'technology' is generic and deals with knowledge of and about things (*cf.* Smith, 2006). It means different things to different people and is also defined differently by different people (Prahlada and Kumar, 2009). Since technologies are dual natured, no one can any longer clearly distinguish between defence and civil technology.

Chapter five provided information on the international control measures put into place to limit and control technologies that could be applied in any manner that poses a threat to international safety and security. Owing to the complex nature and magnitude of the impact of such controls on various countries' expectations in receiving certain technologies, this study did not endeavour to cover this subject in any depth.

Technology can relate to any number of actions and activities associated with manufacturing, including those whose aim is to timeously establish or improve the manufacturing process, techniques, or equipment required to support current and projected programmes.

Technology also provides a means to assure the availability to produce, reduce lead times and cost, ensure the economic availability of end items, increase efficiencies, improve reliabilities and enhance safety and anti-pollution measures (Hough, *et al.*, 2007). Prahlada and Kumar (2009) remark that technology includes all infrastructures

necessary for designing, manufacturing and repairing technological artefacts; the engineering know-how, manufacturing expertise and various technical skills.

The technology process facilitates establishing indigenous capabilities to maintain, service, upgrade or refurbish equipment bought, particularly equipment related to a country's industrial and/or security needs. In 1995, Coetzer pointed out that an inherent element of countertrade is technology transfer. Almost twenty years later, this is confirmed by the latest US Department of Commerce's 18th report on offsets that points to the fact that technology is one of the three most prominent forms of offsets (US, 2013).

Through offsets, developing countries aspire to improve not only access to Western markets, but also to other countries' industrial know-how.⁴²¹ Defence offsets are one means of extracting technologies that are otherwise difficult to obtain (*cf.* Prahlada and Kumar, 2009).

6.2 Elements of Technology Transfer

The various elements of technology transfer, whether data and information transfer, or training and skills development in different vocations and at different vocational levels, is depicted in the following flow diagramme (Figure 22 below).

The flow process identifies the various elements of specifically offsets related technology and also encapsulates the process of contracts and controls, noting intellectual property rights (IPRs) and possible restrictions on their use.

This depiction is based on the DIP case study. The various technology domains from defence, to dual use, to civil, to 'credits' are also shown:

⁴²¹ This is a key objective of BRICS as well (Brazil, Russia, India, China and South Africa)

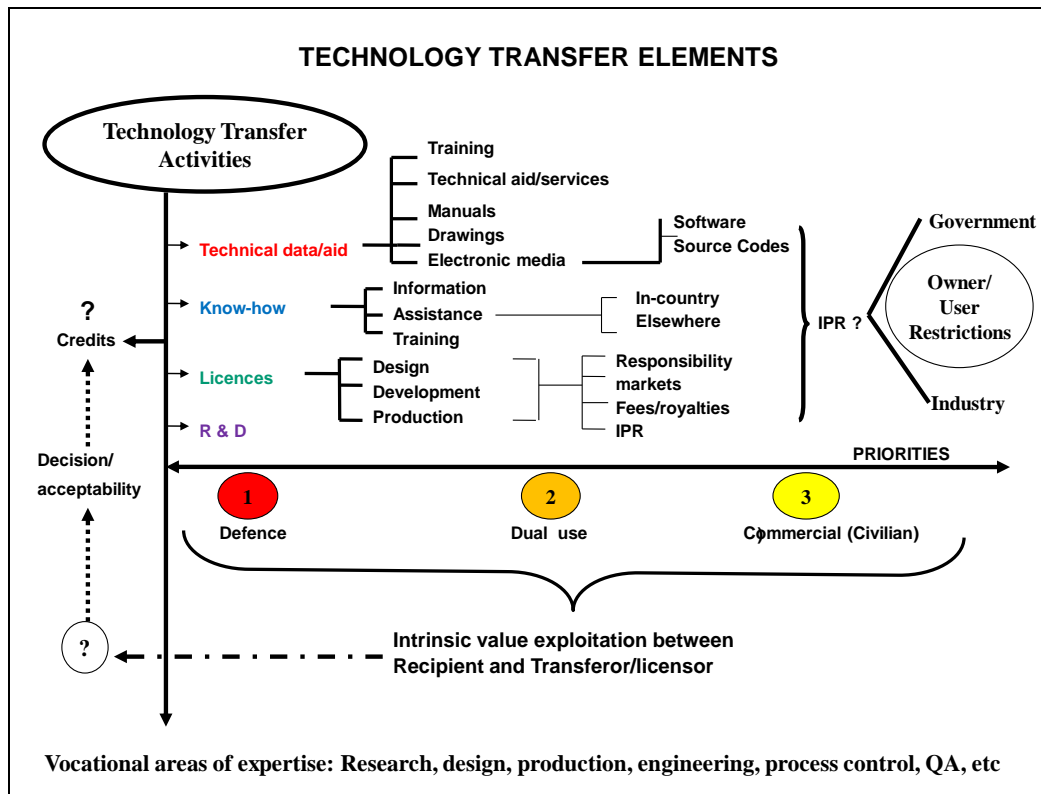


Figure 22: Technology transfer elements (Source: author)⁴²²

In the 1998 'Countertrade and Offsets Lexicon' (Horwitz, 1998:76-77), the following explanation related to countertrade technologies specifically, is offered:

- The transfer of countertrade technologies is the movement of modern or scientific methods of production or distribution from one enterprise, institution or country to another (cf. Kiper, 2012). These transfers occur through foreign investment, international trade, licensing of patent and production rights and technical assistance or training.
- In a countertrade context these transfers are a direct result of an offsets agreement through which agreed R&D is conducted involving various types and levels of technology associated with equipment bought. This may include technical assistance to a subsidiary or a JV partner. Other activities may be agreed to under a separate commercial arrangement between a manufacturer (the obligor) and a foreign entity (the beneficiary).

⁴²² I used Figure 22 extensively when at Armscor and Denel and as a consultant to explain elements of DIP technology to potential sellers

It is my experience that technology transfer in direct DIP can lead to secondary results. For example, the Gripen aircraft design technologies Denel received from Saab, Sweden, at a later stage put them in a position to do critical engineering design work on the Airbus A400M programme (discussed in a more detail in chapter 10).

As stated earlier, according to the 18th Report on Offsets issued by the US Department of Commerce (US, 2013b:5), technology transfer is one of three primary offsets transactions recorded over the past twenty years. However, the report also notes that cutting edge technologies are less likely to be transferred to foreign companies as part of fulfilment of an offsets obligation. O'Donnel (2010) finds that defence markets across the Atlantic are denied certain US technologies as a result of transfer restrictions and burdensome export controls, including transactions with the UK, one of the US' biggest allies. According to O'Donnel (*ibid*), there will forever remain a technology deficit between the EU and the US. The US government's restrictive attitude led to BAE Systems, UK⁴²³ and Finmeccanika⁴²⁴ from Italy investing in US defence companies, since both probably realised this would be their only means of accessing the US market.⁴²⁵ This move was also a result of the restrictions imposed by 'Buy American'. However, if it was not for the presence of BAE Systems in the US, the former South African defence company initially known as OMC (later owned by BAE Land Systems)⁴²⁶ would not have been able to sell its products directly to the US military.

6.3 Technology Transfer Needs and Trends

Similar to development, technology brings about change. Smith (2006:44) describes technology as human activity devoted to the production of technics, or technical related intellectual products – '*...and whose root function is to expand the realm of practical possibility...*' (cf. Prahlada and Kumar, 2009).

Therefore, technology makes it possible to expand people's skills through a process of dedicated training. Most technological progress occurs in industrialised countries

⁴²³ According to SIPRI, 2013 BAE Systems is now the 5th largest exporter of defence equipment

⁴²⁴ According to SIPRI, 2013 Finmeccanika is now the 7th largest exporter of defence equipment

⁴²⁵ BAE Systems employs 37 300 people in the US vs 34 800 in the UK – cf. < http://www.baesystems.com/our-company-rzz/about-us/where-we-operate?_ >

⁴²⁶ Now sold to Denel – as covered in chapter seven

with the result that those countries' enterprises (MNEs) have a greater market share in trade and investment in the world's manufacturing sector (Hough, *et al.*, 2007; Kiper, 2012). The role of MNEs in development was discussed in chapter two. Prahlada and Kumar (2009) state that technology is power and those who control technology control the world. Western countries fully understand the power of technology, hence the numerous arms and non-proliferation controls instituted (covered in chapter 5).

In the previous section reference was made to the fact that US experience indicates that technology transfers are among the top three offsets transactional activities. If one considers the list of 29 countries that are among the top 50 arms recipients, there appears to be anecdotal evidence that their respective offsets programmes are making a contribution to their industrial growth; this provides some evidence that their respective industries and skills bases are able to assimilate technology transfer and put it to productive use (i.e. the sustainability argument of offsets discussed in previous chapters). There are however, exceptions to the rule (e.g. Malaysia) as discussed earlier.

One has to realise that there will always be limitations regarding the sustainability of technologies that have been transferred, whether purely for developmental purposes, or for specific defence needs through offsets. Based on the observations of, for example, Hermosill and Martinez (2003:8), technology transfers face challenges related to the availability of financial resources, the degree of skills and training of the workforce, import regulations, the quality and quantity of local suppliers of inputs, the delivery times of these inputs, basic infrastructure, working conditions, cultural attitudes, possible market failures, economies of scale, learning-by-doing and learning-by-using, network externalities, absorptive and adaptive prospects. The authors also refer to what they call 'technology lock-in' that restricts its expanded and alternative productive use (*ibid*).

Technological advances result in new multi-dimensional multi-layered inventions and creations across many spheres of life. Of note is the sheer speed at which this happens. Dervis (2005:7-8), for example, observes that the speed of knowledge and technology diffusion is enhanced through investment in human capital that

contributes to the rapid growth of potential output worldwide – further accelerated through ICT technologies.

For example, in 2008, BMW,⁴²⁷ one of the world's most technologically advanced vehicle manufacturers, expressed the opinion that whereas technology in the 1960s was primarily driven by space exploration, today it is driven by technological advances in the automotive industry in the fields of materials, electronics and chemicals. Other technology finds its way into military equipment applications. Dunne and Haines (2002:6) refer to this as the 'spin-in' effect of technology. Technological innovation increases knowledge, improves skills and often leads to new discoveries that extend people's ability to perform a given task (Hough, *et al.*, 2007). For example, Smith⁴²⁸ (2006) explored numerous technological innovation case studies that encompass a basic do-it-yourself work bench to the application of carbon fibre.⁴²⁹ Through these case studies he demonstrates how innovation manifests in practical terms.

The transfer of technology has become fundamental to the system of countertrade and offsets in many countries, more so when a country wants to develop its industrial capabilities further (*cf.* Matthews and Yip, 2013). Activities may include the transfer of patents, licenses, industrial processes, machinery and equipment that are unavailable in the importing country.⁴³⁰ Jovovic (2013) notes that this growing pool of activities poses a development windfall for countries, their respective industries and their global defence partners.

Jovovic⁴³¹ (2013:1) adds that global offsets are becoming an integral part of international collaborative structures (discussed in chapter 4). Technologies that are received as part of offsets are meant to eventually diffuse throughout the economy, stimulating economic growth, and could very well have an application in non-offsets-related programmes (*cf.* Dumon, 2012). Jovovic (2013:2) predicts that the top three offsets markets for the foreseeable future will be Saudi Arabia, the UAE and India, collectively making up 60 per cent of the defence offsets market. Jovovic's

⁴²⁷ *cf.* <<http://www.BMW.com.au>> - intro web page as at 25 Jan '08

⁴²⁸ Prof David Smith, Research Director at Nottingham Business School, Nottingham Trent University, UK

⁴²⁹ *cf.* Smith, 2006 pages 13, 34, 55, 79, 97, 124, 146, 174, 198, 221, 246, 265, 282 and 300 – various case studies

⁴³⁰ *cf.* <<http://www.defensenews.com/article/20121027/DEFREG02/310270002/Are-Offsets-Becoming-Unaffordable->>>

⁴³¹ *cf.* <http://www.avascent.com/wp-content/uploads/2013/11/Avascent-Inegma_Global-Offsets-4-page-slick-sheet_12.13.pdf>

predictions are in line with Avascent's 2014 analysis (discussed in chapter 5). He adds that in the context of technology the aforementioned three countries are characterised by their strong interest in high-technology solutions that could support major defence re-capitalisation and modernisation programmes. However, he cautions that this will require OEMs to devise much more innovative offsets solutions. As discussed in chapter five, offsets in Saudi have not been particularly successful.

6.4 Technologies Sought Through Leveraged Procurement

Van der Gaast and Begg (2012:33) view technology transfer as a 'powerful' solution to the development challenge. However, they qualify their statement by pointing out that technology transfer includes transfer of hardware and also of best practices and information, and improves human skills, particularly those of specialized professionals and engineers.

Acquiring and absorbing foreign technologies and developing them further are complex processes that demand considerable knowledge and experience on the part of those acquiring them (*ibid*:34). Van der Gaast and Begg propose that a per sector technology needs analysis should be conducted - this inevitably may differ from country to country in terms of their sector priority considerations. This proposition is further supported by the offsets related technology requirement analysis in the comparative table (Table 8 below) that contains an abbreviated summary of each geographic region⁴³² and provides a concise overview of the types of technologies the various countries seek through their respective offsets programmes. This summary is not intended to be a detailed analysis or critical reflection on the validity of each country's needs, but rather focuses on providing further insights into the crucial role that technology plays internationally.

⁴³²CTO, QB 2009, 2011, 2012 – the content which the CTO Editor confirmed is still relevant

Table 8: The country technology requirement summary per geographic region	
a. Central and West Europe, Canada and Israel	
Austria	- The focus is on sustainable business, whether for the civil or military sector, with high diversification spread over key industries, such as life sciences, environmental technologies, military technology, civil engineering, plastics. High-technology projects and R&D activities are prioritised. Austria does not specify the meaning of 'high technology'. The science and technology team at the Ministry of Public Economy devised a multiplier model. The capital employed, the size of the company chosen for the project, the location of the project and the probable outcome are considered before a multiplier is awarded. The calculation is complicated. The most likely areas to qualify are R&D, education and internships, and direct investments.
Belgium	- Purchases made by the obligor, or its agents from a Belgian company, must conform to the condition of additionality with the focus on the use of new technologies, especially those of a highly technological nature. The Belgian authorities also insist that the technological level of semi-direct offsets be at least equivalent to or higher than that of direct participation. Belgium will not accept the value of the technology transfer as an industrial benefit for crediting purposes, only the business that results from it. Agreement on whether an activity will qualify under this condition will be reached as a result of negotiation between the parties. It is reported that it is advisable to negotiate the multiplier options at the beginning of the negotiation proceedings.
Greece	- Different offsets multipliers are applied by the MOD for each transaction. These are predetermined and not negotiable. The relationship the contractor has with a Greek company will determine the multiplier. A sole source relationship, for instance, will have a multiplier of 10; for licensed production it is 6 and without a license it is 2.
Italy	- does not generally award multipliers, but it is reported to have agreed in exceptional circumstances to grant multipliers where there are high levels of technology transfer. Multipliers depend on the kind of technology on offer, its value and most significantly whether it is already in use in Italy.
Canada	- Access to foreign technology and markets is important to the success of the Canadian aerospace and defence industry for long-term growth from coast to coast. One of the seven key objectives of this anticipated growth process is referred to as 'technology development and commercialisation'. Multipliers will be awarded for cash contributions to Canadian universities, help in commercialising university research or establishing university chairs. Financial contributions to venture capital funds specialising in small businesses may also receive multipliers.
Israel	- In addition to direct R&D grants for industry, Israel emphasises regional job creation. It encourages international cooperation in industrial R&D technological

Table 8: The country technology requirement summary per geographic region

entrepreneurship and the development of future technologies by increasing academic and industrial interaction and cooperation. Multipliers are used to encourage buy-back programmes involving industries in Galilee, Haifa and the Negev, areas targeted for employment and regeneration. In Israel, for example, the Industrial Co-operation Agency (ICA) states that the Office of the Chief Scientist (OCS) of the Ministry of Industry, Trade and Labour is responsible for implementing government policy regarding support and encouragement of industrial R&D. The role of the OCS is to assist in developing new technologies in Israel to foster the Israeli economy, encourage technological entrepreneurship, leverage Israel's science-skilled resources, support high added value R&D, enhance the knowledge base of Israeli hi-tech industries and promote cooperation in R&D both nationally and internationally.

Netherlands - The general objective of the offsets policy is to contribute to the industrial base of the Netherlands through technological advancement, thus broadening the country's technological capabilities, improving its quality level, expanding its markets and enhancing employment. In terms of activities concerning industrial enterprises and R&D institutes, offsets can support both the military and civil sectors. However, the first objective is the involvement of defence-related industries and R&D institutes in the development and production of defence equipment, technology cooperation and related services. Foreign suppliers are asked to fulfil 10% of the offsets obligation through activities in these fields. Multipliers may be awarded at the discretion of the authorities and pre-approval is mandatory in all cases. Multipliers can be awarded for involvement of the domestic defence industry early in the development phase and by selecting Dutch defence industries as single-source or preferred suppliers for particular assemblies or sub-assemblies. A higher multiplier can be awarded for defence-related R&D programmes with Dutch knowledge institutes. The multiplier will depend upon the uniqueness and attractiveness of the technology.

Poland - The offsets are intended to ensure participation of foreign suppliers in restructuring and developing the Polish economy, in particular the defence industry, opening of new export markets, technology transfer, R&D, developing Polish institutions of higher education and R&D facilities, and employment creation, especially in regions with high unemployment. The largest multipliers apply to specific cases justified by the interests of the economy or for security and defence of the state. These areas are defined in accordance with the Polish National Development Strategy for 2007-2015 and the Polish Defence Industry Consolidation and Support Programme Projects for 2006-2010.

Portugal - Portuguese authorities have to date agreed on credits on a project-by-project basis. A value is allocated to projects for each category of 'investment area' according to its level of sustainability and its impact on Portugal's economy. Direct investment, technology transfer and the creation of qualified jobs are all factors

Table 8: The country technology requirement summary per geographic region	
	reportedly taken into account. Aspects such as the level of technology transfer and the degree of innovation, the industrial use of the technology, the level of investment, the number of jobs created, the impact on and the contribution to innovation of manufacturing processes, the enhancement of exports and the lifetime support of the equipment are all part of credit considerations.
Spain	- The Spanish programme places emphasises R&D as a means to build national capabilities. Import substitution is an important objective. Spain wants to acquire technologies that correspond to the needs of the armed forces. Offsets are used strongly as a marketing tool and to secure contracts for domestic industry. Dual-use solutions are acceptable, particularly in high-technology sectors. Multipliers are explicitly not allowed. However, evaluation procedures allow the MOD to award credits for projects at higher than normal market value.
Switzerland	- The country's countertrade objective is primarily aimed at opening or enhancing collaborative ventures with foreign markets for Swiss industry and achieving in-country expertise through technology transfer. In particular, offsets transactions should lead to the acquisition of additional expertise and consequently to additional contracts and export value. Restricted multipliers awarded in the preferred areas are for goods that fall into the following categories of metal goods: forging and ammunition, machinery and mechanical, electronic and electromechanical, optical, watch-making, vehicle, truck and railway, rubber and plastic, chemical, aircraft and aerospace.
United Kingdom	- Industrial participation credits are considered where technology is transferred to a UK company and no multipliers apply. Where technology is transferred to fulfil direct industrial participation work, only the value of the work resulting from the technology transfer is considered for industrial participation credit. Technology transfer is considered for indirect industrial participation, provided that the recipient UK company enjoys free user and intellectual property rights. All technology transfers must be made free of charge to the UK company to be considered for industrial participation credit. With regard to R&D contracts, consideration for industrial participation credit will depend on the extent to which the UK defence contractor is able to use the intellectual property rights derived from the research for its own purposes.
b. Eastern Europe	
Bulgaria	- Multipliers for both direct and indirect offsets may be awarded in exceptional circumstances. Investments in high-technological manufacturing and priority knowledge-intensive services take precedence. The authorities also analyse the manufacturing technological and services knowledge intensity (according to the

Table 8: The country technology requirement summary per geographic region
classification of Eurostat ⁴³³), primarily in the areas of computer technologies R&D.
Croatia - The key focus is on developing the domestic industry by applying state-of-the-art technology, transferring new technologies and organising work and cooperation in R&D.
Czech Republic - One of the key objectives of the Czech Republic's countertrade programme is the transfer of technology and expertise, and support for R&D. Multipliers are not awarded, although the Ministry of Trade and Industry is authorised to make exceptions.
Estonia - Multipliers will be awarded for R&D, for export of strategic goods, for high-tech goods or services and for all other industries - machinery, apparatus, chemicals, wood products (counter-purchase). The export of some products may receive a 'negative multiplier'.
Hungary - A principal objective is progressive development of a knowledge-based economy. Priorities include technology development, innovation, R&D, settlement of competence centres, regional logistics and service centres and the aerospace sector. Hungary will accept as offsets performance all activities (including transfer of technology and expertise, granting of investment goods, investments in intangible assets, etc.) that enable it to reach the main objectives of the country's 'National Development Plan'. Other priorities include developing human resources and infrastructure and improving economic competitiveness. Multipliers will be considered on a project-based fulfilment of direct offsets if the activity is related to a specific project requirement. Obligors may fulfil commitments on the basis of the indicative lists if they wish. Hungary uses four lists of priority areas.
Lithuania - The compensation fields given priority are manufacturing of arms, ammunition and other military purpose goods, and of double-purpose goods in Lithuania; development of state-of-the-art technologies (lasers, biotechnology, information technology, radio electronics, manufacturing of medical equipment) and cooperation in R&D projects. The Ministry of Economy will consider the transfer of technology and expertise for credit purposes, negotiated and evaluated on a case-by-case basis. The relevance for compensation of such a transfer will depend on the extent to which Lithuanian enterprises are able to exploit the technology derived from the transfer. Technology transfer will only be credited when ownership is transferred to the Lithuanian entity and will be assessed according to its market value or as a proportion of the demonstrated investment in the technology.

⁴³³ Eurostat was established in 1953 to meet the requirements of the Coal and Steel Community. Over the years its task has broadened and when the European Community was founded in 1958, it became a Directorate-General (DG) of the European Commission. Eurostat's key role is to supply statistics to other DGs and data to the Commission and other European Institutions so they can define, implement and analyse community policies. Eurostat is the statistical office of the EU situated in Luxembourg. Its task is to provide the EU with a variety of statistics that enable trade and other developmental comparisons between countries and regions - cf. http://epp.eurostat.ec.europa.eu/portal/page/portal/about_eurostat/introduction

Table 8: The country technology requirement summary per geographic region

Romania - The key objective of the Romanian programme is retaining jobs in the defence industry and improving Romanian defence capacities. Romarm is a state-owned holding company comprising 15 firms and a research institute. Technology transfer, mostly for military application and the export of Romanian products with long-term defence infrastructure development, is required. On the indirect side, Romania has an interest in ecology. Other priority sectors include shipbuilding and automotive. A varied range of multipliers are awarded in Categories A, Band C, which covers matters of particular interest to the national economy in both the direct and indirect sectors.

Slovakia - The offsets policy is designed to encourage foreign investment and the importation of advanced technologies. It is also meant to encourage direct participation in the production of supplies or sub-supplies related to procurement, to support domestic businesses by helping them to enter new export markets and to create incentives for foreign direct investments and the transfer of advanced technology. Multipliers are reported to be awarded in accordance with their relative importance and the level of revenue they earn.

Slovenia - The offsets guidelines allow for a flexible approach and recommend that in general multipliers should be awarded. FDIs in the defence industry will earn most.

Turkey - The Defence Under-Secretary (known as the 'SSM') has established three categories for industrial participation or offsets in the defence sector. Category A covers local content in the form of work given to Turkish industry within the scope of the procurement agreement, Category B covers defence and aerospace exports of various goods and services and Category C is specifically aimed at technological cooperation, investment, R&D in defence and aerospace and high-tech and/or other fields requiring high-tech, technological cooperation, new and/or expanded investment and R&D activities. A range of multipliers are awarded mainly for incremental export activities and technical cooperation.

c. The NORDIC countries

Denmark - The technological level of any project proposed in an industrial cooperation contract must be at least on the same level as the defence equipment purchased. The authorities will consider transfer of technology for credit purposes. Credits are negotiated and evaluated on a case-by-case basis. The amount of credit will depend on the extent to which the Danish company is able to exploit the technology derived from the transfer. Technology transfer will only be credited where a transfer is at no charge to the Danish company. Credit will be given as a proportion of the demonstrated investment in the technology. The objective of using

Table 8: The country technology requirement summary per geographic region

multipliers is to encourage business transactions, which substantially upgrade the technological level of Danish companies and enhance their opportunities to grow. Multipliers may be included in satisfying any portion of the industrial cooperation contract.

Finland - A 'technology council' has been established to recommend new priority areas. There may be specific cases concerning transfer of technology or marketing projects when the committee will accept that a fixed part of the project costs can be borne by the Finnish partner. The objectives of the programme are to focus on direct participation and maintenance. It endeavours to provide life-cycle support to industry, increase the domestic share of defence procurements, transfer overhauls, repair capacities to domestic industry and reach indirect defence-related solutions that promote exports, including sophisticated technology transfer, assembly, testing, and parts manufacture. Furthermore, it focuses on promoting industrial 'internationalisation' and improving exports for SMEs, technology transfer for the civil sector to facilitate the development of industry with new processes, and cooperation and commercial links with Finnish industries. Sophisticated technology transfer is rewarded. Because evaluation is difficult, a fixed value will be established beforehand equivalent to having a multiplier. 'Bonus multipliers' are awarded for defence projects involving SMEs. Obligors are entitled to combine multipliers when a project qualifies for the above and for an SME, and the smaller the SME the higher the multiplier will be.

Norway - The key objectives of the Norwegian countertrade programme involve information and communication technology, system integration and architecture, missile technology and autonomous weapon and sensor systems, underwater technology and sensors, simulation technology, weapon and missile propulsion technology, ammunition and military explosives and material technology, and medical and maritime technology. The level of technology must equivalent to or higher than the level of technology employed in the product supplied to the defence forces.

Sweden - Some of the technology areas listed in Sweden's offsets guidelines emphasise very advanced defence applications, such as anti-ballistic defences. Many of the technologies are relevant for net-centric defences (such as sensors), an area of development that is likely to become increasingly important worldwide. Others are electronic warfare technology, advanced signature control, aerospace technology, command, communication and control, information technology (information warfare), man-machine interaction, under-water technology, weapon technology and ballistic protection, unmanned vehicles technology, for example UAVs, modelling and simulation, signature adaptation or camouflage and the use of the government's test facilities. Multipliers are valid for no more than 10% of a contract's value. This means that the concept of multipliers is not favoured and as a rule will not be applied. They may, however, be awarded for indirect R&D projects (for the defence

Table 8: The country technology requirement summary per geographic region	
sector), and the authorities are open to persuasion. For example, the following would qualify - electronic warfare technology or unmanned vehicle technology, aerospace and underwater technology.	
d. South America	
Brazil - In general terms, Brazil's primary goal is to develop and sustain the defence industry and increase self-sufficiency and capacity in all areas of technology, but primarily in the aerospace sector. The Ministry of Defence's offsets policy does not mention multipliers, but reportedly they can be negotiated.	
Chile - seeks activities that fall into traditional categories, such as co-production, technology transfer, production licenses and new export markets for Chilean products. Access to new markets is probably the most important requirement, in particular, for information and communication technology, biotechnology in the fruit and forestry industries, the development of a wine and aquiculture industry, defence electronics and metal mechanics for the mining and defence sectors. Multipliers are awarded to stimulate priority activities and regional development. They are divided into two categories: multipliers of persistence, which are used to value the delivery of contributions (one of the most important factors is the contribution to the commercialisation of the beneficiary), and multipliers of performance, which place the emphasis on results. These cover technology transfer, licensed production or a patent delivered free of charge. Multipliers are awarded to stimulate priority activities and regional development.	
Colombia - has identified certain sectors such as aeronautical, naval, automotive, energy-related, and IT as key areas for development. Others are naval shipyards and science technology with regard to ship design, construction, repair and maintenance. Multipliers, both positive and negative, will reportedly be arrived at by mutual agreement between the parties. Negative multipliers are used to discourage obligors from choosing unattractive projects or making purchases that achieve no additionality or market penetration.	
e. Australasia, Near/Far East and South Africa	
Australia - Suppliers of foreign-sourced technology are expected to certify that their products can be supported domestically by transferring intellectual property and establishing a strong local presence. In collaborative projects involving Australia and another country, there may be restrictions on the handling of intellectual property that limit its disclosure to third countries. In such cases, New Zealand industry involvement in the project will be subject to observance of all the applicable government-to-government protocols.	

Table 8: The country technology requirement summary per geographic region

Brunei - Partnerships will be sought for the repair and maintenance of vehicles and small vessels, the movement and storage of bulk cargoes, communications and information technology skills, and the provision of other basic services of value to the Royal Brunei Armed Forces (RBAF). Investment in science and technology, including R&D, is crucial to the future capability of the RBAF. The telecommunications sector is also in need of improvement. There will be multipliers recognising everything from local content to technology transfer and training, with incentives for national manpower. Full particulars were not yet available at the time of writing this thesis.

India - Whenever technology transfer proposals are asked for, a technical oversight committee will be set up. Activities such as co-development, co-production, JV and perhaps technology for maintenance and upgrades are considered. The primary goal will be to encourage foreign and Indian firms to establish long-term relationships. India has limited access to global markets and intends to address this situation by opening avenues for the Indian defence industry to forge global partnerships. When technology transfer is asked for, the MOD will require licensed production for the relevant defence sector. It should cover all aspects of design, manufacturing expertise and detailed technical information that will enable the production agency to manufacture, assemble, integrate, test, install and commission, use, repair, overhaul, support and maintain the license product from component level upwards. The vendor should submit an undertaking that it will provide and support complete technology transfer for phased manufacture to the buyer or his authorised Indian organisation for the system and its sub-systems, modules, assemblies and detailed parts or components. Support will be provided for a minimum period of 20 years after the last unit is produced under the present proposal. Multipliers are not awarded at present.

Korea (South) - Government agencies evaluating the proposed transfer of technology may take into account comments made by Korean private business entities and other relevant service and government agencies. They will also complete a detailed technology evaluation report, including the technology level analysis, and submit this to the Defence Acquisition and Procurement Department of the Department of Defence, which will rate the value of technology based on the level of advancement and importance and the monetary value of the technology and then decide on the award of multipliers in five categories, according to necessity.

Malaysia - The Malaysian Ministry of Defence (Mindef) is one of six ministries that will be implementing countertrade and offsets to benefit and enhance Malaysia's economy. These are the Ministries of Defence, Home Affairs, Works, Transport, Education and Health. All agencies will work closely with the Malaysian Industry Government Group for High Technology (MIGHT) and with the Ministry of Finance, but the lead agency is Mindef.

Table 8: The country technology requirement summary per geographic region

Mindef's focus is on training for the armed forces and second-line maintenance for defence industries. When the technology is transferred to perform work in relation to the equipment procured, only the value of the work resulting from the transfer will be considered for credit. Technology transfer will be considered for other works only if the Malaysian beneficiary enjoys free user and intellectual property rights. Collaboration will be encouraged in R&D projects and human resource development initiatives that contribute to employment creation and the development of local expertise and capacity. Multipliers will only be considered in exceptional circumstances, such as when the project leads to high-end technology or maximisation of FDI.

South Africa - The South African DIP and NIP programmes do not specifically list any preferential areas of technology transfer, although in the DOD's technology planning and management domain details are available of key technology building blocks required for keeping a defence industrial base that can support the equipment of the SANDF. This is now categorically stated in the 2014 Defence Review. However, this does not mean that there are no specific requirements, but these take time and effort to discover and analyse. The complexity lies in the various levels and sectors covering the cross-domains (e.g. dual-use) of DIP and NIP). The DIP policy mentions the like-for-like technology transfers and a comprehensive evaluation process and procedure have been devised.

Although Armscor does not give multiplier credits, in practice it allows the transferor of technology to attach its own set of multipliers to the technology value it wants to claim as technology transfer defence industrial participation (TDIP) credits, as long as it can be properly motivated and substantiated by value-add considerations and arguments.

The DTI (NIP process) gives preference to manufacturing, downstream and exports, although tourism and training were added lately. The DTI process encompasses an inherent multiplier model (which was excluded from the SDP NIP process in order to extract a larger economic benefit), not only linked to the issue of technology transfer. The published range of multipliers is between 1 and 2, but with some creative accounting and project analysis, a very sizable NIP multiplier can be reached. The DTI, for example, in support of the nuclear industry, has approved a training programme with a multiplier of 10.⁴³⁴ I am also aware of certain programmes that

⁴³⁴This fact is nowhere published and became known to me during my term of office with Denel

Table 8: The country technology requirement summary per geographic region

attracted multipliers of 25, although the DTI reported⁴³⁵ that multipliers of close to 67% were granted. The issue of multipliers given by the DTI to SDP NIP obligors was interrogated by the Arms Procurement Commission of Inquiry in 2014. This is covered in section 10.6.3.

f. The Middle East

Kuwait - The Kuwait offsets programme is intended to use the Kuwaiti government's procurement programmes to initiate long-term business partnerships between foreign contractors and Kuwaiti private sector enterprises in both direct and indirect offsets projects and funds. Their key objectives include technology transfer, job creation for Kuwaiti professionals and the training of Kuwaitis. It is important to provide this in relation to the defence equipment purchased.

Forms of technology partnerships, such as the activities of technology transfer and technology partnership could occur in various forms of alliances, including the following:

- Creation of strategic alliances through sharing technological capabilities and particularly R&D-related investments.
- Blending of capital, technology, marketing and raw material resources to create win-win results for offsets obligors and Kuwaiti investors.
- Taking advantage of leading edge technological developments in a number of areas, for example information technology and information-intensive engineering and industrial production, to create offsets projects that specialise in technology for industrial use.
- Identifying forms of technological cooperation that is two-way beneficial and involves long-term mutual benefit to both Kuwaiti investors and international offsets obligors, benefits that go beyond the short-term financial success.

The Kuwaiti government has identified a wide range of technologies in which it would be interested, covering all the major vocational areas such as science, education, engineering, IT, the transport and communications environments, and bio-technology and nuclear technology. Multipliers are reported to be considered for direct offsets, which will mainly involve projects providing training and maintenance directly related to the supply contract, which will attract the highest multipliers. However, these do not have a major advantage over indirect offsets.

⁴³⁵DefenceWeb, 5 June 2012

Table 8: The country technology requirement summary per geographic region

Saudi Arabia - Saudi's objective is to take a new approach to the benefits it wants the country to receive through the mechanism of offsets. The emphasis has shifted from major projects to developing small and medium-sized downstream projects. The government will allow the development of such projects in the energy sector, but activities related to oil exploration and production are not accepted. Work in the educational and health sectors will qualify. As a general rule, offsets credits will be given on a dollar-for-dollar basis for new ventures, expanding existing ventures, or enhancing their capabilities. Investment in training, education, R&D and other non-revenue-achieving activities will qualify for higher multipliers. These should be mutually agreed in advance between the parties.

United Arab Emirates - The UAE offsets model is primarily based on structuring offsets projects in the form of JVs. Credits are only granted on the output principle, where credits will only be gained on the profits earned by an approved offsets project. No credits are granted for any input activities such as investment, infrastructure equipment, training or technology transfer. However, the UAE government expects more emphasis to be placed on developing local industry's manufacturing, and exports of manufactured goods to make them less dependent on oil and petrochemicals. Since late 2000 there is an enhanced endeavour to grow their defence industrial base (for example through Tawazun).

Note: All the EU members mentioned in the table above, having applied various forms of offsets/industrial participation, etc, are most likely to revise these practices as a result of the EC Directive that requires their members to ban the use of offsets. It is my view that they will most probably find other creative ways and means to still attract technology benefits from defence procurements outside the EU. Denmark is the seemingly the first to opt for the 'industrial cooperation' practice.

(Developed by the author, based on CTO, QB July 2012 – information used was confirmed in May 2014 by the Editor, L. Shanson to be still valid)

6.5 Armscor's Approach to Defence Industrial Participation Technology Transfers

6.5.1 General Introduction to South Africa's Defence Technology Environment

In 1996, the South African DOD established a revised technology analysis methodology (refer to Figure 23 below) that has since been used to complement the DOD's defence equipment acquisition process.

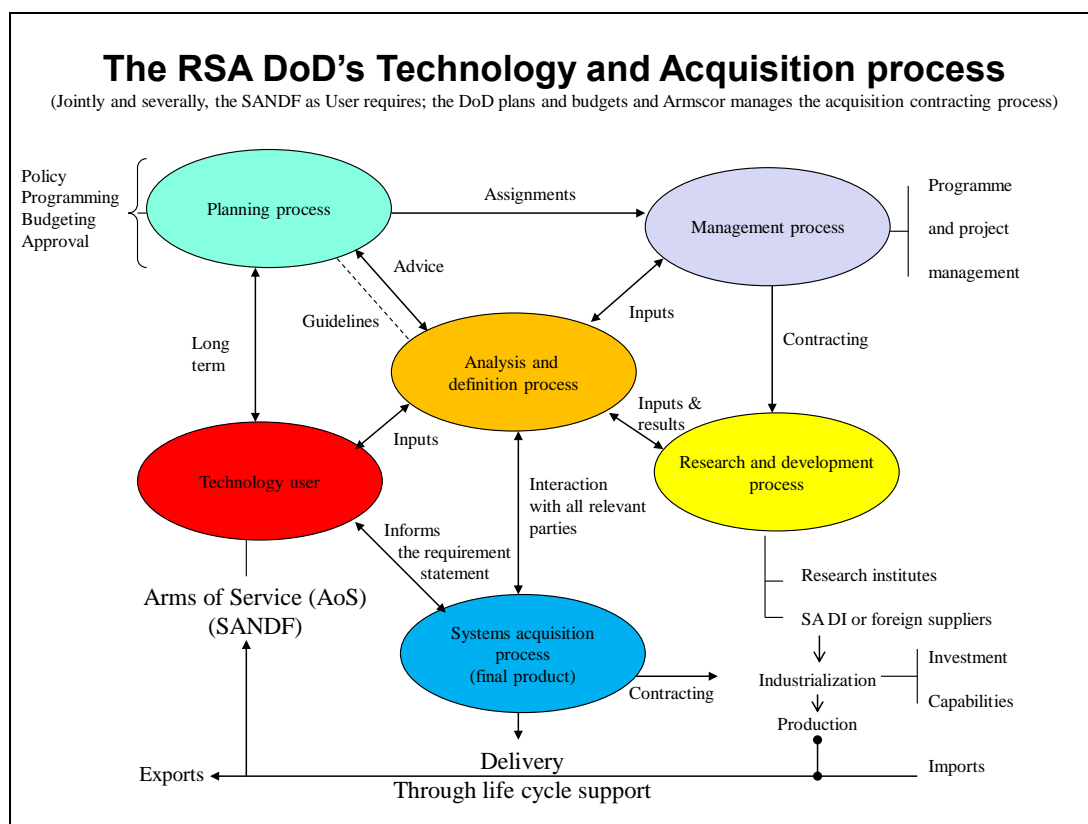


Figure 23: The RSA DOD's technology and acquisition process (Source: adapted by the author from VB1000)⁴³⁶

The DOD's acquisition process identifies technologies that may be needed in the future, taking various elements such as threat analysis, operational need and force structure into consideration. The technology is analysed by means of technology scanning; international trends are monitored and the DOD's ideas and views are

⁴³⁶ Armscor's VB 1000 of 20 April 1994, contains a comprehensive detailed explanation of the whole acquisition and procurement process governing the DOD's, and the SANDF's and Armscor's respective and collective roles and responsibilities. VB1000 is endorsed by a DOD instruction, referred to as 'Instruction No. ACQ/1/98 of 19 July 1997' (DOD, 1997)

benchmarked using research agencies such as the CSIR and Armscor's own Defence Institute.⁴³⁷

Through its acquisition process (*cf.* VB1000 - Armscor, 1994) the DOD, through Armscor (as the acquisition agency) endeavours to maintain a balance between technology, design and industrial development. Key issues that are considered include the technology development budget, the level to which identified technologies should be funded, the industries to be supported, ways of achieving higher productivity and lower costs where increased production is implied, and the extent to which national goals for job creation, particularly in the more skilled vocations (technical, engineering and scientific) should be supported.

In the ambit of the Armscor 1997 DIP policy (A-POL-6100 - *cf.* Appendix B) the transfer of technology was and remains (later A-POL-6000, 2002, 2012) one of the key objectives and thus forms one of the key elements of the DIP process (Armscor, 1997, 2002, 2012). This aspect is discussed in context in chapters nine and ten.

6.5.2 Lack of Assessment and Crediting Methodologies in 1999

Being in charge of the Armscor DIP function at the time, I came to realise that at that stage Armscor had no methodology for assessing the value of technology, or crediting it when transferred.⁴³⁸ When the extensive proposals for the South African government's SDP started coming in, no precedent existed in the field of technology transfer, nor methods to assess its intrinsic value. In my view this lack of a designated process and evaluation model for technology transfers was premised on the assumption that all technologies previously required by Armscor were actually specified in terms of main defence purchase contracts, which means that suppliers had costed them into their price, which was subsequently paid for as a contractual deliverable.⁴³⁹

⁴³⁷ Armscor Defence, Science and Technology Institute, consisting of IMT, Protechnik, Hazmat, DDSI, Ergonomics Technologies, Flamengo and Armour Development - *cf.* < http://www.armscordi.com/Business_Activities-01.asp >

⁴³⁸ Anecdotal evidence at the time pointed to the fact that Armscor was actually buying technologies as part of their clandestine acquisition practices prior to 1994, for example, the Aermacchi licence to locally produce the Impalas and the Eurocopter licence to produce a Puma derivative called Oryx, the FN licence from Belgium to produce the R1 derivative and the IMI Israel licence to produce the R4 derivative of the Galil – to name but a few

⁴³⁹ It must also be remembered that Armscor, up to the early 1990s, adopted various intricate clandestine modes of obtaining technologies with many products being re-engineered in very creative ways – known examples were the Coventry case in the UK in 1984 and the Daniel Storm case in Paris in 1989 (*cf.* < <http://en.wikipedia.org> >)

I subsequently (c. May 1999) initiated a workshop at Armscor intending to debate and discuss the principles and requirements of technology transfer. The various Armscor management structures responsible for defence technology, the DOD, the defence industry organisation (AMD), Andre Buys (earlier employed as Armscor's strategy manager, and later director at the Institute of Technology and Innovation at the University of Pretoria) and the CSIR were invited to attend. A number of senior officials from the UK Defence Evaluation and Research Agency (DERA) also participated.

Unfortunately, I am not in a position to offer much Armscor documentary substantiation to this chapter as I have no access to the Armscor archive. Furthermore, I was denied use of DIP related information after my interview with Burger (and his colleagues, 2012) at the Armscor DIP Division.⁴⁴⁰

The technology assessment workshop culminated in an Armscor internal procedural document⁴⁴¹ that was henceforward used 'for the structured evaluation of the value of technologies involved in technology transfer deals and management of technology transfer activities' resulting from the DIP programme. The workgroup proposed that the acronym 'TDIP' be adopted to refer to 'technology transfer defence industrial participation'. TDIP would manifest in direct and indirect defence-related activities. Armscor increasingly started focusing on value-adding and sustainability principles when assessing any form of technology transfers.⁴⁴² This TDIP process was then also incorporated into the contractual DIP agreement pro-forma.

Armscor considers technology (including expertise, software, R&D activities, training, licence agreement/s and technical aid services) that increases the capability of a South African company (SADI), or helps develop goods and/or services not previously produced in South Africa. The technology credit amount is equal to the predetermined value of the technology having been approved by Armscor. This is taking into consideration the value of the technology to South Africa in accordance with Armscor's technology assessment value system and procedure. The total value

⁴⁴⁰Records of this workshop are contained in Armscor archives and Armscor's Technology Management Analysis Department (TMA)

⁴⁴¹Referenced A-PROC-6030: Procedure for the Evaluation of the Value of Technologies involved in Technology Transfer Deals and Management of Technology Transfer Activities of 2/10/2000

⁴⁴²*ibid*

of the technology in certain instances will depend on the type of equipment and be capped to a fixed percentage of the total value of the DIP commitment. All technology transfer activities will furthermore be linked to a combination of local work-share, production, support services (MRO), or export.⁴⁴³

Negotiations to determine the appropriate value of the technology are conducted between the technology owner or his representative, and Armscor. This is done prior to transferring the technology. Through its technology management authority department, Armscor at all times reserves the right to consult with the relevant recipient company in South Africa, Armscor's programme management, the DOD, the DIP division and/or any other entity or organisation during, prior to, or after engaging in negotiations with the transferor (technology owner).⁴⁴⁴

Armscor subsequently developed the following structured process to manage technology transfer proposals and evaluate the value of the technology offered by DIP obligors.⁴⁴⁵ This process was also explained by Armscor's Acting Senior Manager of the DIP Division, Pieter Burger, at the Arms Procurement Commission of Inquiry on 12 March 2014.⁴⁴⁶

- Step 1 Identification of the proposed technology to be transferred in collaboration with all stakeholders.
- Step 2 First order discussions between the technology owner and the proposed recipient.
- Step 3 Provision of a detailed technology transfer proposal, including comprehensive objectives, the scope of transfer, timescales, the basis of transfer (e.g. free of charge, licence fees, applicable royalties, etc.).
- Step 4 Submission of the transfer proposal to Armscor for pre-approval and acceptance, including the proposed DIP credit value of the transfer.
- Step 5 Detailed assessment by Armscor of the proposed technology and confirmation of the DIP credit value. Agreement is then reached with the technology owner.

⁴⁴³ *ibid*

⁴⁴⁴ *ibid*

⁴⁴⁵ *ibid*

⁴⁴⁶ *cf.* <<http://www.armscomm.org.za/hearings/...>> There is also a copy of the corvette's DIP Terms provided under Appendix E

- Step 6 Transfer by the technology owner.
- Step 7 An Armscor audit on receipt of the recipient's confirmation that the transfer is complete.

As part of the process described in steps 1 to 4, the owner of the technology whose transfer proposal is being considered completes a technology questionnaire and a technology transfer action plan (TTAP), which provides detailed information on the nature and benefit of the technology, the local, nominated, recipient company and the licences and rights the recipient will receive with regard to the technology to be transferred. The transferor also provides technology audit results conducted at the local company by the technology owner, identifying the technology status of the company and ruling whether it complies with the minimum requirements. The exact data to be transferred must be described, and an explanation of the transfer schedule and timelines provided. The transferor is required to explain the rationale he used to establish the value of the proposed technology to be transferred, clearly describing any conditions or limitations on use attached to the proposed transfer. This includes exclusions, for example, such as source codes to software and design data.

Having decided on a local recipient company, the transferor provides information on the training that is recommended, or required, to assimilate (absorb) the technology to be transferred. The training programme is analysed, the number of trainees and levels of skills are indicated and the venue is proposed. The transferor indicates the technical assistance he is offering to transfer the technology in question, referring to the technical assistance to be provided locally or elsewhere to implement the process agreed to. The transferor indicates the value of the technical assistance, any special equipment that will be required and the cost, and the future access to items and/or spares and the upgradeability of, for example, computers and associated software.

The transferor indicates how he proposes the acceptance of the transferred technology to be applied in practice. The legal owner of the technology rights is listed, including all the registered patents relating to the transfer. The transferor of any technology is also required to ensure that such a transfer is not in contravention of any of the international or national arms control and/or dual-use (non-proliferation)

control regimes.⁴⁴⁷ If so, the transferor should provide the necessary details and where applicable approvals prescribed by such regimes or authorities, particularly for any items that may originate from the USA (in terms of ITAR restrictions).⁴⁴⁸

Armcor also considers the uniqueness and value-add (i.e. downstream value-add specifically) of the technology.⁴⁴⁹ Consideration is also given to the current status of the technology (applying principles of the 'bell curve approach'⁴⁵⁰ – cf. figure 24) to be transferred. The transferor is required to explain where this specific technology is on the life cycle curve (bell curve), the number and type of equipment in operational use and the number of equipment users. Armcor also considers the level of capital investment the recipient requires to make use of the proposed technology and also its absorptive capabilities to fully assimilate it. Armcor furthermore considers the intrinsic (i.e. expected military/defence related) value the technology transfer holds for the recipient, the period over which it is to occur and the likelihood of any spin-offs. In South Africa's programme the transferor of technology is not allowed to claim any possible downstream values upfront, but may claim these only once he can prove that such a transfer contributed directly or even indirectly to achieving such downstream results.⁴⁵¹ Armcor does not credit technology through the use of multipliers, thus differing from many other countries applying countertrade and offsets practices. The onus is on the transferor/owner of the technology to calculate its own value, which Armcor will then consider on the basis of reasonableness, having applied all the considerations cited above.

Generally, information regarding Armcor's TDIP practice is not in the public domain, except for some information that surfaced at the APC. It is necessary to explain that Armcor's acquisition process strictly controls all information related to any specific technologies due to defence equipment and operational security concerns. Tender documents are only released to those companies registered as accredited suppliers

⁴⁴⁷ Any given sensitive item or its intellectual property may fall under either or both arms control and/or dual-use legislation and may therefore require two separate permits before it can be exported

⁴⁴⁸ US Government's International Traffic in Arms Regulations - cf. <pmddtc.state.gov/regulations_laws/itar_official.html>

⁴⁴⁹ Armcor - Referenced A-PROC-6030: Procedure for the Evaluation of the Value of Technologies involved in Technology Transfer Deals and Management of Technology Transfer Activities of 2/10/2000

⁴⁵⁰ In probability theory, the 'normal distribution' is a very commonly occurring continuous probability distribution, a function that tells the probability that any real observation will fall between any two real limits or real numbers, as the curve approaches zero on either side. Normal distributions are extremely important in statistics and are often used in the natural and social sciences for real-value random variables whose distributions are not known - cf. <http://www.wikipedia.org/wiki/normal_distribution?>

⁴⁵¹ *ibid*

to Armscor. All the relevant and applicable policies and contracting standards and mil-specs are included in the tender document. This is usually followed by a tender briefing session during which all technical user aspects, the DIP and related technology⁴⁵² and commercial requirements are shared with potential bidders. Tender documents in most cases have a minimum classification of 'restricted'; the more sensitive the equipment the higher the classification. This process results in tender documents not being in the public domain. However, they sometimes do enter the public domain through court cases such as that of Richard Young, and as a result of commissions of inquiry, for example, the Cameron Commission of 1994 and the APC of 2011 – these events occasionally provide a rare glimpse into the military complex.

6.5.3 Time-value-money Considerations Applied When Assessing Technology Value

To determine the value of any given technology, the owner and recipient should first determine the life-cycle status of the technology in question. The following proposition is premised on my own understanding of the technology process covered, for example, by Smith (2006). His technology curve model, the 'The Long Wave Cycle' (2006:49), covers four distinct cycles over a 50-year period. The first is the 'recovery phase', which correlates with my technology graph's 'emerging high value' phase (*cf.* Figure 24 below). The second phase, 'prosperity', stretches to the top pinnacle of the curve, which is equivalent to my graph's 'current lower value' phase. The third phase, 'recession', is the beginning of my graph's downward trend depicting the 'mature least value' phase of technology. Smith concludes his long wave cycle graph with a final phase, 'depression', which in my graph is depicted as the 'phased out/replaced phase'. Smith expresses each phase in economic activity terms; I prefer to use a progressive innovation and technology growth path that demonstrates a consecutive and overlapping process of innovation and renewal.

⁴⁵² There is a specific DIP technology questionnaire included – one questionnaire per each of the technologies on offer. In the case of the Agusta LUH this included the licenced production of the A109 in South Africa by Denel

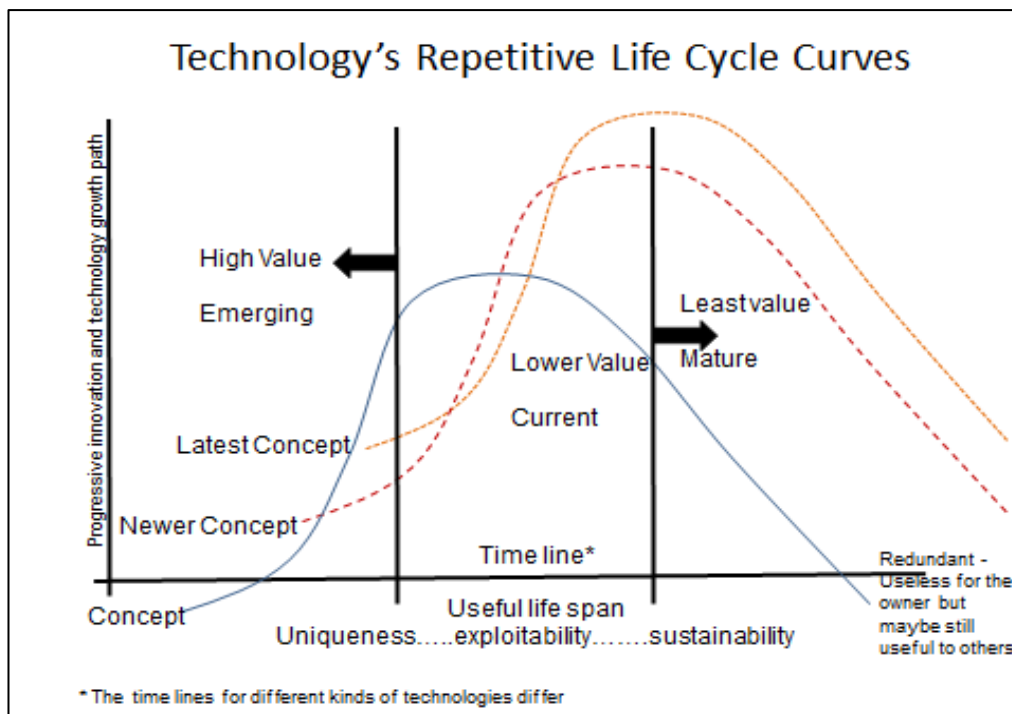


Figure 24: Technology's repetitive life-cycle curve (Source: author)

Smith (2006) explains that in the 'recovery phase' scientists and inventors develop new inventions and innovations that lead to new opportunities of investment growth and employment. This phase is characterised by high levels of uncertainty as nobody knows for certain whether a new invention will work or whether it will be competitive enough to beat rival products. However, if successful, the product progresses into the 'prosperity phase' during which new inventions start to diffuse to a wider range of applications finding broader market access. The third phase observes a surplus capacity with diminished returns, as the limits of the technology are reached. During this phase price competition is fierce and gradually sees the technology spilling over into production process renewal. Finally markets become saturated, which further increases price competition, characterised by much lower levels of profitability (the depression phase).

However, differing from my progressive growth graph, Smith sees the next new long wave of technology only surfacing in the depression phase when an old technology is finally 'shaken out' and a new technology paradigm is formed (Smith, 2006:50 and 54-55), thus acknowledging that his explanation is premised on a technology life span

of 50 years. However, this study finds that in certain sectors (e.g. ICT) technology development is progressing at a much quicker pace of renewal.

In the Armscor policy⁴⁵³ paper on intellectual property management it is generally accepted that technology and product design age with time, and thus the value of their inherent intellectual property will initially increase and over time, decrease. A decrease in value is a key determinant in assessing the value of a technology transfer transaction proposed under any given countertrade (in this instance DIP) arrangement.

Therefore, Armscor insists that the technology transferred to South Africa must be sustainable, that is, causing sustainable business lasting five years or longer. Technology transfers should therefore always have a value-adding benefit for the local industry. The value can be vested in improved efficiencies, productivity and the creation of new business opportunities, or an increase in the deployed equipment's effectiveness, particularly if it reduces life-cycle costs. Because of equipment's sophistication, its maintenance and support become increasingly expensive, particularly if equipment has to be returned to a foreign based OEM.⁴⁵⁴ This aspect is explained in more definitive terms in chapters ten and eleven.

6.6 Summary

It is my experience that countertrade practitioners often resort to transferring technology and providing training solutions to discharge their obligations. There are usually attractive (countertrade) multipliers (although diminishing – Rutter, 2007) linked to such activities – except in the case of DIP. Therefore, it is common practice for foreign companies to use the prospect of earning attractive credits through multipliers as a means of 'getting rid' of their older technologies and reducing their exposure – they resort to the exact same principles even in the absence of multipliers, since they have commercially already extracted the value from the technologies proposed for transfer.

⁴⁵³ Armscor internal document, referenced KV101 of 25 May 1999 – unpublished

⁴⁵⁴ Armscor Referenced A-PROC-6030: Procedure for the Evaluation of the Value of Technologies involved in Technology Transfer Deals and Management of Technology Transfer Activities of 2/10/2000

The state of technology becomes a variable that determines a value being added. It also constitutes a means to assess output versus capital spending, and labour that considers differential absorption rates and the heterogeneous nature of labour markets (Yülek and Taylor, 2012:24).

In other words, the acquisition and absorption of foreign technologies and their further development are complex processes that demand considerable knowledge and effort on the part of those who acquire them (Gaast and Begg, 2012:34). Blanchard (2006) points out that positive economic growth is witnessed when technological progress is visible. Technological progress is obviously aimed at achieving greater profits. Least economically developed countries are, however, in much greater need of jobs and socio-economic upliftment than first world ICT and nanotechnology driven economies (*ibid*). Technology remains crucial for developing and sustaining a competitive knowledge-base that should be directly related to the level of output, which perceives production as a given output (Kiper, 2012).

Considering the comparative table (Table 9) on country technology requirements, it seems fair to assume that the world of today is still faced with a problem that Coetzer (1995) describes, namely, that a country cannot gain access to or become competitive in the international market without generating or acquiring adequate modern technologies. Major advances in the 1980s in hardware and computer programmes, dramatically increased signal-processing capabilities (*cf.* Smith, 2006). This created a continuous demand for information-processing techniques through the use of highly sophisticated mathematical models (algebraic computations and equations), which facilitate hypothesis reduction techniques (*cf.* Wolfram⁴⁵⁵, 2012).

This demand can be further demonstrated by MILTECH's observations relating to the constant need to keep finding solutions through technological innovations to combat various threats (*cf.* MILTECH, 2008).⁴⁵⁶ Defence forces across the world are

⁴⁵⁵Founded by Stephen Wolfram in 1987, Wolfram Research is one of the world's most respected software companies—a powerhouse of scientific and technical innovation. As pioneers in computational science and the computational paradigm, they have pursued a long-term vision to develop the science, technology, and tools to make computation an ever-more-potent force in today's and tomorrow's world - *cf.* <<http://www.wolfram.com/company/background.html>>

⁴⁵⁶MilTech is an Office of Technology Transition Partnership Intermediary and provides hands-on product design, prototyping, technology scouting, and manufacturing assistance to transition innovative technology to the US war fighter - rapidly, reliably, and cost-effectively. MilTech provides assistance to US DOD customers that are transitioning innovative technology to deployed combat operations – *cf.* <<http://www.miltechcenter.org/...>>

constantly modernising their military strength through new acquisitions, refurbishing or upgrading equipment, and employing the latest, state-of-the-art defence-related technologies (*ibid*).

Although it is abundantly clear that technology transfer definitely plays a role in the countertrade and offsets world, original equipment manufacturers (OEMs) will not transfer or sell technology if it results in undue competition (Dumon, 2012): the OEM will ensure that the technology is contained, controlled, managed and even limited (*ibid*), which in turn plays a role in assessing it for the purpose of granting credits.

Most countries only credit technology through tangibly realised benefits. Therefore, what remains problematic is how buyers and sellers alike value technology and selectively use diverse multipliers to extract technologies not available under normal free trade principles (*cf.* Yülek and Taylor, 2012). Lastly, the absorptive ability of the recipient country's industry remains a major challenge aggravated by the balancing act of job creation that is not always supported by modern technologies that reduce dependence on physical labour.

CHAPTER SEVEN: AN OVERVIEW OF THE SOUTH AFRICAN MILITARY INDUSTRIAL COMPLEX

7.1 Introduction

This chapter considers how the South African military industrial complex has changed since 1994. It also explains how the government views this industry and what the future holds for it - detailed in the 2014 Defence Review (DOD, 2014). In the context of this research, the military industrial complex is a major beneficiary of Armscor's initial (late 1980s) countertrade policy and later (post 1996) defence industrial policy (analysed in chapters 9 and 10). It furthermore investigates, in context, to what extent had SADI been taken over by major European defence companies.

At present the DTI (2014:130) views the defence industry as a cluster of private and public sector organisations, including commercial companies and business units, which are directly or indirectly involved in providing goods and services to security forces and civil society.⁴⁵⁷ The 2011 SADI statistical survey indicated that it has an annual turnover of approximately R 12,9 billion (compared with R 10 billion from the 2008/2009 survey). Over that period its exports increased from 50 to 60 per cent. The sector invested roughly R 1,3 billion in technology through several Research and Development (R&D) programmes annually, and consistently provides employment for about 15 000⁴⁵⁸ highly skilled engineers, technicians and artisans, many of whom contributed to key national projects in space, transportation (including rail safety), mining, construction, power generation and telecommunications. Conservatively, the sector was estimated to have 1:4 multipliers, thus supporting at least 60 000 further jobs in the economy (*ibid*). This is to be read in the context of the DIP's economic impact assessment results in chapter nine, which provides some basis for correlation.

⁴⁵⁷The Department of Trade and Industry. *Industrial Policy Action Plan (IPAP 2014/15 to 2015/16)*. Available at: <<http://www.thedti.gov.za>> [Accessed 7 June 2-014].

⁴⁵⁸It appears as if SADI employment has stabilised around this figure of 15 000

7.2 The Decline of the Defence Industrial Base since the late 1980s

The expansion of the domestic arms industry during the 1970s and 1980s arguably distorted the trajectory of the country's industrial development and imposed a number of long-term economic costs on the economy (Willet, 1994; Willet and Batchelor, 1998, also Batchelor and Dunne, 1998; Gleditsch, *et al.*, 1996, Cock and McKenzie, 1998). The absorption of scarce resources (capital, labour and foreign exchange) and the crowding out of non-military public and private investment and non-military R&D contributed to the under-development, declining productivity and poor international competitiveness of the civilian economy. Henk (2006:17) emphasises that South Africa's investments in armaments contributed to a protracted recession in the 1980s. Boden, *et al.* (1996:3) state that by 1994, South Africa was in the midst of the longest recession (six years) in the history of the country.

With South Africa moving towards a full democracy under F.W. de Klerk,⁴⁵⁹ military activities had been scaled down considerably since 1989 (*cf.* Willet, 1994). In 1994, the newly elected democratic government was faced with huge socio-economic challenges caused by the legacies of the apartheid era (*cf.* Boden, *et al.*, 1996). A major reduction (55% in real terms) in the defence budget followed (*cf.* Botha, 2003a; CAAT, 2004).

Chapter Two of the White Paper on the Defence Related Industry (DOD, 1999) puts the above in context by confirming that between 1989/90 and 1997/98 the defence budget declined by over 50 per cent in real terms, while the Special Defence Account used for matériel acquisitions, declined by over 80 per cent in real terms. In 1997/98 acquisition spending accounted for 20 per cent of the defence budget, down from nearly 60 per cent in 1989/90. The dramatic cuts in defence spending have had a major impact on domestic defence related industries, which have been forced to downsize and restructure as a result of the cancellation or postponement of defence contracts, resulting in the retrenchment of large numbers of workers since the late

⁴⁵⁹ F.W de Klerk of the National Party took over the presidency of South Africa early in 1989 during the 'apartheid-era'. Pres. P.W Botha had a stroke and was forced to resign. De Klerk sat in motion a process that eventually led to the disbanding of the ANC and other political groupings, and the release of Nelson Mandela and moved South Africa into a full democracy in 1994 with the election of President Mandela - *cf.* <<http://www.sahistory.org.za>>

1980s. The cuts in the defence budget have had a dramatic impact on the profitability of defence related industries. Many firms have gone bankrupt, exited the defence market, or been taken over or acquired by other firms. These developments and the prospect of further cuts in defence spending, have raised concerns about the continued economic viability of defence related industries (Willet, 1994; Willet and Batchelor, 1998; DOD, 1996, 1997, 1999; Dunne and Haines, 2002; Botha, 2003a,b; AMD, 2006⁴⁶⁰). From a work force of 131 750 (Botha, 2003a) in the late 1980s, by 2011/2012 the SADI employee base dropped to approximately 15 000 (AMD, 2012⁴⁶¹).

Despite marked downsizing and restructuring, South Africa's defence-related industry remains highly capital-, skill-, import-, and research-intensive, with relatively limited links to the civilian economy. The country has managed to retain an advanced arms production capacity, although it no longer offers a comprehensive range of systems independent of the leading international manufacturers, as was the case in the mid-1980s (*cf.* Willet and Batchelor, 1998; Botha, 2003a; AMD, 2006, Henk, 2006). SADI continues to employ highly qualified and experienced technical personnel⁴⁶². Given the global nature of the international industry and intense competition among the group of peripheral producers in which South Africa finds itself, it seems inevitable that the SADI will continue to restructure to face local and international market challenges, since its future prospects are not particularly favourable (Dunne and Haines, 2005, 2006; Haines, 2012).

Since 1980, Armscor's various subsidiaries (and later Denel) and main private sector defence contractors, such as Reunert⁴⁶³ and Grintek⁴⁶⁴ have attempted to diversify and integrate vertically by outsourcing far less of their production business than in the past (Botha, 2003a,b). This reduced demand for the output of hundreds of smaller defence firms, particularly those acting as suppliers and sub-contractors for larger firms. This resulted in many small and medium-sized private defence companies merging with or being acquired by larger defence firms, for example,

⁴⁶⁰In 2004/5, AMD initiated a comprehensive SADI study undertaken by a private company, VuXaka (Pty) Ltd. This study contains a detailed, factual and historic account of the local defence industry (AMD, 2006)

⁴⁶¹AMD reported that these statistics were only for their members and not for the total defence industry. However, AMD represents more than 90% of the local SADI companies.

⁴⁶²Creamer Media. Defence 2012. A review of South Africa's defence industry – *cf.* <<http://www.reseracchannel.co.za/...>>

⁴⁶³Over time, Reutech, a subsidiary of Reunert, managed to diversify its business – Creamer Media's Defence Report 2013

⁴⁶⁴Now Saab Grintek Defence

Reunert acquired the armoured car division of TFM⁴⁶⁵ in early 1997 (Dunne and Haines, 2005). Others, such as Altech⁴⁶⁶ sold its shares (e.g. Altech Defence Systems (ADS) - later known as African Defence Systems (retained the brand ADS), but now Thales Defence Systems (TDS) - and simply exited the defence market. Since then Altech has focused primarily on the civilian electronic marketplace. These developments resulted in the domestic defence market (excluding imports) becoming increasingly concentrated and contracted (*ibid*). Denel likewise commenced various diversification initiatives that included UAVs for environmental deployment, and established a new space engineering (Spaceteq) entity that would collaborate with the embattled SunSpace satellite research entity of the University of Stellenbosch.⁴⁶⁷

In October 2012, Haines was quoted⁴⁶⁸ as stating that the significance of a strong defence industry should not be underestimated, since it is an integral part of South Africa's industrial base. He added that defence spending is one of the more productive parts of state spending, which contributes to positive spin-offs, such as job creation, particularly at high skills levels, and technological development with relevance beyond the military. However, Haines recommended better utilisation of military bases in South Africa to contribute more significantly to the uplifting of local communities. The shrinking and marginalised defence industry base is impacting the already shrunken industrial base.

Considering the various perspectives offered above, measured against the reality of today, the continued existence of a military industrial complex and DIB in South Africa remains a *fait accompli*. The 2014 Defence Review underscores the importance of retaining such capabilities and there is a call on government for increased support for SADI with a much larger allocation towards re-equipping the SANDF (DOD, 2014). SADI, particularly through its partnering with major

⁴⁶⁵Reunert bought out TFM Industries defence systems unit and along with it came the designs for the Mamba Armoured Personnel Carrier – a competing product to its subsidiary company OMC APC's range of vehicles. OMC has since been bought in succession by first Vickers Plc, UK, then by Alvis Plc, UK taken over by BAES and finally, in 2004 by BAE Systems Plc, UK - cf. <http://en.wikipedia.org>) and <<http://www.baesystems.com> - now sold to Denel

⁴⁶⁶Altech, in 1998, was a JSE listed R3 billion electronics giant that initially sold a 50% shareholding in African Defence Systems (Pty) Ltd (ADS) in March 1998 to Thomson-CSF, the French-based leader in defence electronics. They acquired full ownership of ADS (then African Defence Systems) on 19 February 1999. Altech, at the time, confirmed that the sale of its equity in ADS was in line with the local and international decline in defence budgets and the related consolidated process of the industry and that ADS no longer formed part of its core civil business activities and future strategic direction - cf. <http://www.armsdeal-vpo.co.za/articles04/altech_to_sell.html>

⁴⁶⁷Creamer Media's Defence Report – November 2013

⁴⁶⁸Financial Mail, 19-24 October 2012

international defence companies, will remain a global player in the defence market (*ibid*).

7.3 The Changing Face of the Defence Industrial Base since 1994

Since 1994, the democratic political order in South Africa has had considerable effect on South Africa's people, politics, industry, international trade relations and economy. South Africa was re-admitted to the international community: the South African industry, particularly the SADI, was suddenly put on an equal footing with its global counterparts (AMD, 2006). Willet (1994:4) commented that as South Africa entered the international arms market as a legitimate trader it was faced with growing global pressures on both the demand and supply sides of the international arms market.

When the ANC took over as the leading political party in South Africa in 1994, they and all those previously oppressed people of South Africa viewed the military complex (i.e. Armscor, the SADF and the SADI) with extreme suspicion. This was evident in extended debates, both opposing and proponent, concerning the new integrated defence force, its posture, its requirements, and the defence industrial base (DIB). Ensuing debates regarding the South African military complex involved the public, academia and all politicians (*cf.* Willet, 1994; Willet and Batchelor, 1998; Batchelor and Dunne, 1998, 1999; Cilliers, 1998; Wrigley, 2003; Chaana, 2004; Haines and Dunne, 2005; Holden and Van Vuuren, 2011; Adebajo and Paterson, 2012).

Haines (2014) notes that the period between 1990 and 1994 is often seen as a significant hiatus in South Africa's political, social and economic history. Scholars have possibly glossed over the continuities from past to present in analyses of contemporary historical processes. Although in a number of respects the late 1980s and early 1990s saw the partial dismantling of the apartheid development state and a shift to 'market triumphalism' - such shifts were accelerated during the mid- and late-1990s, in processes in which sections of the old and emergent elites played a pivotal role (*ibid*).

The newly elected democratic government commenced drafting a White Paper on Defence through a widely consultative process. This was approved by Parliament and Cabinet in 1996, followed by an equally elaborate drafting and consultative process to ensure that maintaining a defence force 'with particular needs', as expressed in the Defence Review of 1997 (DOD, 1997), was acceptable. The third step was addressing the defence industrial base in South Africa. This culminated in the White Paper on the South African defence related industry. This document was eventually published in 1999, after an equally lengthy public consultative process and review (DOD, 1999).

In 1997, the DOD introduced a revised open-tender approach for its equipment requirements – pre-1994 equipment requirements were satisfied by SADI. Haines (2012) refers to the new approach as a shift to extensive external procurement that contributed a further shrinkage in the DIB. The traditional ways of collusion between the SADI, the former SADF (renamed in 1994 as the South African **National** Defence Force (SANDF)) and Armscor were replaced with civilian control in 1994. This occurred through government's creation of a new Department of Defence (DOD) with a Secretary for Defence, appointed by the President as the accountable officer. The SANDF henceforth reported to the Secretary for Defence – and all future defence equipment acquisition requests would from then onwards only come via the DOD (as sanctioned by Secretary for Defence - cf. Steyn⁴⁶⁹, 1996).

In 2004/5, AMD initiated a comprehensive SADI study undertaken by a private company, VuXaka (Pty) Ltd (cf. AMD, 2006). The study was needed to understand the changing face of the SADI and determine key concerns with regard to its sustainability and survival. The AMD initiative (2006) was followed by an extensive independent⁴⁷⁰ SADI report commissioned by the Department of Public Enterprises (DPE)⁴⁷¹ in agreement with the DTI, the DOD and AMD. The research company McKinsey was tasked with this activity. This was necessary for government to understand how best to approach the DTI with regard to establishing a SADI cluster

⁴⁶⁹ Retired Lt Gen P. D. Steyn, former Secretary for Defence - cf. <<http://www.armscomm.org.za>>

⁴⁷⁰ The AMD 2006 report was generally regarded as being too biased towards SADI

⁴⁷¹ DPE is responsible for Denel, established in 1992, an off-spring of Armscor, and still today the largest arms production facility in South Africa, a state owned enterprise (SOE – now SOC) under the aforementioned government department - cf. <<http://www.denel.co.za>>

strategy. However, this report's findings were never officially published (Hamilton, 2011).

In 2010, the DTI commissioned a private research entity to conduct a further in-depth study with a view to rolling out a Customised Sector Programme (CSP) for the SADI. According to Hamilton (2011), during 2011 the DTI accepted this CSP for SADI for implementation.⁴⁷² Although this was a significant achievement, to date the defence industry does not appear in any prominent substantive form of prominence in the DTI's latest Industrial Policy Action Plan of 2013/14 (IPAP - DTI, 2014).⁴⁷³ There is also no sign as yet of a dedicated CSP for defence. In 2014, the DTI commissioned another SADI survey, this time with Vuxaka. (The results of this survey had not been released by the DTI at the time of the conclusion of this thesis.)

In 2013, in line with SADI support statements contained in the 2014 Defence Review, Armscor already announced that it will commence providing increased levels of support to SADI (Armscor, 2013). Armscor indicated that they had begun an audit of all SADI companies and their sub-suppliers with a view to determining their contribution to the value chain that supports the SANDF. Armscor stated that they intends to identify all those companies that are critical in this regard and find ways to ensure that they remain able to provide much needed services to South Africa's armed forces (*ibid*).

Over and above the 2014 Defence Review's call for increased support for SADI, another recent development that is bound to evoke the SADI's pre-1994 preferential procurement position is government's announcement concerning preferential local procurement. The Minister of Trade and Industry, Rob Davies, announced on Tuesday 22 July 2014, that 75 per cent of all government procurements must be contracted through local industry.⁴⁷⁴ When equipment has to be procured from abroad, the NIP (and DIP and CSDP) programmes will be enforced. Minimum levels of Black Empowerment procurement will be applicable. (However, there appears to

⁴⁷²I could not locate at the time of submission of this thesis any further confirmations (other than Hamilton's) of this proposed CSP from the DTI

⁴⁷³Cf. <<http://www.thedti.gov.za>>

⁴⁷⁴Engineering News, July 24, 2014

be some confusion as to what DTI means with ‘local procurement of 75%’ as the SA industrial base is far from that levels of local content production.)

7.4 Mergers and Acquisitions on the South African Defence Industry Front

Similar to the defence industry mergers witnessed in Europe and the US over the past two decades, foreign defence companies also set their sights on SADI companies.

The Creamer Media’s Defence Report (2012;4) notes that since the advent of democracy in South Africa, the country’s defence industry has undergone major restructuring, moving from a model of self-sufficiency and reliance on the domestic market to specialisation and integration into the global defence industry supply chain.⁴⁷⁵

Several of the country’s defence companies have strong links to international defence manufacturers, as shown in Table 9 (below).

The following account is based on my observations from 1998 to 2014, and supported by various sources. Other explanations pertaining to the respective reasons for these mergers are also offered by, for example, Botha (2003a), Dunne and Haines (2005) and Haines (2012a,b).

⁴⁷⁵Creamer Media at <<http://www.researchchannel.co.za/>...>

Table 9: Foreign defence companies setting up business with SADI in South Africa		
Foreign Entity	Local Entity	My most obvious reason being
Thales of France (Initially Thomson-CSF ⁴⁷⁶)	African Defence Systems (ADS), ⁴⁷⁷ originally part of the Altech Group, which ceased all defence business in the mid-1990s.	This acquisition on 25 Aug 1998, ⁴⁷⁸ was clearly prompted by the French Company's anticipation of the corvette and submarine deals that were in the offing. ADS had intimate knowledge of the SA Navy's submarine and ship command and control equipment and requirements.
MTU of Germany	Prokura Diesel – bought in 2001.	This was a direct result of the corvette defence industrial participation (DIP). Prokura Diesel was the sole service provider for maintaining a range of SA Naval craft engines. Ten years later MTU SA is a major success story. ⁴⁷⁹
Saab-CelsiusTech of Sweden	Avitronics, which was part of the Grintek group - 2005.	This was a direct result of the Gripen aircraft DIP. Avitronics possessed unique design and manufacturing capabilities for electronic counter measures for the SA Air Force.
EADS of Germany (in 2014 it became the Airbus Group)	Formed a JV with Grintek, creating Ewation. SAAB in 2011 sold its 42,4% share in South African electronic warfare system company Grintek Ewation to Cassidian, the defence and security division of EADS ⁴⁸⁰ - now the Airbus Group.	This JV was non-DIP-related but focused particularly on niche anti-war warfare technologies that Grintek possessed at the time. Grintek was the sole supplier of a wide range of military communication equipment to the SANDF.
EADS of Germany (in 2014 it became the Airbus Group)	Procured a 36,5% share in Reutech Radar Systems, ⁴⁸¹ followed by a 25% share in 2007, in Fulcrum Defence Systems specialising in tactical command and control software.	EADS apparently aimed at positioning itself for the supply of radar-related sub-systems required for the corvettes. Reutech was the sole supplier of a range of radar related equipment to the SANDF.
BAE Systems, Plc, of the UK	Bought Paradigm Systems and procured a stake in Advance Technology Engineering (ATE) in the late 1990s. ATE later bought	Paradigm designed most of the SANDF's logistic software programmes, while ATE is the avionics systems house for the SAAF. So both would be

⁴⁷⁶ Thomson-CSF changed name in December 2000 to Thales - cf. <<http://www.the-thalesgroup.com>>

⁴⁷⁷ cf. <<http://www.ads.co.za>>

⁴⁷⁸ ibid

⁴⁷⁹ cf. <<http://www.engineeringnews.co.za/article/MTU...2011-09-22>>

⁴⁸⁰ cf. <http://www.defenceWeb.co.za/index.php?option=com_content&view=article&id=14108:saab-sells-its-grintek-ewation->share-to-cassidian&catid=>>

⁴⁸¹ cf. <<http://www.engineeringnews.co.za/article/reunert039s-defence-unit-showing-real-growth-promise-following-retention-decision-2007-05-23>>

Table 9: Foreign defence companies setting up business with SADI in South Africa		
Foreign Entity	Local Entity	My most obvious reason being
	<p>out BAES (c. 2003) and during 2007/8 planned to form a JV with Denel on UAV products, but this never happened.⁴⁸²</p> <p>During 2013, ATE, on the brink of financial collapse,⁴⁸³ was bought over by the Paramount Group of South Africa.⁴⁸⁴</p>	heavily involved in all military aircraft-related programmes, from helicopters to fighter aircraft, especially in respect of maintenance and repair and later upgrades and modifications, also related specifically to the Hawk and Gripen. BAES's acquisition of or shareholding in these various SADI companies was caused by DIP and otherwise Business driven. Fortunately Paramount's 'rescue' of ATE ensured a continued support for the SAAF's a/c avionics.
Saab of Sweden ⁴⁸⁵	<p>Acquired a majority stake (70,3%) in the Grintek group in 2005 (with the Kunene Brothers holding the other 29,7%) and then took over AMS, which employs experts in the field of aircraft health usage monitoring systems (HUMS).</p> <p>Note: During 2012, Reutech Communications (a subsidiary of Reunert) acquired Saab Grintek's high frequency radio business, which completes Reutech's product offerings.⁴⁸⁶</p>	This acquisition was a direct result of the Gripen aircraft DIP obligations. In 2012 Saab announced that South Africa is its biggest secondary industrial base next to its own country. ⁴⁸⁷
Turbomeca of France (part of Snecma, belonging to the Safran Group)	Denel sold 51% of its Airmotive business in 2002 ⁴⁸⁸ (part of the former Atlas Aircraft Corporation) to create Turbomeca Africa (TMA).	This transaction was infused (meaning that this undertaking was made via Agusta (as OEM)) in the DIP proposal that accompanied the LUH tender response) by DIP on the LUH. This played a decisive role in the engine sub-assessment that was done on DIP at the time between Turbomeca and Pratt and Whitney. Airmotive was the sole service provider for maintaining and servicing a range of SAAF aircraft engines.

⁴⁸² Engineering News, 22 February 2008

⁴⁸³ cf. <<http://www.defenceWeb.co.za>>. ATE, part of the local SA defence industry for 27 years, fell victim to the harsh economic conditions and was bought over by the Paramount Group mid-2013.

⁴⁸⁴ Paramount Advance Technologies, the largest privately owned defence and aerospace business in Africa, established in 1994 - cf. <<http://www.paramountgroup.biz>>

⁴⁸⁵ Saab Annual Report 2011 - cf. <<http://www.saabgroup.com/>>

⁴⁸⁶ cf. <http://www.defenceWeb.co.za/index.php?option=com_content&view=article&id=28642:reutech-profits-up-this-year&catid=7:Industry&Itemid=116> 23 November 2012

⁴⁸⁷ Engineering News, 15 June 2012

⁴⁸⁸ cf. <<http://www.engineeringnews.co.za/print-version/safrance-create-new-aerospace-company-2002-05-03>>

Table 9: Foreign defence companies setting up business with SADI in South Africa		
Foreign Entity	Local Entity	My most obvious reason being
Vickers Plc, UK (c. 1999) ⁴⁸⁹ , who was taken over by Alvis Plc, UK who in turn was taken over by in 2004 to BAE Systems Plc, of the UK ⁴⁹⁰ .	<p>Reumech OMC (whom earlier, in 2002,⁴⁹¹ acquired the armoured vehicle business of TFM) - Gear Ratio was also part of OMC at the time.</p> <p>Note: On 11 August 2014, Denel signed a deal with BAE Systems in terms of which Denel will acquire 100% of the shares of BAE Land Systems SA (LSSA).⁴⁹²</p>	This initiative was DIP-driven in relation to the MBT requirement. This tender was 'canned' owing to non-affordability. This caused a subsequent change in ownership until OMC acquired BAES, who then used its export business to satisfy part of its indirect DIP on the Hawk and Gripen – both caused by DIP. The decision was otherwise business driven, as OMC boasts with market leading defence technologies in armoured and mine protected vehicles. They were the sole supplier of armoured vehicles to the SA Army.
Saab of Sweden	Denel negotiated with Saab an initial 20% stake in Denel Aerostructures in June 2006 ⁴⁹³ . However, this arrangement was not very successful and Saab aborted it in 2011 as it had failed in turning the new company into a profit centre.	This initial transaction was DIP- and NIP-driven; not only stemming from the Gripen aircraft, but also from the business prospects associated with the Airbus A400M aircraft work contracted by Airbus, Germany to Denel. (DTI granted Saab a multiplier NIP credit in exchange for its equity taking.)

⁴⁸⁹ cf. <<http://www.armsdeal-vpo.co.za>>

⁴⁹⁰ cf. <<http://www.army-guide.com/eng/product1136.html>>

⁴⁹¹ ibid

⁴⁹² cf. <<http://www.defenceWeb.co.za>> 11 August 2014. I am of the opinion that this transaction has everything to do with the award of the Badger (Hoefyster) contract of R8bn to Denel in Oct 2013. Reason being that the vehicle platform from Patria, Finland would have been built locally by BAE Land Systems as part of Patria's DIP obligations under this contract. Denel LIW builds the turret and the weapons systems – the latter now successfully sold to Malaysia – on 8 December 2014 it was reported that the Competition Commission has recommended the sale on 2 December 2014 without conditions

⁴⁹³ cf. <<http://www.saabgroup.com/en/Air/Gripen-Fighter-System/Gripen-for-South-Africa/Partnership/...>>

Table 9: Foreign defence companies setting up business with SADI in South Africa		
Foreign Entity	Local Entity	My most obvious reason being
Carl Zeiss of Germany	<p>Acquired a 70% stake in Denel Optronics in 2007.⁴⁹⁴</p> <p>Note: Cassidian, a division of initially EADS, (since January 2014, the Airbus Group), acquired a 75,1% equity in Carl Zeiss Optronics GmbH in Germany. The latter owned 75% of Carl Zeiss Optronics (Pty) Ltd in South Africa with Denel SOC Ltd with 25%. Carl Zeiss Optronics (Pty) Ltd is hence known as Cassidian Optronics as from July 2012.⁴⁹⁵</p>	<p>This initial transaction was as a direct result of the submarine DIP, where Denel was sub-contracted to provide sub-systems for the periscopes. It was otherwise based on business considerations as Denel Optronics possessed state-of-the-art fighter aircraft helmet sighting capabilities that ended up in the Eurofighter programme.⁴⁹⁶</p>
Reihnmetall of Germany	<p>Denel⁴⁹⁷ sold a majority stake in its munitions group, involving Somchem, Naschem and La Forge, in 2008.</p>	<p>This was a commercial deal and part of Denel's unbundling and privatisation initiatives and had nothing to do with the SDP's DIP. <i>'When Reihnmetall acquired 51% of the ailing Denel in 2008 — forming Reihnmetall Denel Munitions — the accumulated loss was R 414 million. Five years later, the company posted a R 1.4 billion profit'</i>⁴⁹⁸</p>
Reihnmetall Waffe Munition of Germany	<p>Acquired Laingsdale Engineering in 2010, formerly owned by Plessey. Now called Reihnmetall Laingsdale proportionally owned by Reihnmetall Denel Munitions.⁴⁹⁹</p>	<p>Laingsdale Engineering has for the last 29 years focused its expertise and technology on fuses, safe-and-arming devices, kinetic energy weapons and a variety of naval applications.</p>

⁴⁹⁴ cf. <http://www.armsdeal-vpo.co.za/articles10/carl_zeiss.html>

⁴⁹⁵ Engineering News, August 24, 2012. Also <<http://www.cassidian.com>> and <<http://www.defenceWeb.co.za>> 16 July 2012.

⁴⁹⁶ Business Day, 1 June 2007

⁴⁹⁷ On 2 June 2011, Denel made a presentation to the Joint Standing Committee on Defence on its restructuring process, mandate, funding and challenges – cf. <<http://www.pmg.gov.za>>. The report alluded to Denel's struggle for economic survival since 2005. No mention whatsoever was made of any DIP or NIP benefits, despite that fact that 2005 was midstream of the SDP process and that the Hawk and Gripen DIP ended in 2011. (The only conclusion I made from this is that the Denel CEO did not regard any DIP work as worth mentioning, regardless of the fact that to the author's knowledge, Denel benefitted in excess of R7 billion worth of DIP (with several very good success stories up to the end of 2009 when I left Denel)

⁴⁹⁸ Business Day Live, 6 February 2014 – cf. <<http://www.bdlive.co.za/business/2014/02/06/exports-drive-denels-turnaround>>

Table 9: Foreign defence companies setting up business with SADI in South Africa		
Foreign Entity	Local Entity	My most obvious reason being
Saab Grintek Ewation	Divested from Ewation in June 2011 and sold its 42,4% share to German based Cassidian, now part of the Airbus Group. ⁵⁰⁰	Ewation is the repository of a wide range of South African designed and developed electronic warfare (EW) technologies, non-US technology compromised (meaning it does not require ITAR approval to be sold).

(Source: author's summary from: Botha, 2003a; Dunne and Haines, 2005, and AMD, 2006, Haines, 2012, DefenceWeb, Engineering News and various internet based company sources and periodical reports)

⁴⁹⁹ cf. <<http://defenceWeb.co.za>> 6 October 2010

⁵⁰⁰ cf. <<http://www.slideshare.net/SaabGroup/saab-interim-report-january-june-2011>>

The 2011/12 and 2012/13 Armscor Annual reports (Armscor, 2012, 2013) express serious concerns about the ownership of South African companies by foreign companies, as this may have a potentially negative impact on South Africa's ability to obtain defence supplies and maintain technology to meet the requirements of the armed forces. Although having stated these concerns Armscor did not offer any preventative or precautionary actions they plan to introduce - except for a condition in their 2012 revised DIP policy that disallows foreign owned companies operating in South Africa to qualify as DIP beneficiaries. In the 2014 Defence Review (DOD, 2014) there are numerous sovereignty concerns attached to ownership issues related to SADI companies.

7.5 Brief Synopsis of the 2014 Defence Review

7.5.1 The Redrafting of the Defence Review

The then Minister of Defence and Military Veterans, Ms Lindiwe Sisulu, published the draft Defence Review for public comment on 12 April 2012. The document was the result of the work of the Defence Review Committee, appointed on 13 July 2011 under the Chairmanship of Roelf Meyer.⁵⁰¹ This Committee was given the mandate and terms of reference to rewrite the 1997 Defence Review. It was stated that the 1997 version was primarily concerned with integrating the statutory and non-statutory armed forces after the negotiated transition in 1994. The 1997 Defence Review did not pay too much attention to, for example, social and developmental issues, the process of re-equipping the SADNF, the need for adjusting defence budget allocations, the maintenance of the defence industrial base, nor to anticipated developments in changing international and regional security matters.

The DOD's synopsis of this 2012 revised version of the Defence Review explains it as a long-term policy and strategy agenda for defence that will set the stage for the next 30 years of defence activities.⁵⁰² It finds it as reasonably comprehensive and detailed, engaging defence matters at a strategic level without digressing into the operational and tactical level of debate. It pronounces sufficiently on the continuum of policy, strategy, structure and force design needed to set a stable, long-term defence planning agenda, while expressing opinion on a high-level defence doctrine that

⁵⁰¹ Roelof Petrus Meyer, born in Port Elizabeth, South Africa, on 16 July 1947, is a South African politician and businessman. Originally a member of the National Party – also a former Minister of Defence - he is known for his prominent role in the negotiations to end apartheid in South Africa. He held the position of Parliamentary Defence Review Committee Chairman – cf. <<http://www.issafrica.org.za>>

⁵⁰² cf. <<http://www.dod.mil.za>>

requires the Defence Force to implement the final Review in concrete long-term plans and programmes.

Comments and observations also came from the *South African Military Journal* (April 2012). In its editorial it observes that the 2012 consultative draft of the Defence Review (consisting of 423 pages) provides for interesting and informative reading, as it covers an array of defence-related matters. The editorial adds that the Review requires careful reading and understanding; it creates an opportunity for much comment and opinion-making on the future direction of the SANDF. The opinion is that the Review should assist the SANDF to meet new or redefined threats and obligations, which would have tax implications. The editorial observes that the Review deals with a number of urgent requirements, including the replacement of obsolete equipment, the need to address and implement the amended military disciplinary code, the need for two medical examinations for all ranks every year, the role and function of the Southern African Development Community Brigade, as this brigade provides an example of a professional African Union (AU) military force for use in effective peace-keeping operations, and greater support for the defence industry in its vital role as a cornerstone of the SANDF. The editorial also draws attention to the Review's comments on the dangers of 'foreign control', and advocates limiting foreign shareholding in the local industry to not more than 49 per cent, which resembles the French 'Golden Share' idea.

With regard to concerns over foreign ownership of SADI companies, the Defence Review (2012 and 2014) made certain announcements, confirmed by the former Minister of Defence who addressed the SADI community at the CSIR on 22 March 2012. At this forum she announced the formation of the South African Defence Industry Council, set to become the highest consultative organ on policy between the defence industry and the DOD. This council will also play a decisive role in terms of the future foreign ownership of SADI companies.

Adebajo and Paterson (2012) of the Centre for Conflict Resolution, comment that the Review's proposal to engage the armed forces to promote a '*developmental state*' is limited. For example, it covers limited aspects of development related to military service and how this would be used in relation to the social and educational needs of young adults to enhance the national skills base. Adebajo and Paterson (*ibid*) believe that the Review is too broad in its approach and should address developmental

issues in much more definitive detail. However, the 2012 Defence Review was designed to provide a defence policy that was supportive of the government's priorities and strategic intent, and a reviewed defence mandate with associated defence functions, high-level tasks, strategic concepts, doctrine, capabilities, level of effort and structure. This function was to be complemented by a sound policy for determining the blueprint of the Defence Force design and structure, including the future defence fiscal and resource framework.⁵⁰³

In the ISS brief on the Review, Le Roux (2012) states that the Review falls short of expectations and needs fundamental revision. For example, it fails to indicate the fiscal implications of the recommended policy framework, motivate the proposed vision force design (end state) of the SANDF as presented in chapter nine of the draft document, present any clarity on the short- to medium-term priorities for the force development, preparation and employment of the SANDF, or include gender issues satisfactorily in the South African defence policy.

As part of its democratic consultative responsibilities, the Defence Review Committee began its public hearings shortly after the Minister of Defence's pronouncement (April 2011) and engaged with SADI through AMD. It also met with select groups of researchers from the ISS and the Centre for Conflict Resolution. It undertook several regional engagements in various provinces, both with the public, NGOs and certain academic institutions.⁵⁰⁴ This public consultative process was concluded by the end of September 2012.⁵⁰⁵

Subsequent to this consultative process, but also as a result of requests by the Minister of Defence, N. Mapisa-Nqakula, and President J. Zuma, several further refinements were made to the 2012 Defence Review draft. The final document was tabled to Cabinet and approved on 19 March 2014. Thereafter, Cabinet requested the Review to be tabled in Parliament: this occurred on 3 July 2014. Further debates are anticipated (Sendall⁵⁰⁶, 2014).

⁵⁰³The Joint Standing Committee on Defence received a briefing from the Defence Review Committee on its Defence Review 2012 consultative document. Date: 10 May 2012 - cf. <<http://www.pmg.org.za/report/20120510-workshop-defence-review-committee>>

⁵⁰⁴The Defence Review Committee's report of 20 July 2012 indicated that all the entities were duly consulted, and comments received processed- cf. <<http://www.sadefencereview2012.org>>

⁵⁰⁵cf. <<http://www.sadefencereview2012.org>>

⁵⁰⁶Nick Sendall is from the DOD – part of the Defence Review's drafting team under Roelf Meyer. Presentation at the AMD SADI/DOD workshop on 5 Aug 2014, Pretoria – available from <info@amd.org.za>

The team responsible for the 2014 Defence Review confirmed that it had conducted extensive research across some 44 countries' defence policies and had used ten extensively as a benchmark (Sendall, 2014).

7.5.2 The 2014 Defence Review – Some Key Considerations

The final 2014 Defence Review (hereafter 'Review') differs from its 1996 predecessor in the sense that it is much more expansive of several issues.⁵⁰⁷ The *African Armed Forces* magazine (March 27, 2014)⁵⁰⁸ observes that this is the first major assessment of South Africa's military capability since 1998. The Review obviously also took into account the comments received and observations made during the 2012 consultative process.⁵⁰⁹ For example, it recognises that the international security context has changed dramatically since the mid-1990s: it is becoming increasingly complex and unstable with escalating risks to both international and domestic security (par 9: (vi)).

Therefore, the SANDF will be appropriately equipped, resourced and trained to execute successful multi-role operations across all areas of potential conflict. Informed by the national security strategy, national interest and foreign policy, the strategic defence goals and tasks are focused on attaining the SANDF's constitutionally mandated functions and government's national strategic goals and priorities (par 19: (vii)).

The Review states that defence expenditure, expressed in terms of a percentage of GDP, is seen as the measure of national will and of how seriously a country takes its security, how seriously it takes commitments it has undertaken in respect of regional defence and security arrangements, and how willing it is to face up to unexpected threats to itself or its region. South Africa at present spends less than 1,2 per cent of GDP (par 34:(ix)). A much higher budget allocation is required, or a significantly scaled down level of defence 'ambition and commitment' (par 36 (ix)). Chapter five of the Review records that the Minister of Defence indicated that this allocation needs to increase to at least 2,4 per cent of GDP,⁵¹⁰ although the *Mail & Guardian* (25 March 2014) indicated a much higher figure of 3,3 per cent.

⁵⁰⁷ Cf. <<http://www.dod.mil.za>>; <<http://www.defenceWeb.co.za>>; <<http://sadefencereview2012.org.za>>

⁵⁰⁸ Cf. <<http://www.aafonline.co.za/news/south-africa-defence-review-2014-gives-dire-warnings>>

⁵⁰⁹ The key issues raised during the consultative process is captured in the DOD's executive summary of 20 July 2012 - cf. <<http://www.sadefencereview2012.org/publications/EXECUTIVE%20SUMMARY%20OF%20CONSULTATIONS%20dd%2020%20July%202012.pdf>>

⁵¹⁰ Minister N. Mapisa-Nqakula. *Engineering News*, 23 April 2014

The Review confirms that the defence force is in a critical state of decline (par 38:(x)), characterised by an imbalance between its force capabilities, block obsolescence (e.g. an entire fleet of obsolete soft skin military vehicles) and unaffordability of many of its main operating systems, a disproportionate tooth-to-tail ratio, the inability to meet current standing defence commitments, and a lack of critical mobility. The current balance of expenditure between personnel, operating and capital is both ‘*severely disjointed and institutionally crippling*’ and mismatches the actual requirement for equipment (paragraphs 48 and 52:9-9). In this regard, while considering the Defence and Military Veterans’ 2014/15 Budget Vote, the (re-appointed)⁵¹¹ Minister of Defence, Ms Nosiviwe Mapisa-Nqakula, told members of the National Assembly that ‘*The South African National Defence Force is in perpetual decline.*’⁵¹²

The Review recognises that an arrest in the decline will not happen immediately: it will take at least five years, plus another five years before a ‘limited sustainable capability’ can be reached (Review 2014: par 53:9-9). Sendall (2014)⁵¹³ explains that the DOD is considering a 20-year Defence Development Plan split into four Medium-Term Strategic Framework (MTSF) periods, each of five years.⁵¹⁴ The **first** period started in this financial year (2014/15) and will run to the 2018/19 financial year. It aims to cover military strategy, force structure and design, capability, acquisition plans and funding. Outcomes include improving accountability, increasing funding, maximising UN peacekeeping reimbursements, giving direction to the defence industry, improving acquisitions, renewing, right-sizing and skilling suitable personnel, establishing a Defence Academy and decentralising procurement. The **second** period MTSF goal is to rebalance the SANDF by reorganising command, adjusting the budget, renewing selected equipment, increasing reserve deployments, and growing the intelligence forces, the special forces, and air mobility capabilities. The **third** period includes improving the quality of military leadership, making sure soldiers are disciplined, creating a heavy combat capability that can be deployed and growing the medium combat, maritime patrol, air combat, strategic lift and landward logistics fleet capabilities. The **fourth** period aims to respond to challenges by ensuring adequate military capacity for sustained operations, having a fully functional

⁵¹¹South Africa’s 4th democratic elections were held in May 2014 which resulted in several re-appointments, for example, Pres. Zuma, and the Minister of Defence

⁵¹²cf. <http://www.parliament.gov.za/live/content.php?Item_ID=6203>. 23 July 2014 – the budget of R42.8bn for 2014/15 was approved. See also DefenceWeb article ‘SANDF decline no surprise’ of 24 April 2014 – cf. <<http://www.defenceWeb.co.za...>>

⁵¹³DefenceWeb, 8 August 2014. Military Command needs to get on board Defence Review. Guy Martins. Quoting Nick Sendall and John Gibbs from presentations they made at the AMD DOD SADI day held on 5 August 2014, Pretoria

⁵¹⁴This coincides with the Medium Term Expenditure Framework (MTEF) budget cycle approach used by National Treasury – cf. <<http://www.treasury.gov.za/documents/national%20budget/.../FullReview.pdf>>

defence industry and growing the heavy combat, maritime combat and military engineering capabilities. Once the fourth milestone has been reached, the SANDF would be capable of fighting a limited war with a defence budget of around R 88 billion (c. 2,4% of GDP) with 158 operational units.

Chapter Fifteen of the Review provides comprehensive strategic insight into the SADI. It is regarded as of considerable strategic importance to South Africa's defence and security, and a potential foreign policy tool. A National Defence Industry Council will be established as a significant policy making and coordinating tool for SADI. This Council will be tasked with establishing and maintaining the focus of a national vision in respect of SADI, while coordinating approaches between SADI and the defence force and overseeing the development and implementation of policies and strategies appropriate to the defence industry. The Council furthermore needs to particularly ensure that the National Defence Industrial Strategy is optimally integrated for the defence industry within the National Development Plan (NDP) to include industrial and trade policies and South Africa's regional and wider foreign policy and strategy. The Council also needs to identify and further the optimal development of SADI and coordinate government's marketing support for it (par 3:15-1).

The Review notes that it is necessary to position SADI as an indigenous 'vibrant' industry to attain the defence strategic trajectory. This will in the main include supporting strategic independence and sovereign capability in selected areas, providing optimised cost-effective equipment, systems and services to the defence force and other security services, and deriving economic benefit⁵¹⁵ from necessary defence expenditure. The government's intention is to not only maintain the SADI but to further develop it as a key national asset (paragraphs 9:15-2 and 10:15-2 and 15-3).

The Review (par 13:15-3) realises that establishing, developing and retaining certain defence industrial capabilities will not be governed solely by market forces. Therefore, due regard was given to strategic necessity and advantage, and particularly to defence matériel over which sovereign control is required (i.e. without foreign assistance). Government may retain or establish state-owned enterprises in technology domains that are necessary to attaining national security and defence policy objectives that are not commercially viable in South Africa (par 17:15-4).

⁵¹⁵ In chapter two this was explained in terms of the 'economic or rent seeking' debates linked to defence spending

According to the Review, the relationship between the defence force and SADI is premised on a 'healthy partnership' (par 30:15-5) aimed at firstly, developing strategic technologies, secondly, satisfying on-going materiel needs, thirdly, supporting in-service equipment, and fourthly, upgrading and modernising where appropriate (par 28:15-5). To achieve these aims, it is envisaged that the SANDF will develop a coherent long term defence capability plan that will enable the SADI to plan adequately for such needs (par 50:15-8).

Finally, the Review (par 54:15-5 and 15-6) refers to a balanced, aligned consideration of DIP and NIP obligations that may emanate jointly from a defence acquisition. It expresses the need to effectively implant NIP commitments to ensure that effective life cycle support and upgrade of equipment is addressed. Furthermore, key identified technologies must be established and efficient links created between various national industrial policies (e.g. IPAP). Specific DIP policy adjustments recommended in the Review are discussed in chapter eleven.

To conclude, Cilliers (2014) notes that the Review is a vast improvement on the previous public version of 2012. Although it does not set out alternative force design options, it presents the costs of its preferred options. The Review includes considerable background material that may not all be necessary – but given the state of the SANDF, this is as much a manual to 'fix' the department as it is a path towards the future (*ibid*: 2). It sets a strategic trajectory. The Review sets four specific goals that address defending and protecting South Africa, safeguarding borders, cooperating with the police services and critical infrastructure. It focuses on promoting peace and security, undertaking its responsibilities with regard to its international treaty obligations, and contributing to developing South Africa and its people. Cilliers (*ibid*: 4) reiterates that South Africa has for the past decade underspent on defence: he cites Angola as currently spending five times more than South Africa on its defence. Other African countries, such as Algeria, Burundi, the DRC, Morocco, Swaziland, Uganda, Libya, Chad, Sudan and South Sudan also spend more than South Africa on defence. Cilliers (*ibid*) concludes that the 2014 Review is recognised as an extremely important step towards rejuvenating the SANDF, although many South Africa defence issues require further debate. These include Armscor's future role and SANDF's strategy for Africa and related peacekeeping operations.

7.6 Summary

Both the SANDF and the SADI will be accorded new priorities. SADI will not only attend to the SANDF's on-going equipment needs, but also provide South Africa with a fresh mandate and the opportunity to expand its military sales footprint in African and various other markets. Prominent companies in the SADI sector, by virtue of the SDP, have been integrated into the global defence supply chain network through the European defence OEMs (Haines, 2012b). However, the Review places specific restrictions on the future role of foreign owned defence companies in South Africa.

The SANDF's Annual Performance Plan (APP) for 2012 to 2015, refers specifically to restructuring the defence industry, focusing on required defence capabilities and their sustainability, ostensibly aligning with the Review. The 'Defence Industry Framework and Function' are to be fully aligned to ensure synchronisation between defence mandate and requirements. The restructuring emphasis will be on the governance, risk management, compliance and accountability framework function applicable to the defence portfolio.

The Review is explicit in its pledge to continue to support the further development of the local defence industry, which it views as a national asset that needs to be maintained for sound reasons of strategic and sovereign independence. This will be achieved through investing in new technology developments and long-term, well-planned government procurement involving a substantial increase in defence spending as a percentage of GDP. As explained earlier, this will need time. Developments in the defence environment both locally, regionally and internationally will consistently impact the SADI and the role it plays. SIPRI (2013) finds that world security has become much more globalised, dynamic, complex and transnational in nature with increasing flows of information, people, capital and goods.

CHAPTER EIGHT: THE SOUTH AFRICAN STRATEGIC DEFENCE PACKAGE OF 1999

8.1 Introduction

This chapter covers the rather controversial subject of the Strategic Defence Package (SDP) transaction of 1999; controversial in the sense that it was the biggest arms transaction in the history of South Africa; controversial in the sense that opponents to the transaction put many rent seeking arguments forward, while others claimed gross misconduct in the award process, followed by numerous allegations of fraud and corruption; controversial in the sense that there were several court cases as a result of the SDP (class action law suits, a civil claims (delict) law suit and criminal convictions); and lastly, controversial in the sense that Parliament was reportedly never afforded the opportunity to debate and approve the SDP – approval happened only at Cabinet level.

It is therefore no surprise that in exercising its duty to keep the public informed, the media reported these alleged controversies extensively. Comprehensive coverage was given to all aspects of the SDP and thousands⁵¹⁶ of media reports exist, far too many to capture in this thesis' bibliography. The single best source covering all the SDP-related media reports is the virtual press office created by Richard Young, the owner of CCII. It is available at <<http://www.armsdeal-vpo.co.za>>, and is updated regularly with commentary often provided by Young. Other sources are Ipocafrika,⁵¹⁷ News24⁵¹⁸ and the independent websites of the various newspapers and the Arms Procurement Commission (APC)⁵¹⁹ of Inquiry.

The SDP is possibly the most and longest investigated transaction in the history of South Africa – investigations started in 2001 and are on-going: the latest (2011) was the appointment of the Arms Procurement Commission (APC) of Inquiry. Furthermore, this chapter must be read in the context of preceding chapters that dealt with the role of government, the 'power-elite', the MNEs, technology, rent-seeking, non-transparency in arms deals, countertrade and offsets, defence spending, and the military industrial complex, defence industrial base (DIB). This

⁵¹⁶ According to this virtual press office website (operational since 17/4/2002) the media reports count is **12 002** – as at 16 November 2014 (this count is static since August 2014 – it seems Young might be losing interest?)

⁵¹⁷ cf. <http://www.ipocafrika.org/index.php?option=com_content&view=article&id=70&Itemid=67>

⁵¹⁸ cf. <http://www.news24.com/Tags/Topics/arms_deal>

⁵¹⁹ cf. <<http://www.armscomm.org.za>>

chapter places the SDP in the context of the ensuing chapters that specifically deal with the DIP policy and how its objectives were or were not achieved as a result of SDP DIP obligations.

The following account of the SDP process, from 1997 to December 1999, is largely premised on my involvement (mostly 'back office support' – cf. AG, 2001:228) in the DIP (and NIP) process (cf. Van Dyk, 2004:251-286). There are, however, several independent accounts, such as the Auditor General's.⁵²⁰ Various other studies were undertaken, for example, the SA Institute for Strategic Studies (ISS) and AMD,⁵²¹ Seegers and Sylvester (2007); Holden (2008, 2009), and Holden and Van Vuuren (2011), Crawford-Browne (2012). There is a very comprehensive documented account of the reasons given and the selection and decision processes followed in awarding the various SDP contracts that can be found on the APC's website.⁵²² For the first time the public is given insight into the defence acquisition process.

Although this study is not about the defence needs of South Africa, they form an integral part of the defence industrial base discussions and it was necessary to include them as they have direct relevance to the DIP case study, since the SDP formed the basis for its leveraging.

Readers are alerted to the fact that the various APC testimonies and support documentation that was uncovered by the process can have many diverse interpretations, depending on what specific agenda is pursued. There is an extremely wide range of information stemming from the hearings during both Phase 1 ('the government officials' testimony phase') and particularly Phase 2 that deals primarily with what the APC refers to as 'the critics.'⁵²³ During both these phases of hearings, government officials' testimonies were substantiated by extensive official government records. In this process various emotive opponent views featured quite eloquently. The challenge as researcher was to weigh the value of the information, that is, the factual (objective) relevance of it against the emotive (both subjective and speculative) more sensational information. The account on the SDP below focuses primarily on substantive factual information (based on various official government [primarily DOD and Armscor] classified documents and recorded minutes of

⁵²⁰ The joint investigation into the SDP was undertaken by the AG, the NPA and the Public Protector during 2000-2001. The AG's report of 14 November 2001 was submitted to SCOPA – cf. <<http://www.agsa.gov.za>>

⁵²¹ ISS - Cilliers, 1998, Sehlapelo, 2002 and Botha, 2003; and AMD 2006

⁵²² cf. <<http://www.armscomm.org.za>>

⁵²³ These 'critics' are primarily De Lille, Taljaard, Maynier, Woods, Fernstein, Holden, Van Vuuren and Crawford-Browne

meetings, official policies, copies of signed contracts, etc), and simultaneously provides a fair overview of the opposing arguments. The APC's hearings, transcripts, testimonies and documents submitted as evidence, are in the public domain and available for all to read, scrutinise and draw their own conclusions.

First, it is necessary to take the reader back to the 1994 democratic election. After its election, the ANC government was faced with numerous social, economic, and security concerns. During 1996, the government underwrote the need for South Africa to be able to defend itself against threats to national security. This view is clearly evident in the Defence White Paper of 1996 and the subsequent Defence Review of 1997 (DOD, 1996, 1997; cf. Cilliers, 1998). Anticipated threats included regional instability, cross-border banditry and coastal piracy, which affected SA's ability to develop its economy and attract investment (GCIS, 1998, 1999). Crawford-Browne, who represents the interests of Economists Allied for Arms Reduction South Africa (ECAAR-SA),⁵²⁴ rejected the notion that South Africa faced any threats at all. During his testimony to the APC (from 6 to 9 October 2014), Crawford-Browne stated that *'there was no conceivable foreign threat to South Africa. We were not under threat from the Soviet Union or Russia or China or the United States. The threat was internal and it was a question of poverty'* (transcript p8197).

However, threats come in many forms, as acknowledged in the 1997 Defence Review, which took certain of South Africa's socio-economic needs into consideration. For example, on the maritime side South Africa's vast territorial waters (its 'economic exclusion zone' [EEZ]) have for many years been 'open for exploitation' to foreign entities, as the government did not have the means to protect SA's fishing resources. It is generally accepted that the navy's new surface vessels, such as the corvettes, are a visible deterrent, while submarines are an invisible deterrent. Submarines also perform a strategic operational function in peace-keeping operations, since they can be covertly operated. Several senior naval officers⁵²⁵ explained the operational deployment of the corvettes and the submarines during the APC hearings in 2013. With regard to the air force, light helicopters are its work horses and are used for crime protection and as police support (e.g. in the prevention of rhino poaching or for tracking poachers) and border patrols (i.e. illegal immigrants entering across a border of some 3 500km long). In times of natural disaster, for

⁵²⁴Cf. <<http://www.ecaar.org/Newsletter/May03/ellis.htm>>

⁵²⁵These Officers are: Rear Admiral Alan Graham Green.(ret), Rear Admiral Robert William Higgs, Admiral Philip Schoultz, Rear Admiral Derek John Christian, and General Solly Zacharia Choke: Chief of the SANDF

example, during the major floods of the past decade, SAAF helicopters saved hundreds of people - also in Mozambique. Although SA did (and still does) not face military aggression from its neighbours, the SANDF has been involved in peacekeeping operations in Africa without adequate air support. Seegers and Sylvester (2007) note that the SANDF is *'quite legally and legitimately involved in secondary functions, notably peace and/or police support operations, for which its conventional capability is ill suited.'* However, they (*ibid*) add, *'Corvettes and utility helicopters may be necessary but definitely not fighter jets and submarines.'*

Notwithstanding, the defence policy and position papers of 1996 and 1997, respectively, paved the way for the process of re-stocking⁵²⁶ a rather depleted SANDF inventory, no major defence equipment had been bought since the late 1980s (*cf.* Gleditsch, *et al.*, 1996; Cilliers, 1998; Batchelor and Willet, 1998; Dunne and Lamb, 2003). The most seriously affected Arms of Service were the SA navy and air force.

The following discussions focus on the sequence of events related to the SDP in particular.

8.2 The Context in which the South African Government Decided to Opt for a Strategic Defence Package

The key chapters on *'Growth-core force design'* of the 1997 Defence Review were, *ipso facto*, approved by Parliament and subsequently adopted by Cabinet on 18 June 1997 (*cf.* Singh, 2000). However, at that stage Cilliers (1998) had already pointed to the dichotomy in planning and practice, which were clearly at odds, since the budget and budget prospects of the DOD were insufficient to support the approved force design, unless the GDP defence allocation was increased again (this aspect was discussed in chapter 7).

Since government had approved the force design, one has then to consider the reality the SANDF faced at that time. By 1999, both the South African navy and air force were in dire need of new equipment. Both these Arms of Service had for decades not received any new replacement equipment and the remaining equipment

⁵²⁶ Also referred to as re-equipping - meaning the formal process of acquisition covered in the Armscor policy VB1000 of 1994

was fast reaching the end of its operational use.⁵²⁷ For example, the navy had no long distance sea patrolling capabilities left and there was only one old upgraded French origin Daphne submarine in service. The air force, on the other hand, had no light helicopter and jet engine training aircraft capabilities left, so there was a gap between its basic trainer aircraft (Pilatus PC7) and the Cheetah frontline fighter aircraft. Most modern defence forces operate advanced fighter aircraft as their frontline air defence capability. The air force always used a three tier training method for its fighter pilots (*cf.* Bayne, 2013; Malinga, 2013; Hechter, 2013).⁵²⁸ This means a process of gradually up-skilling fighter pilots from a basic prop-driven trainer to a more advanced jet engine aircraft to prepare them for 'front line' fighter aircraft operations. The SAAF's aircraft avionics and cockpit layouts for all three types of aircraft are similar. This makes converting from a lower to a higher level aircraft much easier. To note: the SAAF's fleet of Cheetah D aircraft was to be phased out by 2008 and the Cheetah C by 2012 – 'Project Kambro' was already registered for this by 1997 (*cf.* AG, 2001:64; Ferreira, 2013:3626). Replacement projects for sophisticated aircraft take a number of years to complete - so whether the Gripen had been acquired as part of the SDP or not, it would still have remained a requirement. Acquisition for Project Kambro would have been necessary to commence with by 2004 at the latest.

The South African army, too, had been operating modified and upgraded Centurion tanks of 1960 British origin, known as the 'Olifant'.⁵²⁹ The Defence Review (DOD, 1997) indicated the need to replace the present inventory of 224 Olifant Mk1A/1B tanks with 154 new-generation tanks from 2009⁵³⁰ (*cf.* Cilliers, 1998; Batchelor and Dunne, 1999; Botha, 2003a,b and AMD 2006).

One has also to consider the reality that faced the SADI at that time that is post 1994, as explained in chapter seven (*cf.* Cilliers, 1998; Batchelor, 1998; the White Paper on the SADI, 1999; Botha, 2003a,b; AMD, 2006). Although Denel, Aerosud, ATE and Grintek had the collective capabilities to build a lead-in-fighter-trainer aircraft (LIFT),

⁵²⁷The fact is that up to 1999 the Defence Force, through Armscor, had not engaged in any major equipment acquisition programme for many years. The defence budget had shrunk dramatically compared with the mid-1980s (*cf.* Batchelor and Dunne, 1998; Abrahams, 2001). This is also stated in the 2014 Defence Review.

⁵²⁸Air Force Officers testifying at the APC: Brig Gen William Bayne; Maj Gen G. Malinga and Lt Gen (ret) Willem Hechter: former Chief of the SAAF

⁵²⁹Olifant means 'elephant' – it is customary for the SANDF (Army and Air Force mainly) to give indigenous animal names to its equipment

⁵³⁰This requirement was dropped from the SDP because of affordability considerations and the fact that there was no immediate serious need for MBTs, given the SANDF's threat scenario (AG, 2001; also Esterhuyze, 2014)

the advanced-light-fighter-aircraft (ALFA) and helicopters,⁵³¹ they all suffered from a serious lack of capacity (i.e. impractical factory space, old machinery and production process methodologies), capability (i.e. skills and technologies), and financial resources (i.e. development funding for specialised production equipment). To upgrade and replace these would have required vast investments and time. Denel, for example, was still struggling to complete the prohibitively expensive development work on the indigenous Rooivalk attack helicopter that had its roots in the early 1980s. Rooivalk was only fully operational after 25 years of continuous development with a substantial cost premium attached.⁵³² In chapter six it was explained how international companies are joining forces to share the prohibitive high costs involved in new product developments, particularly expensive technologically advanced defence equipment.

On the maritime side, the picture was as bleak. South Africa did not have a substantial defence-related maritime ship building industry (*cf.* Baker⁵³³, 2012). According to Dunne and Lamb (2003), (see also Dunne and Haines, 2005) the industry was concentrated in Durban and Cape Town, but had downsized dramatically, which contributed to the loss of valuable capabilities and skills. The country's only naval shipyard, Dorbyl Marine, closed in the early 1990s because of poor trading conditions. The industry lacked the capacity to design and manufacture major naval ships, including submarines, although a few companies had the capacity to design and manufacture small harbour patrol boats. The local maritime industry had limited systems integration capabilities in naval electronics (including ship borne radar systems and combat suites), research and development, and ship repair and maintenance. At the time Batchelor and Dunne (1999) pointed out that the maritime sector was not particularly well placed to benefit from the navy's acquisition programme without significant investment to upgrade and expand its existing capabilities. However, Haines (2005) argues that the maritime industry could have used the industrial participation programme as a means of survival.

Despite the fact that South Africa boasted a fairly sophisticated defence industrial base, the reality that faced the SADI was that budgetary constraints prohibited a full scale local production programme of the SDP's magnitude (also acknowledged in the White Paper of 1999 on the SADI, *cf.* AMD 2006). Hence government's decision to

⁵³¹ They had been building aircraft and helicopters for the past 30 years. Examples are the Impala, Oryx, Rooivalk and Cheetah programmes

⁵³² *Engineering News*, 20 May 2011 – the Rooivalk is eventually operational for deployment by the SANDF

⁵³³ Deane-Peter Baker (PhD) is an associate professor at the US Naval College - *cf.* <<http://www.usnwc.edu/>>

procure a range of sophisticated defence equipment from abroad.⁵³⁴ Dunne and Lamb (2003) view government's approval of the SDP as an explicit recognition that it could no longer support an all-purpose defence industry.

Over and above the realities of defence needs at that time, the question arises how the concept of a 'strategic defence package' came about. One answer possibly lies in the testimony of Esterhuyse (2014), who stated that in January 1997, the UK's Defence Export Services Organisation (DESO)⁵³⁵ approached Armscor and the DOD with an unsolicited proposal to supply the SANDF with a 'package of defence equipment' – ostensibly all UK manufactured. DESO proposed a government-to-government supported initiative. This set the ball in motion with late Minister Modise decided to use the concept on an open tender basis. So the 'Strategic Defence Package' – the SDP - was conceived at the end of October 1997.

According to Steyn's testimony (2014:6088), on 31 October 1997, during a Council of Defence (CoD) meeting chaired by the late Joe Modise, Armscor chairman, Ron Haywood, was quoted as stating that countertrade (i.e. DIP and NIP) would play a very important role in the foreign acquisition process. Steyn (*ibid*) notes that Modise subsequently stressed the importance of having foreign companies establish themselves in South Africa in support of the defence industrial base, thus creating 'perpetual growth'. Modise added that the government had a specific business strategy (*ibid*:6110). At a subsequent Armament Acquisition Council (AAC) meeting held on 30 April 1998, the minister suggested a '*visionary approach*', noting that a new fighter trainer aircraft would allow SA's defence industry to join the global defence market. This visionary approach alluded to the increased prospects of the local defence market partnering with major international European defence companies. With this approach the most inexpensive option was not necessarily the best option. The Minister requested that the DOD Acquisition staff bear this in mind during the tender selection process (*ibid*:6170). Steyn summed up that Modise was suggesting that South Africa enter the EU market through partnerships, and concluded that the SDP seemed to be primarily premised on the benefits of an anticipated industrial participation programme (*ibid*:6207).

⁵³⁴Domestic markets are traditionally too small to support the efficient levels of plant size and horizontal and vertical specialization to protect industries in this second phase of import substitution, making international cost competitiveness and the consequent ability to export cardinal imperatives. (cf. Hope (1992), Stiglitz (1995), Meier and Rauch (2005))

⁵³⁵Holden and Van Vuuren (2011) put this first contact date as 1993, and there were also rumours that Modise had been involved with BAES since 1991

However, Haines (2012) criticises the 1998 'visionary' approach, observing that the South African government, by mostly externalizing its defence procurement and looking for substantive accompanying packages of industrial participation (offsets) and countertrade, has in effect chosen a questionable aspect of industrial policy, and compromised the national defence industrial base by effectively reducing it (what he terms 'shrinkage'). The approach also raises concern over the government's transparency and accountability: there were distinct political and institutional factors at play in conditioning the globalisation dimensions of the SDP. They were conditioned by elite political and accumulation strategies (*ibid*).

What is also interesting to note is that the shift from one set of suppliers to a new set reduced local revenue, infrastructural and social capital assets (Haines, 2012, quoting from his earlier research in 2007 and 2011). The shift from a local production base, which drew from selected European and Israeli production and technology partnerships, to new suppliers, meant that equipment purchased before the implementation of the SDP was largely made redundant by a new supply chain and more expensive maintenance outputs. Also, existing social and infrastructural capital and indigenous production and expertise were side-lined and/or asset stripped. The hidden costs of these choices were overlooked by the relevant committees – notwithstanding warnings by SANDF and industry specialists. However, the observation was made in chapter seven that by 1999, the SADI's infrastructure was already old and in need of substantive renewal and it is thus not particularly clear how Haines arrived at these specific conclusions and how he quantified 'hidden costs'.

On the other hand, during the APC hearings both the Chiefs of the SAN and SAAF and senior SANDF officers and officials from Armscor, the DTI and National Treasury made statements under oath (with supporting official government documentation) that put forward contrary information to the many opposing arguments concerning equipment costs and allegations of underutilisation. Therefore, apparent beliefs that no consideration was given to 'so-called hidden costs' appear to be unfounded.⁵³⁶

In short, and despite opposing views, the fact of the matter is that the SDP offered an opportunity for bulk replenishment of defence equipment with a financing solution that resolved inadequate levels of capital expenditure funds in the special defence

⁵³⁶ cf. <<http://www.armscomm.org.za/hearings/...>>

account (SDA – dedicated to capital equipment). Simultaneously, the SDP offered ideal and lucrative leveraging prospects for industrial participation (both DIP and NIP) (cf. GCIS, 1998, 1999 and AG, 2001). On the other hand, Haines (2012:6), for example, notes that in this process certain of the new and overlapping business and political elite saw distinct opportunities for accumulation through facilitating successful tenders and taking favourable positions in local defence firms. Haines (*ibid*:17) furthermore finds that the move by black business elites into the South African defence industry may in several cases have been assisted by the manoeuvring of multinational defence contractors, and certain white business agents and personalities, who had dealings in the ‘grey’ areas of South Africa’s pre-apartheid economy.

8.3 The Strategic Defence Package Acquisition Process

This section explains how the SDP’s acquisition process unfolded through a structured, formal process governed by various DOD and Armscor acquisition policies and procedures. Armscor remains, by law, the formal acquisition agency for all armament and defence equipment and services requirements (cf. Act 57 of 1968, as amended and later replaced by Act 51 of 2003). Hence the ensuing explanations are provided against the background of numerous prevailing allegations that the SDP’s acquisition process was seriously flawed (cf. Holden and Van Vuuren, 2011). Crawford-Browne in his testimony at the APC, for example, stated ‘...*I repeat my contention that the whole arms deal acquisition was unconstitutional, criminally fraudulent and it is actually stupid, right from inception...*’ (transcript page 8231).

The SDP’s initiation commenced with the DOD drafting a policy directive (No.4/147) approved by the CoD on 8 August 1997 (Griesel, 2014:11). Armscor, in collaboration with the DOD and the User (navy and air force), commenced drafting the initial tender response documents. This was called the RFI (Request for Information) phase. In September 1997, the RFI was issued to the embassies of nine countries. Its purpose was to establish which international suppliers could potentially provide the required equipment. This resulted in submissions from eleven countries (three unsolicited). In total 37 responses were received for seven product types of defence equipment (AG, 2001:49). These responses were evaluated and a short list of possible contenders was compiled. This first round of evaluation primarily considered the technical side of

the requirement. To note: The JIT Report (AG2001:59-60) contains a detailed flow diagramme of the SDP's acquisition process.

The next stage was to invite RFOs (Request for Offers) from the short list of nominated foreign suppliers. This was to solicit the best offers. The RFO covered aspects of technical, price, industrial participation and financing. This occurred in February and May 1998. The DOD invited formal tenders, via Armscor, for six corvettes, four submarines, six maritime helicopters (MH), sixty one light utility helicopters (LUH), twenty four lead-in-fighter-trainer (LIFT) aircraft, thirty eight advanced-light-fighter-aircraft (ALFA) and one hundred and eight main battle tanks (MBTs) (AG, 2001; Griesel, 2013).

No bids were received from any US company, owing to the fact that although the UN had lifted all its sanctions on South Africa, the US government had still not removed South Africa from its list of 'banned' countries.⁵³⁷ The only 'exception' was Bell Helicopter⁵³⁸ that used its Canadian branch (its head office was in Texas) to tender for the light utility helicopter. The US' indictments in 1994, of Armscor and Denel, were imposed despite the fact that the UN embargoes were all lifted. These were settled in 1996, followed in 1997 by the South African government's plea bargain penalty of USD 12 million. However, the debarment was only lifted formally in 2004 (*cf.* Henk 2006: 77).

Tenders (RFO responses) closed in May and June 1998 followed by an exhaustive evaluation period during 1998, and an even more intense negotiation period during 1999 (*cf.* AG, 2001; Griesel, 2013).

8.4 The Evaluation Process

There is criticism that the evaluation process was manipulated in order to derive a specific outcome. (*cf.* Holden, 2008, 2009; Holden and Van Vuuren, 2011, Crawford-Browne, 2002, 2004, 2007, 2008, 2009, 2012, 2014). The following detailed account explains the assessment and evaluation process and how it was conducted from the initial stages of the SDP through to where Cabinet provided final approval.

⁵³⁷ *cf.* <<http://www.nytimes.com/1998/02/28/world/us-after-35-years-lifts-arms-embargo-against-south-africa.html>> - by the time the US embargoes were officially revoked, SDP tenders were long awarded

⁵³⁸ *cf.* <<http://www.bellhelicopter.com/>>

On 7 April 1998, the DOD officially appointed the Strategic Offers Committee (SOFCOM) to coordinate the evaluation processes and to consolidate findings and recommendations for submission, first to the Cabinet appointed Inter Ministerial Committee (commonly referred to as the Ministers' Committee) and then to Cabinet. In terms of its appointment, SOFCOM was to support the MOD in managing and executing the DOD's involvement in the international government-to-government strategic partnership and alliance proposals offering defence equipment (cf. AG, 2001; Griesel, 2013).⁵³⁹

SOFCOM was jointly chaired by the Chief of Acquisition (C:Acq) of the DOD, Shamin (Chippy) Shaik and Armscor's General Manager (GM) for Aeronautics and Maritime, Erich Esterhuyse. The structure deployed for evaluating and assessing is shown in Figure 25 below (cf. AG, 2001; Griesel, 2013; Esterhuyse, 2014).

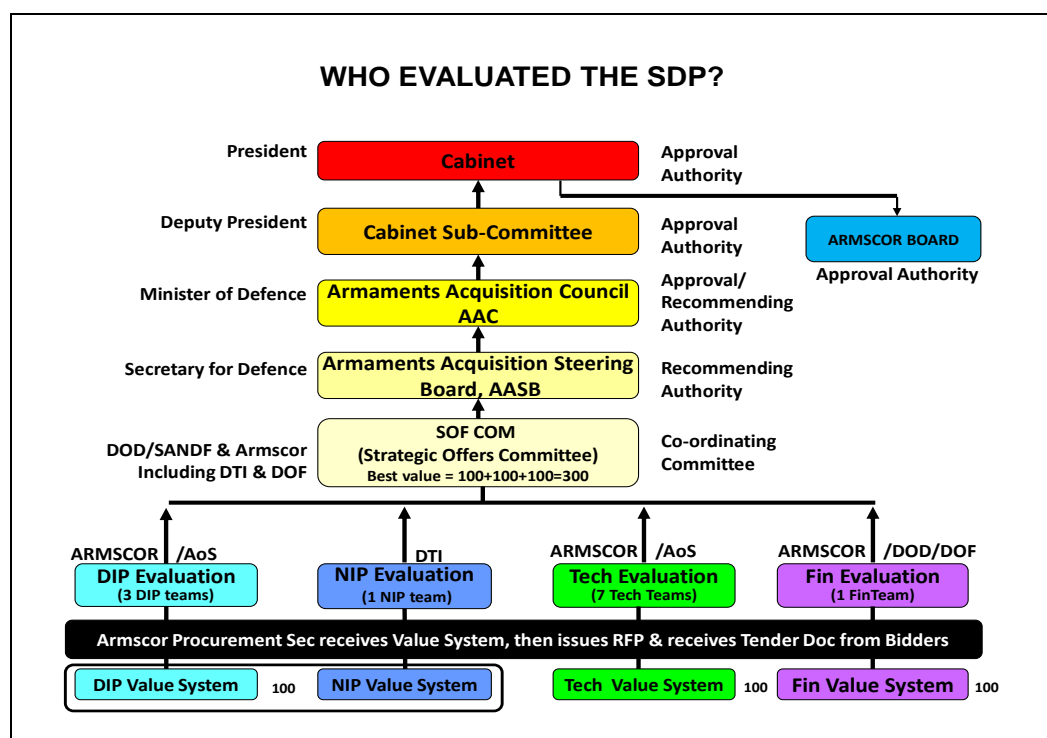


Figure 25: Who evaluated the SDP (Source: author's adaptation based on flow processes contained in the Auditor General's Joint Report of 2001, and the presentation made by Griesel from Armscor to the APC, 2013, 2014)

Various work groups were established under SOFCOM. Although the DIP and NIP workgroups conducted their evaluations independently, the results were later consolidated through a moderation process before recommendations were made.

⁵³⁹Reference C ACQ/D WPN S/R/302/6/B, MOD, Pretoria, 7 April 1998 – APC evidence pack of D. Griesel p53

(This aspect is dealt with later in this chapter.) This process made it physically impossible to have any cross-influencing impact on any recommendation submitted to SOFCOM (a rough count points to around 250 people involved in this process). It is important to take note of this point, as it has to be made clear that up to this time, the prescribed evaluation processes were diligently followed by all the respective teams. However, what occurred after SOFCOM stopped operating on 3 July 1999, is one aspect of controversial speculation - as will be discussed later in this chapter with regard to the choice between the two possible suppliers of the LIFT aircraft and various sub-system supplier trade-offs. The reader's attention is also drawn to the fact that Armscor commissioned two separate series (one in 1998 and the other in 1999) of internal auditing to be done on the entire selection and evaluation process. Neither of these two reports pointed to maladministration or misconduct, although they indicated some 'hind sight shortcomings', particularly the DIP separation from the technical evaluation process (testified to by Armscor's Senior Manager Internal Audit⁵⁴⁰ at the APC on 1 April 2014: p5317).

All recommendations were tabled at the SOFCOM meeting held on 2 and 3 July 1998. This was the first time the SOFCOM saw the submission documents. SOFCOM interrogated each of the evaluation findings and assessments of the respective teams. It was during this meeting that the value system was changed to allow each of the transactional aspects to carry equal weight. In the initial model the value system gave a lower weight to financing and higher weightings to the technical and countertrade elements. At this meeting the Chief of Acquisition argued that this imbalance could skew the end result. SOFCOM therefore decided to change the consolidation methodology into a value system that would allow an equal weighting. Therefore, the military value (i.e. the operational, technical and price element), the industrial participation and the financing elements would each carry a weight of 100, making the total score 300.⁵⁴¹ On the industrial participation side, the DIP and NIP each counted 50 (*cf.* Griesel, 2013, 2014; Esterhuyse, 2014).

After SOFCOM's meeting of 3 July 1998, the forum ceased to function and Armscor's Griesel was then responsible for consolidating all the results into one collective submission made by the Chief of Acquisition to the AASB meetings of 8 and 16 July 1998, respectively, before it was submitted to the AAC and Cabinet for final approval (*cf.* AG, 2001, Griesel, 2013, Esterhuyse, 2014).

⁵⁴⁰ Jacobus Gerhardus Grobler on 1 April 2014

⁵⁴¹ The initial weighting was supposed be done with adding the Military Value plus IP value divided by financial, that is cost

What is important to note is the sequence of '*the behind-the-scene-events*' that occurred between 3 July 1998 and 18 November 1998. During this time there were many dynamics at play between the Defence Secretary's office, the DOD, the MOD, the SANDF as User, and Armscor (this process is regulated in the Armscor acquisition policy VB1000, Armscor, 1994). Armscor would particularly have been concerned with final equipment configuration selections. Due to the complex nature of the SDP equipment specifications on offer (by sub-contractors both local and foreign), sub-system offers also had to be aligned with user requirements (navy and air force). This resulted in a continuous flow of communications and discussion surrounding the final choices that had to be made.

Some of the sub-system choices, primarily technical user-related, provided a challenge in the sense that the DIP on offer from these respective sub-system suppliers differed. The respective users, from a purely technical non-commercial point of view, called in the DIP Division to subject these sub-system suppliers to exactly the same evaluation used for the major equipment (it is important to note that at the stage when the bidders' DIP proposals were assessed, no specific sub-system evaluations were conducted, since they formed an integral part of the total DIP offer).

Sub-system DIP trade-off comparisons were conducted on the suppliers of the gear boxes and gas turbine engines for the corvettes, the suppliers of engines and transfer gear boxes for the light utility helicopter, and suppliers of the periscopes for the submarines (*cf.* De Beer, 2014). Otherwise several other user specific functional sub-system assessments were made, but these were non-DIP related and purely technical and operational in nature. The respective project teams were to decide the most appropriate and cost effective solutions, albeit considering the DIP as a possible overriding consideration. These sub-system DIP assessments were of particular inquiry by the APC (2013, 2014).

One sub-system selection (based on technical, cost and risk considerations) that later turned out to be a matter of difference of opinion related to a specific element of the corvette's combat suite. This resulted in a controversial dispute with one of the local companies, namely, CCII, Richard Young's company. This aspect is covered in more detail further below, as it ended in a delict court case with an out of court settlement in favour of Young.

Another rather controversial subject is the selection of the BAE System's Hawk aircraft over the Aermacchi's MB339 aircraft as the new LIFT aircraft for the air force. Holden and van Vuuren (2011) maintain that the Hawk's selection process was flawed and manipulated. The 'controversy' started around 30 April 1998⁵⁴² when the AASB instructed the project team to prepare a 'non-costed' comparison between the two aircraft – meaning that only the operational and technical elements, excluding price, were to be considered. This evaluation pointed to the Hawk as a better 'force multiplier' option for the air force (cf. Ferreira, 2013, Griesel, 2013).⁵⁴³

The Chief of the South African air force at the time, Lt Gen (ret) W. Hechter (2013), indicated that the SAAF accepted that the SDP equipment was primarily a political decision (ostensibly referring to the minister's 'visionary approach') and that the SAAF would be satisfied with either the Hawk or the Aermacchi aircraft.⁵⁴⁴ The Secretary for Defence, on the other hand, was not satisfied with this turn of events, since he believed that the air force would not be able to carry the increased operational costs associated with the Hawk's deployment. However, despite his objections and reservations, the Hawk was chosen. Hence Steyn's concession (referred to earlier) that the SDP appeared primarily to be premised on the benefits of the anticipated industrial participation (*ibid*:6207). Steyn, largely as a consequence of the decision to choose the Hawk, tendered his resignation as Secretary for Defence (cf. Crawford-Browne, 2014:8207).

Although the flow process (cf. Figure 25 above) reflects a hierarchical approval structure, in his testimony to the APC, the former Secretary for Defence, Lt Gen (ret) Pierre Steyn (2014:6089-6209), indicated that in practice the SOFCOM Chairperson bypassed the AASB (where Steyn chaired). Steyn stated that this occurred after the selection process (i.e. SOFCOM of 2 and 3 July 1999 with Shaik, then Chief of Acquisition, the co-chair). Steyn viewed this as a deliberately subversive attempt on Shaik's part to sidestep him. Steyn also accused Shaik of 'tampering with minutes' (i.e. changing the content after meetings – covered further down when dealing with Shaik's testimony). In addition, when Steyn was not in office, minutes were signed off on his behalf by other senior officers. Whether these acts of Shaik were premeditated can only be determined by the APC after their investigation is completed. However,

⁵⁴² Minutes of a special AASB meeting held on 21 October 1998 – ref C ACQ/S/521/3/1/2/15/4 – page 172 of the evidence pack of Griesel – cf. <<http://www.armscomm.org.za>>

⁵⁴³ Page 23 of Griesel's evidence pack to the APC – cf. <<http://www.armscomm.org.za>>

⁵⁴⁴ It must be noted here that in the official Armscor acquisition policy VB 1000 par 8.4.2 there are programmes that have 'a significant political profile', meaning that in those instances political decisions may outweigh any other considerations

Holden and van Vuuren (2011) having considered all the decision making processes of the SDP from inception to post conclusion, pointed to the fact that the Chief of Acquisition, Shamin (Chippy) Shaik played a major and decisive role throughout the entire process. Holden and Van Vuuren allege that as Chief of Acquisition, Shaik 'arranged things' so that he, by default, would have to be present at the most crucial decision making forums. Shaik was also the advisor to Modise, who was the chairperson of the AAC and part of the Ministers' Committee. Furthermore, Shaik was the secretariat (also the secretary) for the Ministers' Committee and assisted Naidoo with making presentations and taking minutes (as Steyn testified). Holden and Van Vuuren (2011) express the view that Shaik master-minded many a decision. This purportedly include the decision to continue to evaluate the German bidders despite the fact they were by law (i.e. legally) non-tender compliant (this is dealt with further down when dealing with Shaik's testimony to the APC).

Since one of the many 'controversial' aspects of the SDP relates to the process that allowed the Germans back into the 'SDP race', it is necessary to put this in context. When the final RFOs were received, the DIP's evaluation teams were required to ensure that all the tenders conformed to the critical tendering prescriptions. For the DIP (and NIP) there were certain criteria to be met, or a bidder would be disqualified. The most critical criterion was furnishing a duly completed and signed 'Confirmation by Bidder' (CBB). This confirmed the bidder's full, unreserved, irrevocable acceptance of the DIP and NIP obligations. Several bidders did not comply with this CBB criterion. They were the German Frigate Consortium (GFC), the German Submarine Consortium (GSC), Kockums of Sweden, Dassault Aviation and GIAT Industries from France. In two memoranda dated 18 May 1998, the Manager of the Countertrade Division⁵⁴⁵ brought to the Armscor Company Secretary and Legal Advisor's attention these bidders non-compliance and requested a legal opinion. The legal opinion concurred that these bidders were non-compliant and could thus be disqualified (*cf.* AG 2001:173-176).

Notwithstanding, on 1 June 1998, the Manager of the Countertrade Division⁵⁴⁶ wrote another memorandum to the joint chairpersons of the SOFCOM to request permission to engage these non-complaint bidders. This was done in an attempt to get them compliant so that their respective offers could be evaluated. This step was premised on three considerations: the first is that during 1997, based on the RFI

⁵⁴⁵The author

⁵⁴⁶*ibid*

process, an extensive assessment had already taken place that resulted in the preferred suppliers being identified and issued with the final RFO. Secondly, the industrial participation element was but one of three qualifying elements, and thirdly, in accordance with the following two statements contained in the respective RFOs, '*Par 2.1.3 – The buyer reserves the right to deviate from the prescribed rules applicable to prospective contractors (K-STD-0010) in any case where such deviation is deemed justified; Par 2.10.1 – Offerors [sic] may submit an alternative offer not strictly in accordance with the requirements, or an alternative offer to satisfy a requirement, provided that all information requested in the RFO is furnished by the closing date...*'

Shaik (2014) further pointed out that there were contradictory statements between the technical proposals and the DIP requirements on the corvette. This created a dichotomy where technical proposals excluded the combat suite but the DIP included it with an expectation of a firm commitment to be made by the bidder.

Subsequently, both Shaik and Esterhuyse gave permission to proceed with securing DIP qualifying information – Shaik indicated that this was well within his delegation as mandated by the DOD (*cf.* AG, 2001:173, 174,177,178,207-213). However, according to Holden and Van Vuuren (2011:137-130), this comprised '*...startling admissions of mismanagement...curious...to the point of being suspicious...*' in the sense that non-compliant bidders were eventually awarded the contract (both GFC and GSC).

After being unsuccessful in their efforts to replicate an assimilation evaluation, Holden and Van Vuuren (*ibid*:219-223) resorted to criticising them as being flawed and full of anomalies. What the AG (2001) found - also confirmed during the testimony of De Beer (2014) at the APC - is that there were some mathematical errors that occurred during the evaluation's scoring and normalisation processes.

However, none of these changed any of the end results. Mathematical calculation errors were also found in other elements of the evaluation and were not limited to the industrial participation only (*cf.* AG, 2001; Grobler, 2014).

8.5 The Negotiation and Final Approval Process

Notwithstanding all the above altercations, innuendos and controversies, the AAC, based on the SOFCOM recommendations (supported jointly by the DOD, the SANDF and Armscor), finally decided to defer the MBTs and to reduce the corvettes to 4, the submarines to 3, the MHs to 4, the LUHs to 30 (with another 10 held as an option to be exercised later) and the ALFAs to 28.⁵⁴⁷ The number of LIFT aircraft remained at 24 (*cf.* AG, 2001; Griesel, 2013).

On 18 November 1998, the joint DOD/Armscor submission made to Cabinet was approved and authorisation was given to engage with those on the nominated list of preferred suppliers. The use of the concept 'preferred supplier' had over time become common practice in the Armscor process, particularly on contracts with higher values.

President Mandela established a Cabinet inter-ministerial committee to oversee the final negotiation and approval processes. The members of this committee were the Deputy President (Mbeki), Minister and Deputy Minister of Defence (Modise and Kasrils), Minister of Trade and Industry (Erwin), Minister of Finance (Manuel) and Minister of Public Enterprises (Sigcau) (*cf.* AG, 2001, Griesel, 2013).

The Deputy President⁵⁴⁸ established an International Offers Negotiation Team (IONT) on 18 November 1998, with Jayendra Naidoo⁵⁴⁹ as the chief negotiator, who reported directly to Deputy President Mbeki. The IONT was formally constituted, and its terms of reference were approved by the Ministers' Committee. The IONT members were S. Shaik (DOD), R. White, (Department of Finance), P. Jourdan and V. Pillay (DTI), and the CEO of Armscor, L. Swan (AG, 2001, Griesel, 2013).

The IONT's⁵⁵⁰ mandate was to '*... negotiate an achievable funding arrangement, and an affordable package with the preferred suppliers, which will result in final contracting... a satisfactory set of contracts which satisfactorily combines the technical, industrial participation and financial imperatives...*'

⁵⁴⁷The Armscor Annual Report for 2012/13 reflects a number of 26 ALFAs (Gripen) – reasons remain unclear

⁵⁴⁸Thabo Mbeki replaced Nelson Mandela as President on 14 June 1999, and Jacob Zuma became the Deputy President

⁵⁴⁹Jayendra Naidoo led the ANC Alliance team in 1991 in negotiating the National Peace Accord, the forerunner to South Africa's constitutional negotiating process. Between 1995 and 1998 Jayendra Naidoo became the first Executive Director of the National Economic Development and Labour Council (NEDLAC). He participated in several government related initiatives, including the selection panel appointed by the late President Mandela, which shortlisted members to serve on the Truth and Reconciliation Commission. He was appointed by President Mbeki as the Chief Negotiator of the SDP in 1999 – *cf.* <<http://whoswho.co.za/jayendra-naidoo-4307>>

⁵⁵⁰Office of the Deputy President, Pretoria. Terms of Reference of the International Offers Negotiation Team, dated 25 January 2014, signed J Naidoo (page 68 of evidence bundle of D. Griesel) - *cf.* <<http://www.armscomm.org.za>>

According to Naidoo (2014), the overall negotiation strategy that was adopted was to leave the technical negotiations to the Armscor and DOD project teams. Their broad mandate was to bring the full cost of the acquisition down, and to focus on the industrial participation negotiations in an attempt to raise the industrial participation commitments.

On the financing side the aim was to improve both the terms and the cost of the loan packages (AG, 2001; Griesel, 2013; Donaldson, 2014). The organisational structure of the IONT was constituted as shown in Figure 26 below.

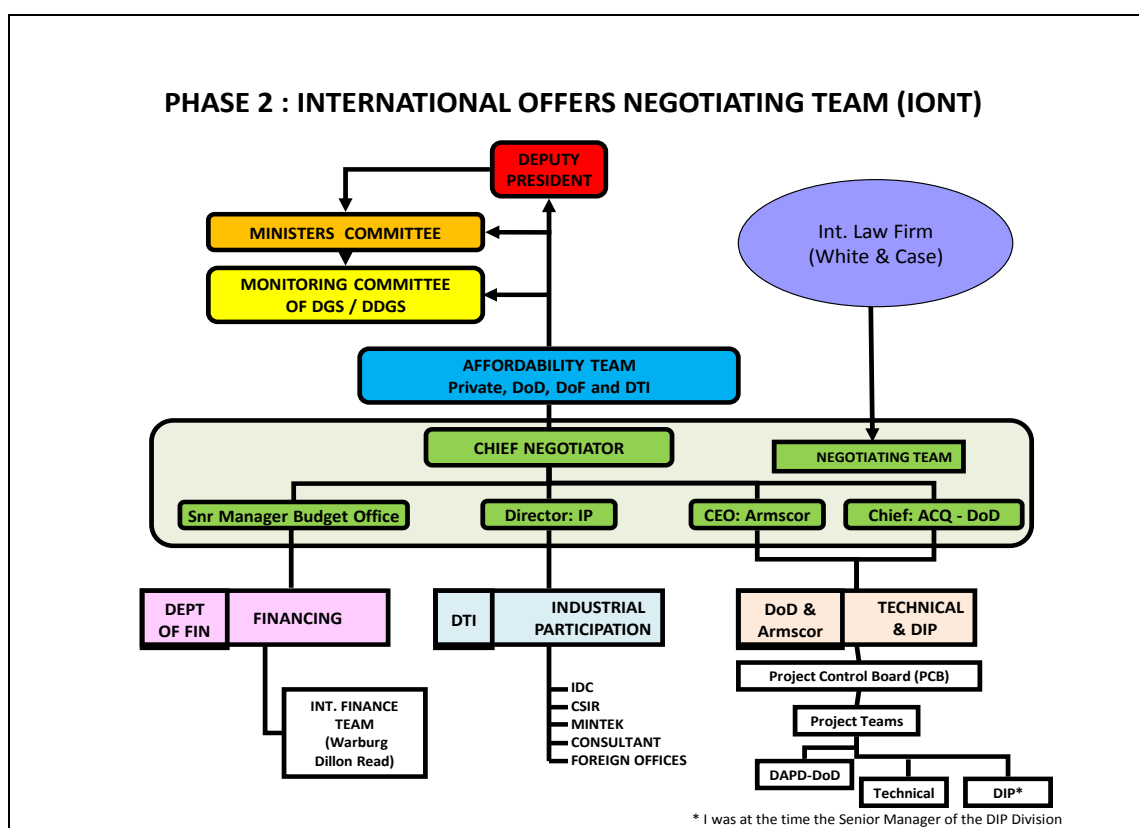


Figure 26: The International Offers Negotiation Team (Source: author's adaptation based on flow processes contained in the Auditor General's Joint Report of 2001, and in the presentation made by Griesel from Armscor to the APC, 2013, 2014)

From early 1999, IONT negotiations with the various foreign suppliers began in earnest. The respective contracts for the defence equipment were as follows (cf. AG, 2001; Griesel, 2013).

Four Meko A200 Valour Class patrol corvettes to be delivered by the German Corvette Consortium (GFC - consisting of Thyssen Rhein Stahl, Blohm and Voss, and Howaldtswerke-Deutsche Werft. This consortium was extended to include Thomson, CSF-France (with Thales Naval and African Defence Systems (Pty) Ltd (ADS later TDS) to supply the Combat Suite.



Three Herione Class 209 submarines to be delivered by the German Submarine Consortium (GSC - consisting of Thyssen Nordseewerke, Howaldtswerke-Deutsche Werft and Ferrostaal).

Four Super Lynx 300 Mk64 maritime helicopters to be delivered by GKN Westland Helicopters, UK (later bought by Agusta - of Finmeccanika - Italy to become Agusta Westland – AW).



Thirty Agusta Power A109 light utility helicopters to be delivered by Agusta un' Azienda Finmeccanika, Italy.

Twenty four Hawk 100 Lead-in-fighter-trainer (LIFT) aircraft to be delivered by BAE Systems, UK.



Twenty eight⁵⁵¹ Gripen JAS39 Advanced Lead Fighter Aircraft (ALFA) to be delivered by Saab, Sweden with BAE Systems, UK, as prime contractor (at the time BAES held a 25% equity in Saab).

Subsequent to appointing the IONT, the Ministers' Committee appointed an 'affordability team' to investigate the macro-economic impact of the defence package and the effect on the balance of payment and the fiscus. This team consisted of J. Naidoo (Chief Negotiator), S. Shaik (DOD), R. White (Department of Finance) and P. Jourdan (DTI). The Affordability Team was assisted by Stellenbosch University's Bureau of Economic Research and an international team of renowned economic experts⁵⁵² in the fields of financial strategy and export credit markets. Advisors from ABSA were also involved (AG, 2001; Donaldson, 2014).

Assessing the SDP's affordability involved devising methods to increase affordability, and assessing the budgetary and financial implications to the fiscus. The end result was a precise report that took all the economic, socio-economic and international macro-economic aspects into consideration in order to sufficiently equip the Ministers' Committee to make a properly informed decision. Affordability considerations were seen as a political choice: the Affordability Team assisted in making the choice (AG, 2001:248, 250; Donaldson, 2014:5396-5542; Manuel, 2014; Mbeki, 2014).

⁵⁵¹In the 2012/13 Armscor Annual Report (par 1.3.2.2) this figure is given as 26 – with nine dual seater and **seventeen** single seater aircraft – it is not clear how/why the original requirement for **nineteen** single seater a/c was reduced by 2

⁵⁵²Warburg Dillon Read of Switzerland – cf. <http://www.prnewswire.co.uk/news-releases/dillon-read-agrees-to-merge-with-sbc-warburg-to-create-global-force-in-investment-banking-and-capital-markets-156115715.html>

The IONT⁵⁵³ requested the assistance of an international group of lawyers (White and Case, Sandton) to advise and assist with consolidating the respective subcontracts into a 'seamless' document. The SDP contract consisted of an umbrella agreement with the supply terms as Schedule A, the DIP terms as Schedule B and the NIP terms as Schedule C (*cf.* Griesel, 2013; Burger, 2014).

The financial arrangement (i.e. payment schedule and payment terms) formed part of the supply terms, but the financing agreements were dealt with separately by the Department of Finance (Donaldson, 2014; Hoffman, 2014). An intense 10-month period of negotiation followed led by the IONT's chief negotiator, Jayendra Naidoo. The results of these negotiations were detailed separately per project for Cabinet's consideration (August 1999) (AG, 2001; Griesel, 2013; Donaldson, 2014).

On 1 December 1999, the final submission was made to Cabinet: it contained the negotiated results with all six preferred bidders (listed above) who had been approved by Cabinet the previous year. After Cabinet's approval on the same date, the Armscor Board ratified the awards for governance purposes (i.e. to be compliant with legislative requirements (i.e. in terms of Act 57 of 1968 - to satisfy the AG).

The AG's joint report (2001: paragraphs 14.1.2, 14.1.3, 14.1.4) stated that the SDP was unique to South Africa, since it was the first ever 'package approach' that primarily dealt with weapon systems designed and developed abroad. Owing to the sanctions imposed on the country prior to 1994, there was no adequate acquisition policy to accommodate arms procurement from the international market. Despite these shortcomings, the AG was satisfied that the DOD had taken adequate steps to manage the process, which compared favourably with international practice.

However, one other contentious matter is the final approval of the SDP by Cabinet only. There seems to have been a common understanding that once Cabinet and the parliamentary defence committee had approved the force design, Cabinet could then approve the SDP transaction (*cf.* Dunne and Lamb, 2003). This approach remains disputed (*cf.* Seegers and Sylvester, 2007; also Holden, 2009). Sylvester and Seegers (*ibid*) and Holden (*ibid*) emphasise that Parliament did not, in fact, provide automatic approval for replacement of obsolete equipment or of new defence

⁵⁵³ It must be pointed out the SOFCOM, the IONT, the Affordability Team and financial and legal advisor processes were unique to the SDP and not normal acquisition practices applied by Armscor - *cf.* VB1000, KB1000 and A-POL-1000 (AG, 2001; Griesel, 2013,2014)

acquisition projects, such as the SDP. Seegers and Sylvester, and Holden challenge the argument that individual evaluations and changes in defence requirements would inevitably have occurred over time, since decisions to replace ageing equipment are clearly based on cost considerations. They contend that at best Parliament's approval of the force design constituted approval in principle for maintaining the specified capabilities at an approximate level, or for considering defence equipment acquisition programmes: it was not meant as a blanket approval for any kind of procurement, let alone a transaction of the magnitude of the SDP.

The total SDP cost eventually approved by Cabinet is shown in following Table 10, and the DIP obligations (with NIP purely for comparative purposes) in Table11 (*cf.* AG, 2001; Griesel, 2013; De Beer, 2014; Burger, 2014).

Table 10: The Strategic Defence Package Cost – history line						
Total in Rm	18/11/98	31/08/99	31/08/99	15/9/99	15/11/99	25/11/99 and 1/12/99 - final
	29 773	36 482	29 900	29 992	30 300	30 285

(Source: author's version based on the Auditor General Joint Report of 2001 and various subsequent submissions to the APC, 2013 and 2014)

Note (i): The cost in November 1998 did not take into account all the elements of cost and was based on real Rand values at the time.

Note (ii): The cost in August 1999 (second column) contained forward estimated rate of exchange adjustments.

Note (iii): The cost in August 1999 (third column) used real Rand based values.

Note (iv): Minor increase recorded in September 1999 – did not include financing cost.

Note (v): The costs at 1 December 1999 included statutory costs and ECA premiums where applicable, but not programme management and financing cost.

Note (vi): The difference between September, November and December was the transfer of leasing cost of the LIFT training simulator to a full purchase cost.

Note (vii): The real cost of the total acquisition, therefore, was simply calculated at a constant rate of R6.25:USD1. It must be noted that in the Cabinet meeting of 1 December 1999, the total figure of R30 285 billion (refer to Table1) was tabled; it excluded programme and financing costs (*cf.* AG report of 2001:260-263). The above table also did not take into consideration that there were contracts denominated in four different currencies, that is ZAR, USD, Euro and GBP (*ibid, cf.* De Beer, 2014; Burger, 2014; Donaldson, 2014).

Note (viii): The AG (2001:263) indicated that the additional financing cost was estimated at 49%.

Note (ix): Across the AG report there are various amounts stated that are not explained and difficult to follow.

Note (x): Donaldson (2014) indicated that the 2014 estimate stands at R 46,6 billion with the last repayments to these loans due by 2020/21.⁵⁵⁴

Note (xi): Crawford-Browne (2014:8410) indicated that guestimates of the total SDP cost, due to the continued weakening of the Rand, are now at R 70 billion. A similar figure was quoted by Dunne and Haines (2005), while Holden and Van Vuuren (2011) indicated a figure of R 70,6 billion.

⁵⁵⁴Crawford-Browne (2014:8410) rejected this estimate and said 'Donaldson is merely an official with a job to protect.'

Table 11: The SDP's NIP and DIP Base Commitment Table

Defence Equipment	NIP Commitment (added for the sake of comparison, also showing that the bulk of the industrial participation went to the civil sector)			DIP Commitment
	Investment	Gross exports	Local sales	
Corvettes	4 375	16 625	Included	2 899
Submarines	6 242	10 669	1 629	1 139
LUH	1 153	2 926	720	1 410
MH	658	2 453	Included	576
LIFT & ALFA	12 500	32 500	Included	9 302
Total	24 928	65 173	2 349	15 326

(Source: author's version based on the Auditor General Joint Report of 2001 and subsequent submissions to the APC, 2013 and 2014)

Note: The overall DIP outcome was valued at R 15,3 billion. Of this, direct participation in equipment procurement amounted to R 4,6 billion and technology transfers to R 3,1 billion were anticipated. On the indirect side (exports), foreign suppliers committed to engaging SADI to the value of R 7.6 billion. In Burger's testimony to the APC (2014) it was indicated that this total DIP figure was now R 15,11 billion – cf. Appendix F.

8.6 How the SDP DIP Offers were Evaluated

DIP is the case study element of this research. It is therefore necessary to reflect how DIP was dealt with and assessed prior to and during the SDP process that eventually led to the R15 billion commitment. Chapters nine and ten contain more details on the DIP case study from its policy inception through to its actual manifestations.

The tender requirements for DIP and NIP were each equivalent to 50 per cent of the contract price in accordance with the rules of the respective industrial participation programmes of the DOD, Armscor, and the DTI (Griesel, 2013). The AG (2001, par 14.1.23) found that this benchmarked well with international practices (substantiated in chapter 4).

The foreign tendering companies were required to present business plans for projects that would fulfil the respective DIP and NIP obligations (*cf.* De Beer, 2014). The tender process indicated that DIP and NIP percentages were not fixed and would be interchangeable. The industrial participation rules allowed companies to later substitute projects which, through proof of unviable feasibility studies or as a result of new insights or changed circumstances, no longer proved to be suitable or viable. The bidders initially presented a large number of projects with inflated numbers in their business plans (De Beer, 2014).

As the Manager of the Armscor Countertrade Division, I was responsible for drafting the DIP evaluation model, structuring the evaluation teams and implementing the process overseen by management.⁵⁵⁵ There were three DIP evaluation teams; each consisted of 3 members, one from DIP, one from the DOD and a legal person. This process is recorded in the AG's joint (JIT) report to SCOPA (AG, 2001; Griesel, 2013, De Beer, 2014; *cf.* Appendix D).

⁵⁵⁵DIP Evaluation Instruction of 5 May 1998 was approved by the Armscor Senior Manager, J.J. van Dyk, Chief of Acquisition, Shamin (Chippy) Shaik and Armscor GM, Erich Esterhuysen - see De Beer's evidence pack, page 24 (par 15.1) – it is also attached as Appendix D

Only the DIP documentation submitted in the respective tenders and in the format required was used for evaluation. Before the scoring commenced, a series of meetings took place with each bidder for the sake of clarification. Some bidders tried to use these meetings to present additional information. This was not accommodated. All the clarification meeting proceedings were audio and video recorded. The DIP evaluations were conducted independently of the technical, price and NIP assessments (*cf.* Griesel, 2013; De Beer, 2014).

As explained earlier, non-compliant DIP offers were referred to the Chairpersons of the SOFCOM: Shaik and Esterhuyse afforded non-compliant bidders an opportunity to submit compliant DIP proposals (*cf.* Griesel, 2013; De Beer, 2014). This is one aspect of the SDP that is regarded, for example, by Holden and Van Vuuren (2012) as tender process manipulation. This aspect was investigated by the AG (2001, par 14.1.11), who indicated that it was a deviation from proper procurement practice and recommended that in future the DOD must ensure that good procurement practices be adhered to and tender compliance strictly enforced (*ibid*: par 14.2.8).

Every DIP activity that was included in the tender document was subjected to the same evaluation process using both qualitative and quantitative analysis. The DIP evaluation instruction (as approved on 5 May 1998), applicable to the SDP (*cf.* De Beer, 2014), is approximately 38 pages and not all of it can be replicated here (hence attached as Appendix D).⁵⁵⁶

The key evaluation instructions related to the salient elements of the evaluation methodology that applied in assessing all the DIP proposals received is attached as Appendix D. This aspect of the SDP process was particularly focused on by, for example, Holden and Van Vuuren (2011:141-144) who tried unsuccessfully to simulate the DIP evaluation results published in the JIT report (AG, 2001). The reader's attention is drawn to the fact this this DIP evaluation methodology was not in the public domain until its release during the APC hearings (*cf.* De Beer, 2014).⁵⁵⁷

⁵⁵⁶Under De Beer's evidence pack of the APC – pages 210-307 there is a detailed narrative of the evaluation process, using the corvette RFO as one example

⁵⁵⁷Pages 227 to 259 of the evidence pack of De Beer testifying to the APC – *cf.* <<http://www.armscomm.org.za/hearings...>>

The following explains the SDP's DIP evaluation system. (Appendix D contains the original – approved - evaluation guidelines, which can be used for cross referencing or further clarification.) The evaluation instructions were explicit and aimed to regulate the process. The DIP section of each tendered business plan was assessed in conjunction with the appropriate DIP policy (Appendix B), procedural manuals (appendix C) and all relevant documentation. The size of the DIP contract warranted a two-tier management process under Johan van Dyk, Head of Armscor's Countertrade Division. The DIP evaluation teams' results were discussed with the Chief of Acquisition (Chippy Shaik), DOD, before the final recommendation to SOFCOM. (The Chief of Acquisition audited and moderated the DIP process.)

Since the MoD required a speedy DIP assessment (end of June 1998), it was deemed necessary to create three evaluation teams. The evaluation instruction was approved on 5 May 1998, which left the teams approximately 6 weeks to do the DIP evaluation across all seven SDP equipment offers. Two of the teams had to evaluate two projects each; the third team was responsible for the three more complex projects, namely, the corvettes, the LIFT and the ALFA. After the DIP and NIP evaluations, Shaik (DOD) and Hirsch (DTI) discussed and agreed on the results before they were consolidated by Armscor.

The DIP value system was a collection of aspects and factors which were to be taken into consideration when assessing the value of the DIP proposals received. This is explained in more substantive terms in Table 12 below.

Table 12: The DIP Compliance and Conformance Evaluation methodology

Reference	Statement	Criteria	Qualifications
7.1.2	A commitment of 50% was expected in order to support the defence industrial strategic requirements.	<p>The criterion that applied dealt with the total value of all the proposals to establish whether at least 50% was offered.</p> <ul style="list-style-type: none"> - Between 45-55% scored a 5 - More than 55% scored 10 - Lower than 45% scored 1 	If however the DTI thought that the re-apportioned NIP/DIP shares were of compensatory value, the decision to penalise the bidder could be waived. (Note: although the evaluation instruction anticipated this prospect during the course of evaluation, in reality it only happened at the DIP/NIP consolidation session that occurred at a later stage when the DIP scoring was completed and submitted to the Chief of Acquisition.)
7.1.3	A specific percentage of direct DIP was expected to support specific defence equipment strategic requirements.	<p>The criterion that applied stated that for the corvettes a minimum of 10% was required on the platform, the combat suite was set at 60% based on an estimated fixed value, the percentage on the LUH, LIFT and Alfa was set at 30% and on the submarines it was 20%.</p> <ul style="list-style-type: none"> - If the full percentage was offered, the bidder scored a 10. - A sliding scale applied where a percentage between 1 and 10 attracted a score of 7, - between 11 and 25 scored 3, - greater than 25 scored 0. 	These percentages were informed by guidance from the technical project teams who could judge SADI's ability to perform these tasks.
7.1.4	Local participation involved a variety of specific activities which should have established SA's defence industry.	<p>The criterion for assessment entailed an expectation of at least 45% of the 50%.</p> <ul style="list-style-type: none"> - Any offer between 40-50% scored 10, - between 20 and 40 scored 5, - anything less than 20% scored 0. 	DIP commitment was to be in the form of work share for SADI.

Table 12: The DIP Compliance and Conformance Evaluation methodology

Reference	Statement	Criteria	Qualifications
7.1.5	Technology transfer forms an important part of mainly the DIRECT portion of the DIP participation.	<p>The criterion that applied in this instance limited the value to just 8% of the total 50% DIP requirement.</p> <ul style="list-style-type: none"> - Proposals of between 6% and 8% scored 10. - Any other percentage scored 0. 	It is however an aspect that can be manipulated by bidders through the application of so-called multipliers. This increases the value of such technology transfer to such an extent that it reduces the bidders' actual monetary obligation. As all technology transfer proposals can only be assessed on face-value, the bidders must be limited in their resourcefulness in using this aspect to obtain above average 'commitment'. Technology transfer covers a wide range of activities at various levels of the product hierarchy. It covers aspects related to know-how, technical aid and R&D.
7.1.6	This instruction dealt with global integration, that is, value added manufactured goods for export.	<p>The scoring criteria stated that if a bidder's offer made up exports of</p> <ul style="list-style-type: none"> - between 8% and 12% it scored 10, - between 5 and 7 scored 5, - any percentage lower than 5 scored 0. 	It was expected that bidders should offer value added exports that could contribute to sustaining SADI manufacturing and skills capacities and capabilities. The evaluation teams were required to pay specific attention to 'intention' versus 'real commitment'. (The teams would be on the lookout for specific words like 'best efforts, best endeavours, in good faith'...etc).
7.1.7	This instruction dealt with Black empowerment offered as part of the 50% DIP commitment.	<p>The criterion applied was that if the bidder committed to a percentage of</p> <ul style="list-style-type: none"> - between 18 and 25 (the expectation was 20), a score of 10 would be given, - any percentage lower than 18, scored 0. 	The DOD and Armscor fully supported the government's GEAR programme and advised bidders of the importance of deliberately involving PDIs in empowerment and capacity building in SADI – a sector previously denied to all PDIs. (To note that the GEAR aspect was not pertinently addressed in the 1997 DIP policy).
7.1.8	This instruction covered the scoring of investments.	<p>The criterion was that these investments had to be retained for at least five years.</p> <ul style="list-style-type: none"> - If a 5-year investment was between 10% and 14% (of the 50% DIP commitment) it would score a 10. - For any period between 3 and 5 years and for a percentage less than 8, a score of 5 was given. 	Investments could be in the form of equity capital, or capital equipment, or industrial innovation through R&D into SADI, or spin-on effects into other areas of the industry. These investments should directly contribute to sustaining SADI's capacity and capabilities for defence strategic reasons.

Table 12: The DIP Compliance and Conformance Evaluation methodology			
Reference	Statement	Criteria	Qualifications
		- For any other period or lesser percentage the score was 0.	
7.1.9	This instruction dealt with capital loans to SADI.	The loan period had to be at least five years. Loans accounted for only 2,5% of the 50% DIP, as they were regarded as 'soft issues'. - Loans of between 2% and 3% scored 5. - Anything else scored 0.	Capital loans to SADI should be at interest rates of at least 5% less than the ABSA prime lending rate.
7.1.10	This instruction assessed the marketing promotion.	It was capped at 2,5% of the 50% DIP. - Offers of between 2% and 3% scored 5. - Anything less scored 0.	Marketing promotion (for export purposes) of SADI products.
7.2.1 and 7.2.2.a	This paragraph dealt with sectoral development in the defence industry.	DIP activities (as specified in the relevant sections of the DIP Evaluation Guidelines, which contain verbatim quotations on the subject from Armscor's latest Acquisition Policy, VB1000) will - attract a score of 10, - any other area of DIP participation will attract a score of between 1 and 5 but not higher than 5.	Each type of activity offered must be assessed individually taking into account those specific capabilities required in order to support the Department of Defence's defence strategic requirements. DIP was to focus on the key defence strategic areas of combat advantage, combat survivability, environmental needs, technology at the respective level of systems engineering, modelling and simulation, specified systems requirements, detect and counter and maintain and upgrade related DIP activities.
7.2.2.b	The other area of extreme importance is the level of involvement of our industry.	Based on the importance of establishing capacity as high up as possible in the equipment hierarchy, the following scoring principle will apply: - at systems level the score is 10, - at product level the score is 9, at sub-systems level the score is 8, - at component level the score is 7, - at spare part level the score is 6, - at processed material level the score is 5, - and for any other activity offered, the score is 5.	At systems level, a completely functional and operational ready aircraft, or helicopter, or ship, etcetera, is to be delivered.
7.2.2.c	The discharge	The discharge period was stated as seven years and if compliant a	To note: after the preferred bidders were selected, the tranching

Table 12: The DIP Compliance and Conformance Evaluation methodology

Reference	Statement	Criteria	Qualifications
	period.	score of 1 was given, and for non-compliance 0.	option developed by BAE Systems for the LIFT and Alfa, resulted in the eventual 7 year discharge period be extended to respectively 9 years (for the Hawks) and 11 years (for the Gripens) to allow direct work share to continue beyond the 7 years. The indirect portions remained at 7 years. A later decision on the corvettes' surface-to-surface missile system also resulted in a portion of DIP to be extended to 2016 (under the combat suite).
7.2.2.d	Sustainability.	<p>Sustainability refers to the long term sustenance of projects offered.'</p> <ul style="list-style-type: none"> - Where the bidder indicated that a project could be sustained for between five to seven years, a score of 8 was give. - Projects with seven to ten years sustainability scored 9 and those of ten years plus scored 10. - Once-off orders (e.g. ammunition orders) scored 5. 	Those activities/proposals having been identified by the respective DIP Evaluation Teams as vague, non-committal or unsubstantiated and which carry a high risk factor will be disqualified and can as such not be used for calculation purposes as per above sub-paragraph j. DIP activities duplicated by a specific bidder (e.g. France participating in all 6 bids – Note: the maritime helicopter was added after this instruction was signed, otherwise this count would have been 7 as France submitted responses to all the tenders) under different package equipment must be identified as such. In this case an activity will be disregarded completely.
<p>a. The assessment of all business plans were carried out on the face value of such proposals - evaluation teams were not to be hold responsible for the correctness of proposals contained in the DIP section of each of the bidders' respective offers.</p> <p>b. Throughout the evaluation process the respective teams were required to consider and record risk. Risks included judging whether indigenous capacity and abilities existed to handle the extent of the DIP offered, whether sustainability could be realised, whether foreign suppliers would be dependable and local industry could be activated to perform in time, supplier accreditation (with Armscor) of all participants, and the risk of unrealistic technology evaluations and its transfers.</p> <p>c. The weighting methodology comprised a scoring methodology of 0 for non-compliance/non-conformance, between 1 and 4 meant it fell short of expectations, 5 was the norm (proposals just meet expectations), scores between 6 and 10 meant an evaluation aspect exceeded expectations, or conformed to highly critical norms. This was to acknowledge those bidders who offered the closest to what was required; to distinguish between real value-added proposals vs elementary type projects.</p>			

(Source: Armscor, 1998 – cf. Appendix D)

The qualitative analysis used information related to the extent that the respective DIP offers supported the objectives of the DIP policy of May 1997. The extracts that appear in Tables 13 and 14 below, are replications⁵⁵⁸ of the *QuatroPro* spread sheets used during the DIP evaluation (cf. De Beer, 2014).

In paragraph 7.2.1 (Table 12 above), it is stated that the ‘*sectoral development ranking*’ series of the DIP evaluation model considered each DIP activity offered against various defence strategic considerations; in other words, those capabilities that the SANDF required SADI to have or acquire - an approach that was in accordance with DIP policy – also contained in the evaluation guidelines, Appendix D.

Sustainability was assessed in terms of how long a specific DIP activity could be maintained. The higher up the activity manifested in the DIP system hierarchy, the higher it scored (cf. De Beer, 2014). This represented the qualitative dimension of the scoring model.

The scoring tables used were as follows – Tables 13 and 14 were on the same DIP evaluation sheet⁵⁵⁹ as paragraphs 4 and 5 respectively. These tables are replications of the originals.

⁵⁵⁸ Although the numbers that appear in the far left column have the exact corresponding numbers to those on the actual DIP evaluation sheets used, the layout and format are not exactly the same as these are merely replications to illustrate and substantiate the process followed – AG, 2001 report to SCOPA contains substantiation of the original score sheets (cf. Holden and Van Vuuren, 2011 who have attempted some recalculation)

⁵⁵⁹ These are reproduced extracts: actual examples of the complete DIP sheet can be viewed under the evidence pack of Pieter Burger’s testimony to the APC, document reference number 332 at <<http://www.armscomm.org.za/hearings...>>

Table 13: Sectoral development scoring as related to DIP activities offered by the respective bidders

4.1	SUSTAINABILITY OF THIS ACTIVITY			+5 - 7yr		8	+7 - 10yr		9	10 + yr		10	ONCE OF ORDERS		5
4.2	DEFENCE STRATE- GIC AREA	Combat Advantage	10	Combat Survivability	10	Environmental Needs	10	Technology & know-how	10	Detect & Counter	10	Maintain & repair	10	OTHER	1 – 5
4.3	SYSTEMS LEVEL OF DIP ACTIVITY			Product System 5	10	Product 4	9	Product Sub- system 3	8	Component 2	7	Materials 1	6	OTHER	1 - 5
	Add Items 4.1, 4.2 and 4.3 divide by 3 - ONLY ONE SCORE PER LINE ALLOWED														Score out of 10

(Source: De Beer, 2014)

Explanatory notes: Systems Level (item 4.3 of the above table) refers to the various levels of equipment supply into the SANDF, from materials (Level 1) to the complete operational product system (level 5). The figures in the yellow blocks are the scores for each element.

The second set of evaluation data related to the ‘conformance and compliance ranking’ data series as per Table 14.

Table 14: Compliance and Conformance monetary data table as related to each DIP activity offered by the respective bidder

5	INDICATED UNDER THE RESPECTIVE DIRECT OR INDIRECT COLUMNIS THE USD VALUE ATTACHED TO THIS ACTIVITY AND THE NUMBER OF JOBS INVOLVED				
5.1	DIRECT	USD	5.2	INDIRECT	USD
5.1.1	Local industry participation (e.g. development, production, test, assembly, etc...) = "LIP"		5.2.1		N.A.
5.1.2	Technology transfer & know-how - including training, technical assistance		5.2.2	Technology transfer & know-how - including training, technical assistance	
5.1.3		N.A.	5.2.3	Exports (excluding imported content)	
5.1.4	Equity investments or capital equipment		5.2.4	Equity investments or capital equipment	
5.1.5	Loan interest benefit -calculate as part of 12.1.4		5.2.5	Loan interest benefit	
5.1.6		N.A.	5.2.6	Marketing support	
5.1.7		N.A.	5.2.7	Utilization of excess/banked credits from an existing pro-active DIP agreement - record only under a separate C1	N.A.
5.1.8	Number of jobs		5.2.8	Number of jobs	
	Indicate amount of excess credits to be used by Bidder to offset against his obligation (ostensibly "banked" under the pro-active DIP agreement)				

(Source: De Beer, 2014)

Explanatory note: the grey coloured sections represent information that was not required as part of the evaluation process. The yellow blocks required actual figures to be recorded.

The monetary values offered by each bidder in each of the categories were recorded in the table 14 above). This part of the scoring model represents the quantitative dimension of the evaluation. These results from the quantitative table (Table 14 shown above) were transposed onto another calculation sheet that was used to further evaluate the quantitative data and consolidate it with the qualitative evaluation score. This sheet used a sliding scale capping principle per identified category: the higher the quantitative offer (in other words the money offered) the higher the score, but with a maximum of 10 points per sub-category. Once all the elements were consolidated and calculated a final score out of 50 was prepared. This process is explained above in accordance with Appendix D.

Finally the DIP and the NIP scores counted 50 points each. These two sets of scores were prepared separately by Armscor and the DTI. The results were then consolidated at a moderators' meeting, co-chaired by the Chief of Acquisition⁵⁶⁰ and one of the DTI's Chief Director.⁵⁶¹ Thereafter, one final IP (industrial participation) score was submitted to the SOFCOM meeting of 2 and 3 July 1998.

8.7 Fraud and Corruption Considerations

8.7.1 Allegations of Fraud and Corruption Directed at the SDP

Given years of allegations about improper conduct in the award of the SDP contracts and subsequent cases of corruption and fraud, this thesis would be incomplete without addressing this matter.

The account below follows an approximate date line starting in 1999.⁵⁶² The first allegations appeared to originate in 1999 made Patricia De Lille in Parliament (De Lille, 2014)⁵⁶³ and subsequently pursued, for example, by Crawford-Browne (2002, 2004, 2007, 2008, 2009, 2012), Holden (2008, 2009), and Holden and Van Vuuren (2011). Collectively they expressed the view that the South African offsets

⁵⁶⁰Chief of Acquisition (C:Acq) was Shamin (Chippy) Shaik

⁵⁶¹The Chief Director from the DTI was Allan Hirsch

⁵⁶²The summary of alleged acts of fraud and corruption is not comprehensive by any means and is not meant to negatively reflect on any person, or entity or organisation, or company or their standing, integrity and credibility. Information covering allegations of alleged wrong-doing reporting this matter have been published by the national and international media, and researchers such as Holden, Holden and Van Vuuren, and activists such as Crawford-Browne of the ECAAR-SA, over an extended period of time. These reports and allegations do not represent my personal views and I do not underwrite any of these directly or indirectly. I furthermore do not accept any responsibility for the correctness of any of the statements and/or allegations or innuendoes made by any other person or by the media and subsequently used or quoted. I furthermore do not necessarily disagree or agree with any of these views, whether implicitly or otherwise as I have no personal knowledge of any acts of fraud or corruption whether during or subsequent the SDP process

⁵⁶³Patricia de Lille in Parliament mentioned that she was in possession of a file that contained evidence of corrupt and fraudulent transaction related to the SDP that was then about to be approved and signed – this file became popularly known as the 'De Lille Dossier', but since 'went missing' - cf. <<http://www.armscomm.org.za/hearings/...>>

programme was primarily meant as a channel for bribes, specifically on the NIP side.⁵⁶⁴ The latter aspect is covered in more detail under the section dealing with the APC's hearings.

The second investigation was the result of the Parliamentary Select Committee on Public Accounts (SCOPA) requesting, on 13 November 2000, that a further joint investigation be conducted by a joint investigation team (the 'JIT') consisting the Auditor General (forensics), the National Prosecution Authority (NPA, w.r.t. possible criminal conduct) and the Public Protector (w.r.t. the quality of the contractual content of the SDP and possible unethical conduct by public officials). The joint investigation formally commenced in May 2001, following a series of consultative meetings with all the relevant ministries involved.

The JIT report was tabled by the AG at the SCOPA on 14 November 2001 (AG, 2001). Parliament subsequently adopted the joint report on 11 December 2001.⁵⁶⁵ The report identified certain irregularities and improprieties that pointed to the possible improper conduct of certain officials of the respective government departments involved. However, the report stated that no irregularities and improprieties could be ascribed to the President or the Ministers involved in their capacity as members of the Ministers' Committee or Cabinet. There were, therefore, no grounds to suggest that the government's contracting position was 'flawed.' The report found that the procedures in the SDP acquisition process were in line with international best practices (*ibid*; Fourie, 2003).

However, following further enquiries by the SCOPA, criticism was raised about the industrial offsets, hidden costs, the lack of ministerial accountability and the absence of criminal prosecutions (*cf.* Cock, 2004). This resulted in Judge William Heath being commissioned in 2001, by President Thabo Mbeki to conduct a further investigation into the SDP. Subsequently, Judge Heath's appointment was overturned by the Constitutional Court ruling that as a judge, he could not simultaneously head the Special Investigation Unit. Judge Heath was subsequently reported⁵⁶⁶ as saying that Mbeki had instigated the allegations of corruption against President Zuma, that Toni

⁵⁶⁴There remains little information on the DIP programme and nothing specific tying it to any of these allegations

⁵⁶⁵*Business Day*, 12 December 2001

⁵⁶⁶*Mail & Guardian*, 8 Dec 2011

Yengeni and Shabir Shaik⁵⁶⁷ were 'sacrifices' and that judgment in the Shaik case was flawed.

In 2001, Crawford-Browne (supported by ECAAR-SA) challenged the government's 'major arms-import package' on constitutional grounds. He argued that the South African Bill of Rights extends to the 'second generation': rights of housing, healthcare, food and other social needs. He lodged a 'class action suit'⁵⁶⁸ on behalf of 'the class of poor people in South Africa' that called for the cancellation of the armaments acquisition programme (the SDP) based on the argument that the SDP was strategically, economically and financially irrational. It was argued that the foreign exchange rate and other financial risks limited the state's ability to meet the socio-economic commitments of the Bill of Rights. On 4 March 2004, the case was rejected by the Cape Town High Court. The presiding judge stated that Crawford-Browne's law suit should have focused on the real and effective decision to acquire these arms, namely Cabinet's decision.

Crawford-Browne's request to appeal was turned down with costs (of R 1 million).⁵⁶⁹ Crawford-Browne subsequently launched a series of personal defamatory attacks on the former Minister of Finance, Trevor Manuel, to the point that Manuel had to obtain a court interdict against Crawford-Browne (*cf. South Africa: Western Cape High Court, Cape Town. Manuel v Crawford-Browne (2471/08) [2008] ZAWCHC 13; [2008] 3 All SA 468 (C) (6 March 2008)*).⁵⁷⁰ In the court papers Crawford-Browne was accused of misrepresentation related to the Public Finance Management Act (PFMA), which according to him had been breached when Manuel signed the SDP loan agreements. Manuel's lawyers pointed out that the PFMA was not relevant at that time. Secondly, Crawford-Browne used vexatious, malicious and defamatory statements, for example, stating that Manuel '*...prostituted himself for the sake of political perks and power...*' On 6 March 2008, the court placed a restraining order on Crawford-Browne and instructed him to remove all defamatory allegations against Manuel from his website.

⁵⁶⁷ Note: There are four Shaik brothers, Shabir Shaik involved with Nkobi Holdings, Zuma and ADS; Mo Shaik an ambassador at one stage; Shamin (Chippy) Shaik the former C:Acq.(DOD) and Eunice Shaik a lawyer

⁵⁶⁸ Economists for Peace and Security. *cf.* <<http://www.epsusa.org>>

⁵⁶⁹ Crawford-Browne told the court that he had only an old rusted Uno motor vehicle, yet in 2006 it was uncovered that he owns a property in Durban – *cf.* <<http://www.iol.co.za/news/politics/manuel-nets-crawford-browne-s-secret-property-1.264105#.VA1UPfmSyCk>>: Manuel nets Crawford-Browne's secret property January 20, 2006 at 12:56pm. By Fatima Schroeder. Interesting to note the double standards applied by this person who consistently accuses the government of dishonesty

⁵⁷⁰ *cf.* <<http://www.saflii.org/za/cases/ZAWCHC/2008/13.html>>

In August 2003, the Director of Public Prosecutions announced that no legal action would be taken against President Zuma with regard to allegations that he had attempted to solicit bribes from Thales International⁵⁷¹ (Thint, France). Later the case was re-opened and President Zuma was charged a second time. On 7 April 2009, the acting National Director of the National Prosecution Authority (NPA), Mokothedi Mpshe⁵⁷² announced that charges against President Zuma had been dropped again, because of political interference leading to an abuse of the legal process. Mpshe, in 2009, used alleged 'spy tapes' to justify his decision to let Zuma 'off the hook.' Selected excerpts were made available to the media from transcripts of telephone calls between the ex-head of the Scorpions, Leonard McCarthy, and the NPA's former head, Bulelani Ngcuka. Lawyers claimed that the tapes constituted confidential representations that were protected and could not be disclosed. On 28 August 2014 the Johannesburg Supreme Court of Appeal ordered the tapes to be released within five days.⁵⁷³

The 2001 JIT investigations resulted in a number of prominent persons being prosecuted. One was Shabir Shaik, the financial advisor to President Zuma,⁵⁷⁴ who had replaced Thabo Mbeki. Shabir Shaik was also one of the directors of ADS,⁵⁷⁵ a major sub-contractor in the corvette programme (the ADS aspect is discussed in more detail in section 8.7.2). He was also the brother of the then Chief of Acquisition in the DOD, Shamin (Chippy) Shaik. According to the 2001 JIT report, Chippy Shaik was implicated: it was found that he neglected to properly recuse himself from the SOFCOM proceedings when they dealt with the corvette bid's combat suite element (AG, 2001). Shamin Shaik was subsequently also implicated in irregularities involving Thyssen-Krupp, and its German sister company Ferrostaal, which had also been investigated at one stage⁵⁷⁶ (*cf.* Holden and Van Vuuren, 2011). This research could not find any evidence of any criminal investigation imposed against Shamin Shaik and there were no revelations during his APC testimony in 2014 either.

Another prominent political person implicated in irregularities, and later found guilty, was the chairperson of the Defence Portfolio Committee, Toni Yengeni (who Haines

⁵⁷¹Thales Naval, France was a major sub-contractor in collaboration with ADS, South Africa on the corvette combat Suite *cf.* <http://www.ads.co.za>.

⁵⁷²The corruption charges against Zuma were dropped by then acting NPA head Mokotedi Mpshe in 2009, a decision the DA has decided to review. On 16 August 2013, the North Gauteng High Court in Pretoria ordered the NPA to hand over transcripts of the infamous spy tapes that 'got Zuma off the hook' on corruption charges – *cf.* <http://www.citypress.co.za/politics/npa-must-inform-public-why-jacob-zuma-charges-were-dropped-judge/>... various reports between 16 August and 22 August 2013

⁵⁷³News24 at <http://www.news24.com/SouthAfrica/Politics/ANC-notes-Zuma-spy-tapes-ruling-20140828>

⁵⁷⁴*cf.* <http://mg.co.za/tag/schabir-shaik>

⁵⁷⁵ADS/TDS was the main sub-contractor for the whole combat suite on the corvettes – AG, 2001

⁵⁷⁶Mail & Guardian, 12 August 2011

(2012b) refers to as belonging to the ‘*new political elite*’). What appears rather strange is that the foreign company, EADS, that was involved in providing hefty discounts to Yengeni and a host of other officials on Mercedes Benz vehicles, never featured as a supplier in any of the SDP equipment. EADS had shares in Daimler Chrysler and the aerospace company DASA – the latter tendered for the ALFA with a new design aircraft (still a concept at that time – commonly referred to as a ‘paper aircraft’).

Another case in the SDP series of controversies is that of local businessman, Richard Young.⁵⁷⁷ In 2000, Young claimed that after the award of the corvette tender in 1999, the DOD did not honour its undertaking to award his company (CCII) a sub-contract in the corvette programme. Instead the DOD allowed Altech Defence Systems (ADS)⁵⁷⁸ to award sub-contracts destined for CCII to another French supplier (Detexis). This involved providing certain command and control sub-systems of the combat suite. Young instituted a claim against DOD, Armscor and ADS. In the case of the DOD and Armscor, the claim was based on the principle of legitimate expectation, but included delict⁵⁷⁹ that arose as a result of a conflict of interest with the Chief of Acquisition (Chippy Shaik). In the case of ADS, the claim was based on the principle of unlawful competition: it also included delict that arose as a result of ADS’ conflict of interest as system integrator. A formal legal damages claim was made in 2003, but in 2007 this was settled and withdrawn before being adjudicated by the court.⁵⁸⁰ Young (2012) indicated that due to his legal battle with Armscor and the DOD, by 2012 his company had still not received any further major contracts. (CCII, however, still provided some components to the corvette’s combat suite – cf. Appendix F).

Another case of alleged corruption was raised in late 2011. It was alleged that the present presidential spokesman, Mac Maharaj, and his wife Zarina,⁵⁸¹ had received millions of Rands in bribes related to the arms deal. The French company, Thales

⁵⁷⁷ Richard Young is the Managing Director of the defence electronics company CCII in Western Cape. cf. <<http://www.armsdeal-vpo.co.za>> for a comprehensive database of his collection of SDP related issues – media reports. Young provided me with information (via email) on 28 Dec 2012 regarding his court case and settlement, and Armscor’s failure to continue to do business with CCII (however judging from Burger’s evidence, cf. Appendix F, CCII did get business from the SDP’s DIP)

⁵⁷⁸ After ADS was sold to Thomson CSF it became African Defence Systems (still using ‘ADS’) and much later changed to Thales Defence Systems (TDS) – ADS was selected by GFC as supplier of the combat suite for the Meko corvettes

⁵⁷⁹ ‘DELICT’ refers to the act by which one person, through fraud or malignity, causes damage or tort to another person. In its most enlarged sense, it includes all kinds of crimes and misdemeanours, even the injury caused by another either voluntarily or accidentally, without evil intention - cf. <<http://www.lectlaw.com>>

⁵⁸⁰ Beeld, 28 May 2007. Holden and Van Vuuren (2011) indicated that Young’s court application had in fact given them access to a number of confidential documents related to the SDP selection process that significantly assisted their investigations into its adjudication process – substantially more documents came into the public domain as a result of the Seriti (APC) hearing that commenced in late 2013 – cf. <<http://www.armscomm.org.za>>

⁵⁸¹ Sunday Times, 20 November 2011

(i.e. Thint⁵⁸²) was reported as having channelled the money through a Swiss account held by a company owned by Shabir Shaik. This is the same company that was implicated in earlier allegations concerning President Zuma's involvement in bribery. In 2011, Saab, BAES' partner in the SDP, was likewise exposed⁵⁸³ as having paid Fana Hlongwane, who used to be the advisor to the late Minister Joe Modise. The nature of this payment remains obscure pending the final investigations of the APC. Hlongwane has been subpoenaed to appear before the APC on 24 November 2014.⁵⁸⁴ Both the UK (Serious Fraud Offices) and Swedish governments (Chief Prosecutor) investigated these claims. In 2011, BAES admitted to irregularly using a South African joint venture with Saab (which manufactures the Gripen) to channel R 24 million to a South African consultant, namely, Hlongwane - as a result, BAES paid a USD 79 million (c. R 550 million) fine.⁵⁸⁵

In August 2011, the *Suddeutsche Zeitung*, (a Germany newspaper) reported that Ferrostaal, part of the GSC, had made R 300 million in 'questionable' payments to secure the submarine contract.⁵⁸⁶ This research could not locate any details on this matter at the time of conclusion.

However, it is now the mandate and duty of the Arms Procurement Commission (APC) of inquiry - discussed in the following section - to investigate all the above allegations. This is discussed in some more detail in the ensuing section.

8.7.2 The Arms Procurement Commission of Inquiry

At the beginning of 2008, the ruling ANC party announced that it would re-open the SDP investigations. Eventually, on 24 October 2011, President Zuma announced that a three-member commission of inquiry would commence with the investigation.⁵⁸⁷ Their terms of reference include wide-ranging powers to subpoena any person, to compel any person to answer questions, and to recommend any legal action against any person who improperly influenced any of the SDP contracts. They have also been given the power of search and seizure. The investigation is not confined to South Africa. The government provided an initial R 40 million budget and tasked the APC, chaired by Judge Willie Seriti, to conclude its findings within two years.

⁵⁸² *Thales International*

⁵⁸³ *Mail & Guardian*, 17 June 2011

⁵⁸⁴ Cf. <<http://www.armscomm.org.za>> - but he only appeared before the APC on 10 December 2014

⁵⁸⁵ Cf. <http://www.defenceWeb.co.za/index.php?option=com_content&view=article&id=30710:new-evidence-of-arms-deal-corruption-report&catid=54:Governance> - 3 June 2013

⁵⁸⁶ *DefenceWeb*, 12 April 2012

⁵⁸⁷ Cf. <<http://www.armscomm.org.za>>

However, it is reported that he will have to ask for yet another extension⁵⁸⁸ (the third) to March 2015, owing to the non-availability of witnesses.⁵⁸⁹ According to Corruption Watch,⁵⁹⁰ the APC has already spent R 63 million and another R 59 million has been set aside. The APC has also drawn criticism for alleged 'dilatoriness and heel-dragging', since it was forced to extend its period of investigation.⁵⁹¹

Shortly after the APC was established it came to light that one Commissioner, Vas Soni, had links with Thint⁵⁹² - implicated in the Shabir/Zuma issue. The other commissioner, Sthembiso Mdladla, was reported⁵⁹³ to have been found guilty of corruption eight years previously. The involvement of the replacement commissioner in gross mismanagement and tender fraud was also exposed. Some of those appointed did not have proper experience or qualifications.⁵⁹⁴ Several APC members have since resigned for various reasons. Many media reports suggest that there is infighting in the APC and there are allegations of inconsistent procedural practices, and that double agendas are being pursued with critical documents withheld. Suspicion has been raised that Judge Seriti is doing everything in his power to protect members of the ANC. Hence the media⁵⁹⁵ views the APC as an instrument used by the ANC to cover up the arms deal (Crawford-Browne, 2014; Van Vuuren, 2014).

Prior to the APC's appointment, the SCOPA met on 21 October 2009,⁵⁹⁶ to discuss the confidential nature of SDP documentation and the various submissions received from interested parties.⁵⁹⁷ All these parties appear on the APC's list of witnesses to testify during phase two of its hearings that began on 21 July 2014. In May 2012, the APC gazetted a call for public and written submissions on the SDP. It was reported that by early November 2012 the APC would be in a position to commence with public hearings - 14 months after being appointed.⁵⁹⁸ Public submissions were announced 'closed' on 1 August 2012,⁵⁹⁹ although actual hearings commenced

⁵⁸⁸ Government Gazette GG 37002, RG10050 p49). 4 November 2013. Amendment to the terms of reference of the Commission of Inquiry into allegations of fraud and corruption, impropriety or irregularity in the Strategic Defence Procurement Package.

⁵⁸⁹ cf. < http://www.news24.com/Tags/Topics/arms_deal_-_extension_request > reported 24 July 2014

⁵⁹⁰ cf. <<http://www.corruptionwatch.org.za/news-categories/arms-deal>>. reported 2 September 2014

⁵⁹¹ Government Gazette GG 37002, RG10050 p49). 4 November 2013. Amendment to the terms of reference of the Commission of Inquiry into allegations of fraud and corruption, impropriety or irregularity in the Strategic Defence Procurement Package.

⁵⁹² Thint = Thales International - cf. <<http://www.thalesgroup.com>>

⁵⁹³ Cape Times, 1 June 2012

⁵⁹⁴ The Witness, 15 June 2012

⁵⁹⁵ cf. Times Live, 11/3/2013; Daily Maverick, 11/8/2014; Mail & Guardian, 8/8/2014, 11/8/2014, City Press, 29/7/2014

⁵⁹⁶ SCOPA Minutes, 21 October 2009 - cf. <<http://www.pmg.org>>

⁵⁹⁷ ibid

⁵⁹⁸ News24, 10 May 2012

⁵⁹⁹ cf. <<http://www.armscomms.org.za>>, released 2 August 2012

another year later in August 2013.⁶⁰⁰ The APC indicated that only seven public submissions were received – incidentally all from the same persons who had previously in 2009, made submissions to the SCOPA - the same persons the APC refers to as the ‘critics’.

In a media statement⁶⁰¹ in September 2012, the APC raised concerns about various press reports and editorials that threw aspersions on the Commission’s credibility and integrity. The APC confirmed that all the respective submissions and all other information gathered would be disclosed and fully interrogated during the public hearings. The APC made an appeal that it should be allowed to conduct its investigations without being unnecessarily distracted.

During the course of phase one of the hearings – between 5 August 2013 and approximately 20 July 2014 - the APC interrogated about 40 senior government officials (several retired) involved in the SDP process.⁶⁰² These included all the equipment programme managers from Armscor, the navy and air force, and the various other officials from Armscor, the DOD, the DTI and National Treasury. Phase one hearings also included several Ministers (Erwin, Lekota, Kasrils and Manuel), the Chief Negotiator (Naidoo), and former President, Thabo Mbeki. Phase two hearings commenced on 21 July 2014. This phase would ‘hear’ what the APC refers to as the SDP’s ‘critics’.

Although the intention was not to provide a detailed overview of all the APC’s hearings, it was necessary to focus on a number of specific hearings as these contain key issues relevant to this study.

For example, Griesel’s testimony (2013)⁶⁰³ contained a comprehensive set of official Armscor and DOD classified documents pertaining to the acquisition and evaluation processes that were followed from the SDP’s inception in early 1997 to its ratification⁶⁰⁴ on 3 December 1999. It is important to note that Griesel testified at the APC that the final approval of the SDP occurred outside the normal tender approval process mandated by law (Act 57 of 1968 as amended). Griesel explained that this occurred because government was involved in a number of important issues: the first

⁶⁰⁰ *Ibid*

⁶⁰¹ *cf.* <<http://www.armscomms.org.za>>, released 27 September 2012

⁶⁰² A detailed list of APC activities with all the witnesses and dates they testified appear in the Bibliography

⁶⁰³ *cf.* page 31 of Griesel’s evidence pack - <<http://www.armscomm.gov.za>>

⁶⁰⁴ These SDP agreements were officially signed on 3 December 1999

was government's decision to partner with European companies through a government-to-government protocol, the second was government's attempt to gain access to the EU market to promote industrial participation as part of its industrial plan, the third was that the defence budget was inadequate to pay for the SDP. Since the final approval of the SDP fell outside the VB1000 policy, the DOD issued a special policy to deal with it (i.e. No.4/147 ref CPP/R/302/6/B of 8 Aug 1997 - DOD, 1997).

Because of the controversies around the contract award of the corvette's combat suite, it is prudent to reflect on three specific witnesses who testified to the APC on this subject. The first two are Smith and Nortje, who were Armscor programme managers in charge of the corvette programme (Project Sitron). The third was Rear Admiral Kammerman, the project officer from the navy's side. Nortje (2014) stated that at that time SADI did not have the capacity to adequately and efficiently integrate a modern combat suite (p4927).

Nevertheless the GFC was at that stage required to obtain quotes from local SADI entities that could be used as combat suite integrators. The result of these locally sourced quotes came to an initial cost of approximately R 3,9 billion against a budgeted estimate of R 1,4 billion, later adjusted to R 2,3 billion (pp5048-5052). Nortje explained that CCII was initially one of the proposed (nominated) suppliers of one of the combat suite's sub-systems (p5076).

However, because the '*information management system data bus*' was a critical part of the combat suite (p5220), the final choice went to a French company, Detexus, that had a proven product (already in use by the French navy - p5094). This option was also much cheaper than the CCII option⁶⁰⁵ with much less operational risk.⁶⁰⁶ Kammerman (2014) stated that although the corvette RFO specified a local combat suite solution, it did not nominate any specific SADI company. GFC selected ADS as the preferred supplier. GFC with ADS (who at that stage joined the consortium) then became responsible for all the risks associated with the contract. Kammerman added that ADS was in previous years involved in many costly technology development projects for the SA navy (e.g. Projects 'DIODON, SITRON and SUVECS' all to do

⁶⁰⁵Nortje indicated (p5223) that CCII provided a quotation that increased by 80% from the initial quote – this was totally unacceptable

⁶⁰⁶Nortje testified (p5130) that Armscor and the DOD were prepared to accommodate the higher risks associated with the CCII product, provided that CCII could provide the required performance guarantees to the full value of the combat suite that was R2,3bn, since this was the value on which the CCII product's failure would have impacted – this CCII could not do. This was recorded on 6 October 1999. Instead Young announced his intention to instigate litigation as a result of CCII not being selected

with surface vessels) and had acquired surface combat technology experience, thus making them the only viable local company that could take on the whole combat suite.

Kammerman officially and categorically rebutted all Young's allegations of tender manipulation. Instead it surfaced that Young had created an opposition consortium to ADS with one of BAES' subsidiaries BEASEMA, and with Plessey Tellumat in the Cape, was thus proposing an alternative British combat suite solution led by the British. It is interesting to note that none of the 'critics', particularly Young, made any effort to cross examine either Smith, Nortje or Kammerman.

Since 6 November 2013, in several subsequent sessions the APC has grappled with numerous recovery requests from Young for more information on the corvettes to be provided by both the DOD and Armscor. Eventually on 24 March 2014, the APC Chair stated (p5253): *'It is not sufficient for any member of the public to merely allege that they are interested in the subject matter of the inquiry and thus wish to investigate matters by way of access documents.'* In this way the APC formally rejected all recovery applications made by Young. It is presently not clear from the APC's website what they plan to do in respect of Young's testimony.⁶⁰⁷

In her testimony to the APC, former PAC Member of Parliament (MP), Patricia de Lille⁶⁰⁸ (2014), admitted that she was the first one to blow the whistle on the SDP in Parliament based on a dossier she got from a certain Bheki Jacobs (this became known as the 'De Lille dossier' that since vanished). De Lille criticised the government for not being accountable in its decision to procure the SDP and accused them of neglecting their national duty.

Reinette Taljaard (2014)⁶⁰⁹ supported De Lille's view in her testimony to the APC. She stated that while involved with the SCOPA, she had observed critical areas of breakdown in Ministerial responsibility, and that under the provisions of the New Constitution, lack of Ministerial responsibility was clearly evident in legislative executive interactions (*ibid*: p7777). Taljaard criticised the fact that the IONT, and

⁶⁰⁷ It later surfaced that Young was scheduled to appear before the APC on 2 February 2015. He did not turn up for the hearing but instead requested via his legal counsel a postponement till 4 March 2015 – the APC had little choice to grant his request as he was now seen as the only one left with evidence of subversive actions – Young commenced his testimony of the 4th of March 2015 - cf. <<http://www.armscomm.org.za...>>

⁶⁰⁸ The report to Parliament was in 1999 - Patricia de Lille has since become a member of the Democratic Alliance (DA) and is now (2014) the Mayor of CapeTown

⁶⁰⁹ Reinette Taljaard, was a member of the DA in Parliament at that time – her testimony was on 7 August 2014 – cf. <<http://www.armscomm.org.za>>

particularly Jayendra Naidoo, were given too wide ranging powers to negotiate; she saw this as an abdication of collective Cabinet responsibility (*ibid*:pp7797,7802-7806). Taljaard added that forums like the IONT and the Ministers' Committee diminish democratic decision making and accountability in the normal sense of constitutional prescripts for collective Cabinet responsibility to the legislature (*ibid*:p7822).

David Maynier, a member of Parliament, and since 2009 a member of the Joint Standing Committee on Defence (JSCD), the Portfolio Committee on Defence and Military Veterans, and an alternate member of the Standing Committee of Public Accounts (SCOPA), testified at the APC on 11 and 12 August 2014. Maynier began his testimony by stating:

'It will be apparent, I do not have personal knowledge regarding many of the topics which appear on the list and that I will in the main, rely on the listed documents to substantiate my views.'(p7865).

Maynier's testimony did not add anything to the hearing of the APC to the extent they subsequently stated that *'This witness had difficulties with the investigation for years. Now he has the platform to provide [indistinct]. We have spent now a full day with him in the witness box, and I have not heard one single fact that is worth mentioning in your report, because it is not relevant at all.'* (p7960).

In his statement to the APC on 2 September 2014, Gavin Woods⁶¹⁰ explained that he resigned as Chairperson of SCOPA on 1 March 2002 (pp7993-8105) before the end of his term and that his resignation primary came about as a result of the first investigation into the arms deal. The joint investigation (JIT) report that was compiled by the Director of Public Prosecutions, the Auditor General and the Public Protector, Woods believes was somewhat fraudulent⁶¹¹ and that the joint investigation team, under the auspices of the AG, did not carry out the instructions that have come via SCOPA and through the National Assembly. Woods was also aggrieved by the numerous interventions from members of the executive that took place at the time. Interventions also came from senior parliament officials, which delayed the

⁶¹⁰Gavin Woods was the Chairperson of SCOPA at the time of the AG's JIT submission in 2001

⁶¹¹Woods' inference here is about the fact that the first draft AG report was submitted to the DOD for what is in audit terms called 'management comment'. Management comment is a standard practice where management is first awarded the opportunity to provide comment as to remove any incorrect observations due to auditors not always understanding all the technical and administrative aspects when they do their audit – it was during this 'management comment process' that numerous corrective changes were effected, of course to the dismay of SCOPA (and several others) whom have seen this as a major cover up

investigation and SCOPA's work. Woods stated that circumstantial evidence suggested the probability of corruption having taken place. Under cross examination Woods acknowledged that his deductions relied heavily on media reports, since the media have been instrumental in exposing all the biggest corruption issues over the last ten years (p8088): otherwise he had no concrete evidence (pp8121-8122).

The former Minister of Defence, P.M. Lekota (2014), stated in his testimony to the APC that the SDP had been approved by the National Assembly. In his testimony former President Mbeki stated (2014:7501-7515) that Cabinet's decision to approve the SDP had been mandated by the Constitution (confirmed by Manuel, 2014). Mbeki confirmed that Cabinet took cognisance of the affordability of the SDP in their final deliberations. He added that the SDP's approval in terms of expenditure occurred through the normal budget approval process, which was an integral part of the Defence Budget vote debate. Mbeki also stated that there never was an 'arms deal' - it was a defence acquisition and procurement process (*ibid*: 7578).

Following Crawford-Browne's allegations, he was required to testify in front of the APC⁶¹² from 6 to 9 October 2014 (transcript pages 8178-8656). In his testimony Crawford-Browne stated:

'The Cabinet Sub-Committee for the Armsdeal [sic], chaired by Mr Mbeki, recklessly saddled South Africa with foreign debts to buy armaments for which there was no need. The acquisitions were riddled with bribery and corruptions and the offsets that motivated the purchases blatantly failed the Constitutional requirements of Section 217 (1). The remedies in case of bribes provision, within the supply contracts, give South Africa the right summarily to cancel the contracts and to claim compensation. Instead of applying these provisions the Cabinet and government embarked upon a massive cover up of the Armsdeal [sic] scandal.' (2014:8418).

During his testimony Crawford-Browne provided lengthy arguments with a wide range of rather contentious, fabricated allegations – as pointed out by the various legal counsellors during his cross examination. His testimony contained rather shocking revelations that borders on both being absurd and nonsensical. For example, he

⁶¹²The Chairperson commented on 6 October 2014 that the APC had received 34 differing statements from Crawford-Browne - the one replacing the other. During the course of the hearings, Crawford-Browne on numerous occasions submitted additional information. He was permitted to do so provided that the additional information was made available to all

stated that one reason for procuring the Hawk aircraft was purportedly justified for its role in protecting the 2010 World Cup (p8302). He expanded even further on his earlier allegations⁶¹³ by now also implicating the apartheid era's 'Afrikaner Broederbond'⁶¹⁴ (p8358), the Reserve Bank with money laundering (p5359), Anglo American, De Beers, Gencor, Old Mutual, South African Breweries and Di-Data, all that had been allowed to change their domicile off-shore (p8363). His testimony also covered aspects of alleged trade union bribes involving NUMSA stemming from Sweden (pp8252, 8271). He mentioned Denel's environmental contamination of the Philippi near Cape Town (p8266). He stated that Modise was responsible for Chris Hani's⁶¹⁵ murder in 1993 and was subsequently poisoned as he was not dying quick enough from his cancer. He then mentioned oil transactions involving Georgiades⁶¹⁶ who facilitated bribes from Germany (and added that F.W de Klerk having had an affair with Georgiades' wife). He claimed that Iraq's invasion of Kuwait was caused by the corrupt UK's Barclays Bank whom took over ABSA Bank. He also mentioned Janusz Walus was employed by BAE Systems and that Clive Derby-Lewis who was merely a red herring to blame the white right wing and so divert attention away from the British arms industry (pp8433, 8434). Crawford-Browne stated that Bheki Jacobs was the compiler of the 1999 'De Lille dossier'. He further stated that Jacobs⁶¹⁷ was subsequently arrested in Cape Town and flown to Johannesburg by a jet owned by Brett Kebble.⁶¹⁸ He also stated that Jacobs died in September 2008 at the age of 46 under highly suspicious circumstances (p8436). Having read through the lengthy testimony of Crawford-Brown it was extremely difficult to understand the exact relevance of these issues as they related to the SDP, nor how they linked to his claim that the arms deal is a massive cover up by the government that originated in the 1980s.⁶¹⁹

⁶¹³Prior the APC Crawford-Browne (2002, 2004, 2007, 2008, 2009, 2012) made several allegations and included a wide range of mechanisms he claimed were used by foreign arms dealers to conceal bribes – such as oil deals, toll roads, drivers' licences, cell phone contracts, the Coega development project, drugs and diamond trafficking. In early May 2012, allegations surfaced of possible collaboration between the e-toll company, Kapsch TrafficCom (Austria) and one of the arms deal companies, Saab (Sweden). Kapsch reportedly bought one of Saab's daughter companies, Combitech. These allegations have been denied by all parties involved. The matter was linked to earlier concerns raised about the operations of the e-toll collection processes that allegedly involved senior ANC members

⁶¹⁴A purported Afrikaner Calvinist secret organisation dedicated to the advancement of white Afrikaner interests, reportedly established in 1918 – cf. <africanhistory.about.com>

⁶¹⁵Chris Hani was a member of the SA Communist Party (SACP) and the Chief of Staff of ANC's military wing MK. He was assassinated on 10 April 1993 by Janusz Walus a Polish Immigrant with close links to the Afrikaner resistance group, the AWB ('Afrikaner Weerstandsbeweging' [a resistance movement]). Walus also implicated in the assassination, a Conservative Party MP, Clive Derby-Lewis – both are still serving jail sentences - cf. <<http://www.sahistory.org.za/people/thembisile-chris-hani>>

⁶¹⁶Reportedly, Tony Georgiades is associated with arms deal lobbying and being part of the apartheid era's sanction busting. F.W de Klerk married Georgiades estranged wife Elita in 1998 - cf. <<http://mg.co.za/article/2008-06-28-new-light-on-arms-commissions>> and <<http://mg.co.za/tag/tony-georgiades>>

⁶¹⁷The APC, during the De Lille testimony, pointed out the this person (Bheki Jacobs) was a known 'trickster', that he was a Soviet trained intelligence agent and an ANC intelligence operative

⁶¹⁸A South African mining magnate with close links to political factions in the ANC. He was murdered in September 2005 - cf. <<http://www.news24.com>>

⁶¹⁹In a media statement published by the Business Day, 16 October 2014, Fernstein, Holden and Van Vuuren distanced themselves from Crawford-Browne testimonies at the APC

Under cross examination, Crawford-Browne conceded that he relied primarily on newspaper reports and information he had been provided by Van Vuuren, Holden and Young. The APC subsequently pointed to numerous incorrect assumptions, presumptuous predications with unsubstantiated deductions leading to misrepresentation of information based on untested legitimacy. Crawford-Browne admitted that he did not read all of the testimonies of the various government officials, but preferred to stay with his version of what he believes really happened, with the government guilty of a substantial cover-up. After Crawford-Browne's cross-examination, two of the Advocates stated the following: (i) ADV CILLIERS: *'Absolutely. Mr Crawford Browne, you are an opportunistic witness. I am sad to say, but you are dishonest man.'* (p8478); (ii) ADV CANE: *'Mr Crawford-Browne, you are quite the most evasive witness that I have ever cross-examined.'*(p8520).

Yet another controversial development was that three of the key critics who were still to testify, suddenly on 28 August 2014, decided to no longer do so. Feinstein, Holden and Van Vuuren stated that their decision was taken due to serious concerns they had with the way the commission had conducted itself. Feinstein was quoted as saying, *'We believe the commission is no longer salvageable.'*⁶²⁰ The APC re-served subpoenas on all three to testify in October 2014.⁶²¹ However, although Van Vuuren arrived at the APC hearing on 20 October 2014, his legal counsel informed the APC that Van Vuuren refuses to take the oath and to testify. A number of reasons were presented for Van Vuuren's decision (reported to be supported by both Feinstein and Holden) not to testify. The APC and the various legal counsels for the respective other parties questioned these reasons, but after one whole day of arguments nobody seemed to be any wiser. It also surfaced that both Holden and Feinstein moved to London, UK from where they now question the APC's extraterritorial powers. The APC has as yet (i.e. at 11 November 2014) to indicate what they plan to do about these turn of events.

On 10 and 11 November 2014, one of the key role players in the SDP process, the Chief of Acquisition (C:Acq, DOD), Shamin (Chippy) Shaik testified before the APC. His testimony was on a voluntary basis as he presently resides in Perth, Australia and the APC has no extraterritorial powers to have summoned him to testify. (Shaik resigned his position in the DOD in April 2002 at his own free will.) Shaik stated that his testimony was intended to support the important work the APC was doing. He

⁶²⁰cf. <<http://www.news24.com/SouthAfrica/News/Arms-deal-critics-withdraw-from-commission-20140828>>

⁶²¹cf. <<http://www.armscomm.org.za>>

indicated that it was not his intention to contradict any previous statements made by any of the other witnesses; his aim was to explain the process around the acquisition programme and the role he played. He added that he had no decision-making powers, contrary to the Secretary of Defence's allusion. As Chief of Acquisition, he acted on the instruction of the Minister of Defence who had the final say in collaboration with Cabinet – this explained Steyn's issue with correctness of minutes, which Shaik purportedly 'tampered' with. Shaik provided several official DOD documents in substantiation of his testimony. With regard to Steyn's allegation that Shaik had 'sidestepped' him, Shaik attributed this to some level of conflict that existed between the roles and responsibilities of the Minister of Defence, the Secretary for Defence, and senior government officials. However, Shaik added that this was not unique to the DOD (pp8704,8705).

Shaik provided a contextual overview concerning the various controversies related to, for example, the corvette combat suite selection, and his brother (Shabir) as shareholder in ADS, the finally nominated integrator and supplier of the GFC. The perceived conflict of interest which he reported was duly declared at various levels in the DOD and for which he recused himself at forums where this element was recommended for approval (pp8890,8891,8893). Shaik explained that the combat suite initially involved Altech Defence Systems (ADS) and only after the contract had been awarded did it become African Defence Systems in which his brother (Shabir) held a share through Nkobi Holdings in collaboration with Thomson South Africa (pp8881,8882,8888) (this aspect was explained earlier). In support of Kammerman's testimony, Shaik explained how it came about that the combat suite's IMS sub-system was not awarded to local SADI company CCII.

Shaik also explained the rationale behind the non-costed decision regarding the final selection of the LIFT aircraft. Shaik stated that any perceptions created that the DOD 'concocted' the SDP's offsets, was not true, since the process was in place and had been discussed in 1994 (part of the TEC)⁶²² when the ANC took Office (p8717). Shaik confirmed that there was no room for any manipulation of numbers by any committee member for any of the project teams, since no team knew another team's score (p8773). The scores that were presented at the SOFCOM remained the same throughout the consolidation and recommendation for approval process (pp8777,8783,8894,8895). Shaik provided an extensive datelined progression report.

⁶²² *The Transitional Executive Council overseeing the transition to democracy in 1994*

Otherwise there were no new revelations. With regard to Holden and Van Vuuren's allegations in 2011, (*'The Devil is in the Detail'*) of numerous wrong doings on Shaik's part, he responded, *'None of these allegations has been proven in front of the Commission. None of these authors has come to the Commission [to] prove their allegations'* (p8912): the *'...allegations are untrue'* (p8918). He also rejected the allegations made in Crawford-Browne's 2007 publication (*'Eye on the Money'*) as *'bizarre'*, incorrect and unfounded (p8913).

As the APC's records contain approximately 8 921 transcript pages⁶²³ and millions of other records, it is not possible to provide even a brief synopsis of all the testimonies in this study (however, the thesis' Bibliography contains a full record of all the APC's testimonies – witnesses and the dates on which they testified). Covering the APC's full proceedings would require completely separate research. Nevertheless, one observation that can be made so far is that the APC appears to be meticulous in its interrogation and cross examination of all those who have testified. The APC till now did not allow speculation; it demanded that all those testifying provide sound physical evidence, based on personal knowledge and not hearsay. Derogative or belittling and condescending statements, or insulting remarks, made during cross examination have on many occasions had to be withdrawn and apologised for.

Since the commencement of the phase two hearings, the APC could, as yet, not obtain any substantive proof of any wrong doing: on several occasions 'critics' testimony was reported as *'drawing unsubstantiated inferences'*⁶²⁴ almost in all cases based on hearsay and with the persons testifying admitting to having *'no personal knowledge'* of any specific allegations. It would therefore be prudent to not even attempt to make assumptions or draw conclusions concerning the various witnesses' statements; these are for the APC to analyse, and make their own findings and announcements in their own time.⁶²⁵

8.7.3 South Africa's International Corruption Rating

Given the serious nature of the allegations of fraud and corruption, it is worth noting Hollands' (2007) case study. He found that corruption in South Africa is not limited to any specific group, government department (whether at national, provincial or local

⁶²³ Around mid-November 2014, by the time of concluding this thesis

⁶²⁴ Cf. <<http://www.news24.com/SouthAfrica/News/Woods-confronted-over-arms-graft-claims-20140902>>

⁶²⁵ By the time of concluding this thesis (end November 2014) Fana Hlongwane still had to testify (on 11 December 2014 – which he did – cf. www.armscomm.org.za/hearings/...>)

level), or social structure. He notes that despite a host of anti-corruption agencies and wide ranging legislation, corruption and fraud continue unabated. Hollands (*ibid*) believes that corruption involves a pre-arranged network and is seldom the work of an individual.

In her research on corruption in South Africa, Camerer (2009) found that with the transition to democracy, the government took the moral high ground by publicly committing itself to fight corruption. Despite being constitutionally committed to core values such as openness, transparency and responsiveness, the new democracy still faces corruption as a social phenomenon. Although Camerer (*ibid*) attributes corruption to poor governance, the issue remains rather complex.

Hollands (2007) states that dedicated political will is needed if anti-corruption measures are to succeed. In support, Camerer (2009:293-328) finds numerous governance deficiencies primarily as a result of what she calls 'a general absence of sustainable political will' in government despite an array of institutional laws, regulations and policies. Camerer (*ibid*) attributes this absence of political will to a lack of regulations governing the funding of political parties. This remains the 'Achilles heel' of anti-corruption reforms: politically inspired corruption subverts good governance by undermining public trust in government.

In April 2010, Transparency International (*cf.* Magahy, *et al.*, 2010) released a comprehensive paper on defence offsets corruption risks. Their primary objective was to alert importing and exporting governments and defence companies to the nature, magnitude and detrimental impact of the corruption risks inherent in defence offsets. They made a plea to all governments to introduce a series of checks, balances and control measures to remove the risk of corruption that could be created through offsets transactions.

According to the 2013 Transparency International Corruption Perceptions Index,⁶²⁶ corruption is a major threat facing humanity; it destroys lives and communities and undermines countries and institutions. It generates popular anger that threatens to further destabilise societies and exacerbate violent conflicts. The Corruption Perceptions Index scores countries on a scale from 0 (highly corrupt) to 100 (very clean). While no country has a full score, two-thirds of countries score below 50,

⁶²⁶ *cf.* <http://archive.transparency.org/policy_research/>

indicating a serious corruption problem. The Corruption Perceptions Index ranks countries and territories based on how corrupt their public sector is perceived to be. A country's rank indicates its position relative to the other countries and territories included in the index. The 2013 index includes 177 countries and territories.

Corruption does not only occur in defence deals; however, it appears that defence deals specifically are seen as key contributors to fraud and corruption. This is primarily attributable to the secretive and non-transparent nature of the selection and contracting process - in most instances obscured by a cloak of national security. As noted previously, in the case of South Africa there are allegations that offsets are merely used as channels to hide fraudulent transactions (*cf.* Holden and Van Vuuren, 2011; Crawford-Browne, 2012, 2014) – however this still needs to be proven.

South Africa's position on the Corruption Perceptions Index,⁶²⁷ although not related to 'defence corruption', remain at alarming levels. In 2007, South Africa ranked at position number 36 on a list of 102 of the most corrupt countries (Hollands, 2007). In 2010, Transparency International⁶²⁸ ranked South Africa at position number 54 on a list of 178 countries. By 2011, South African was ranked at position number 64 out of 178. In 2013 South Africa dropped to position number 72 out of 177 countries surveyed. In 1995/6, after a democratic government was established, South Africa was at position number 23 out of 54 countries surveyed.⁶²⁹ When one compares the 1995 and 2013 statistics, it appears that South Africa remains in the top 42 per cent of most corrupt countries.

'It is time to stop those who get away with acts of corruption. The legal loopholes and lack of political will in government facilitate both domestic and cross-border corruption, and call for our intensified efforts to combat the impunity of the corrupt.'

Huguette Labelle, Chair, Transparency International.

8.7.4 Fraud and Corruption in Defence Deals Elsewhere

Having considered the allegations of fraud and corruption in the South African SDP, this research further considered whether there was evidence of fraud and corruption

⁶²⁷ *ibid*

⁶²⁸ *ibid*

⁶²⁹ *cf.* <http://archive.transparency.org/policy_research/...>

elsewhere involving those same companies who supplied defence equipment to South Africa. The following is just the tip of the defence corruption iceberg.

- **BAE Systems, United Kingdom** - One of the biggest defence countertrade transactions, involving arms for oil, is the Al Yamamah⁶³⁰ deal between Saudi Arabia and the UK. The UK's *The Guardian* claims that since 2003, it has been investigating this deal, and several other BAES' arms deals. It was reported that this investigation subsequently forced BAES into an admission of guilt for which it paid approximately USD 400 million in penalties.⁶³¹
- **Agusta Westland (AW), Italy** – In 2010 India signed a deal with Agusta Westland to procure 12 helicopters. Through a series of reports in the Indian press, an Italian probe into international corruption charges led to an investigative report filed in a Naples court. This report suggested that 51 million Euros were paid as commission to swing the deal.⁶³² It also named Indian nationals and international middlemen allegedly involved in the deal. Italian investigators probing corruption by middlemen in various defence deals stumbled upon a taped conversation between some of them related to the Indian helicopter deal negotiated by AW. The recorded conversation was between a Swiss-based consultant and his Italian counterparts. The Swiss authorities were reported as having placed the Swiss national under arrest due to evidence unearthed in the Italian investigations. *Defence Industry Daily* (29 July 2014)⁶³³ reported that Finmeccanica announced that the Italian Prosecutor had discontinued its investigations related to this contract. India's CBI also acknowledged that it doesn't have enough to bring a case. It was reported that Finmeccanica did pay a 'negligible fine' for not having proper control systems in place.
- **Thyssen-Krupp, Germany.** According to a German newspaper⁶³⁴ the submarine-making subsidiary HDW, transferred money to a South Korean businessman who is the focus of a probe by South Korean authorities related

⁶³⁰ Al Yamamah is a series of defence sales by the UK to Saudi Arabia, which have been paid for by the delivery of up to 600 000 barrels (95 000m³) of crude oil per day to the UK government. The prime contractor was BAES and its predecessor, British Aerospace. The first sales were made in September 1985 and the most recent contract for 72 Eurofighter Typhoon multirole fighters was signed in August 2006. Mike Turner, the CEO of BAES, said in August 2005 that BAE and its predecessor had earned GBP 43 billion in 20 years from these contracts and that it could earn GBP 40 billion more. It is the UK's largest ever export agreement and employs approximately 5 000 people in Saudi Arabia. In 2010, BAES pleaded guilty in a US court to charges of false accounting and making misleading statements in connection with the sales (Source: <<http://www.wikipedia.com>>). This was also substantiated by reports in the UK Mail and Guardian news paper

⁶³¹ Cf. <<http://www.theguardian.com.uk>> and <<http://www.globalsecurity.org>>

⁶³² Dawn.Com, 30 October 2012

⁶³³ Cf. <news@defeseindustrydaily.com>. Sources: Finmeccanica, 'Finmeccanica: Investigations into the Company relating to the AW101 helicopters contract with the Indian Ministry of Defence discontinued.'

⁶³⁴ Der Spiegel, 10 April 2012

to a submarine contract worth 2,5 billion Euros. In 2012, Thyssen-Krupp indicated that they were to launch an internal review and would be working with authorities. Auditors and attorneys reported to South Korea for an on-site investigation during November 2012. According to a subsequent 200-page report, a company board member with Asian responsibility may have been involved in facilitating millions of Euros in kickbacks and bribes in connection with the submarine deal. However, in 2013 it was reported that the court had rejected these charges.⁶³⁵

- **Germany's MAN Ferrostaal** – this engineering group is under suspicion of paying bribes to secure contracts, and of organising bribery payments on behalf of other firms for a fee. Several reported⁶³⁶ deals implicated the group in suspected cases of bribery and corruption that occurred in Colombia, Argentina, Portugal and Indonesia. German prosecutors stated that two executives from Ferrostaal AG stood accused of bribing foreign officials in cases related to the sale of submarines to Greece and Portugal. It was reported that more than 62 million Euros in bribes were paid between 2000 and 2007 to clinch these deals. MAN Ferrostaal subsequently settled these charges by paying 149 million Euros in penalties.⁶³⁷
- **Thales of France** – is a subsidiary of France's DCNS group and is allegedly⁶³⁸ involved in a bribery and corruption deal in Malaysia, although the French government denies this. Allegations of corruption in a 1,25 billion USD purchase of two submarines emerged when the French case was exposed by Malaysia's political opposition. This was threatening to tarnish Prime Minister Najib Razak, ahead of a general election. Malaysian human rights group, 'SUARAM', and its French lawyers have alleged that Thales bought classified Malaysian defence ministry documents to help its bid for the Euro 1 billion contract it won in 2002. Investigation documents show that Thales paid approximately Euro 36 million to a company controlled by a former associate of Najib.⁶³⁹

⁶³⁵ cf. <<http://www.thehindu.com/news/national/germans-...>> – see also <<http://www.spiegel.de/international/business/u-turn-on-u-boats-thyssen-plans-withdrawal-from-submarine-joint-venture-a-796474.html>>

⁶³⁶ Der Spiegel, 10 April 2012 - Germany

⁶³⁷ The Wall Street Journal, 11 Dec 2011

⁶³⁸ DefenceWeb, 27 June 2012

⁶³⁹ This investigation is on-going with two subsequent questionable incidents of 'suicide' deepening the plot – cf. <<http://www.defenseindustrydaily.com/scorpenes-sting-liberation-publishes-expose-re-malaysias-bribery-murder-scandal-05347/>>

In a study done by Platzgummer (2013)⁶⁴⁰ on arms trade offsets and cases of alleged corruption he analysed media reports over the period 1980 to 2012. His final sample contained 250 media reports that covered such cases across twelve different countries. He (*ibid*) stated that probably due to the uniqueness of the South African case, more than half these reports (153 to be exact) covered alleged cases of corruption in South Africa. He further attributed this high level of media coverage to the fact that as an English speaking country, South Africa is more prone to the frequency of English media reporting. His study shows that he did not intend to analyse the legitimacy of such reported allegations, nor did it focus on any litigations and/or court cases.

8.8 Summary

According to the government, satisfying South Africa's defence needs is a sovereign right. The neglect of defence equipment renewals since the late 1980s is one reason the government adopted the package deal approach; another is the desire to create partnerships with European companies to gain access to the European market (the late Joe Modise's 'visionary approach').

Major defence acquisition transactions like the SDP, are prone to criticism, based on the social responsibility of the state, particularly when allegations of maladministration, collusion, fraud and corruption follow. One must also bear in mind the political dimensions at work between the leading and opposition parties, which often taint objectivity. An example is the opposing testimonies given to the APC by De Lille (initially PAC now DA), Taljaard (DA) and Maynier (DA) versus those of Manuel, Erwin and Mbeki (ANC).

The SANDF stands accused of subsequent under-utilisation of equipment, the innuendo being that the equipment was never needed. Further questions surfaced regarding whether the SANDF has the capability and capacity to maintain, support and operate the equipment. However, this is a defence operational issue and falls outside the SDP's scope, although it is directly related to the reality of a lack of adequate defence funding (discussed in chapter 7).

⁶⁴⁰ Peter Platzgummer - a doctoral candidate at the Centre for Security Economics and Technology, University of St. Gallen, Switzerland. This work was supported by a SNSF research grant (PBSGP1_141341) during a research stay at the U.S. Naval Postgraduate School, Monterey, CA., USA. E-mail: <peter.platzgummer@unisg.ch>

The APC's phase one evidence presented thus far (i.e. up till 11 November 2014), provided testimony of a highly sophisticated acquisition process endorsed by an equally thorough evaluation process with adequate levels of governance and accountability. Several witnesses were subjected to in-depth cross examination. The APC is far from finished with its hearings and evidence collection and the outcome of its findings is awaited, particularly in the light of the third extension of time to 2015.

It is worthwhile to reflect on former President Mbeki's concluding remarks to the APC concerning the SDP allegations. On 18 July 2014 (transcript pages 7578 to 7580) he noted that the members of Cabinet were concerned about all the allegations of corruption.⁶⁴¹ Although it was the duty of citizens to raise matters of corruption, Mbeki stated that they would need to produce evidence on which government could act. Mbeki added that he felt frustration concerning the term 'Arms Deal'. He stated that there was never any deal; it was an acquisition process. Mbeki noted that an 'Arms Deal' is underpinned by a lot of corrupt matters. With regard to the procurement process, Mbeki described the Cabinet appointed Inter Ministerial Committee as 'decisive': it had the opportunity to reject, accept and amend recommendations. Furthermore, it was the only committee that was responsible for making a recommendation to Cabinet.

At the beginning of this chapter, the reader was alerted to its controversial nature. This research analysed the various aspects of the SDP, from its inception to where it is today, and presented a number of critiques that must be made.

As a new democracy with relatively inexperienced ministers, deputies and officials, it could be considered overly ambitious to 'run' with a multi-billion Rand SDP programme, hence Dunne and Lamb (2003:10) stating that '*...the meeting of an inexperienced government with shady dealings of the international arms industry was always likely to lead to such problems...*' A number of flaws inevitably resulted. One is that the SDP was structured and primarily run by politicians, whose agendas were generally not known to anyone else and resulted in a lack of transparency (i.e. the role of the new elites, Haines, 2012). Another is that there were not adequate checks and balances built into the decision making structure to allow for independent overseeing. The SDP was a major (cardinal) acquisition programme that deviated from standard Armscor acquisition practices that had been institutionally embedded

⁶⁴¹The quote is not verbatim, but a summary of Mbeki's message

since the 1970s. Even in its heydays Armscor had never engaged in a defence package of this magnitude, although it had successfully managed multiple highly sophisticated local defence acquisition programmes.

This research has shown that the process leading up to the SDP acquisition was carried out hastily - from a decision to go ahead in late 1997, and ending with six major equipment contracts signed some 26 months later. Several instances were cited where there should have been much closer cooperation between the respective project teams and particularly the DIP. This was also true of the NIP process (not researched here). The result was that many decisions had to be taken at face value and in good faith, particularly the industrial participation. (Unfortunately the NIP suffered the most, although the opposite was intended.)

As a result of the JIT report (AG, 2001), the subsequent and continued media coverage, and the workings of the SCOPA and the APC, it is highly unlikely that South Africa will soon see a repeat of the 1999 SDP – and if so, it will most definitely be dealt with differently.

Despite certain obviously flawed processes governing the SDP, for example, the haste with which it was concluded that resulted in lost opportunities to extract a higher and longer term local value add, it nevertheless provided a life line to the SADI through DIP. Developmental opportunities were created for the DIB, enhanced through SADI partnering with prominent EU defence companies, which ultimately provided access into their supply chains. As will be seen in chapters nine and ten, there are several aspects of the SDP's DIP programme that benefitted a wide range of SADI entities, some ostensibly more than others.

CHAPTER NINE: SOUTH AFRICA'S DEFENCE INDUSTRIAL PARTICIPATION POLICY – AN ANALYTICAL REVIEW

9.1 Introduction

This chapter contains the final case study elements of the research. It specifically reflects on the Defence Industrial Participation (DIP) policy approved in May 1997⁶⁴² (cf. Appendix B). This policy mandated Armscor to implement the revised⁶⁴³ DIP process governing all defence procurements with an imported content of USD 2 million and more. Armscor derived its mandate from the Armaments Development and Production Act (Act 57 of 1968, as amended - later replaced by Act 51 of 2003) in terms of which it is empowered to develop, manufacture, service, repair and maintain armaments and to exercise control over these processes, including imports and exports; and to negotiate contracts to develop, manufacture, modify, maintain, test and inspect armaments. Subsequently, the Minister of Defence gave Armscor the mandate for the total armaments requirements of South Africa, an authority to be exercised as effectively and economically as possible (Armscor, 2000:46). This mandate is directly linked to Armscor's responsibility to manage the DIP policy.

I analyse and comment on the DIP policy as it was applied during the strategic defence package (SDP) process of 1998/1999. I do this in my former capacity as an active participant at the time (i.e. from 1996 to 2001), and later as practitioner and reflexive observer while at Denel (2001 to 2009)⁶⁴⁴ and since then, as a part time DIP business consultant. The process I follow entails what Herzog (1993:448) refers to as 'practitioner-held-theory': this presupposes a model that uses the triangulation method, combining qualitative and quantitative findings to describe how reflexive practitioners think – this includes other and opposing views. The 1997 DIP policy (referenced A-POL-6100 of 1 April 1997)⁶⁴⁵ replaced the previous Armscor countertrade policy (KP-008) that had been in place since 1988.

⁶⁴²On the DOD side this policy was officially signed by the DefSec (P.D. Steyn) on 20 May 1997 after consultation with AMD and its members - discussed further down. Armscor (the author) used this document to draft A-POL-6100 that was the officially published document that formed the basis of developing the SDP DIP evaluation guideless discussed in chapter eight

⁶⁴³Revised in the sense that the 1997 DIP policy replaced the former Armscor countertrade policy (KP008) subsequent to the DTI's NIP Guidelines having been approved by Parliament late 1996 and approved by Cabinet 1997

⁶⁴⁴While at Denel, I (the author) was actively involved (with Denel then as an obligor) in various Armscor tenders such as GBADS, Hoefyster, A-Darter, Oryx upgrade, and between 2009 and 2013/14, as a consultant in Projects: Packages I and II, Blesbok and Teamster, and the 2014 HF Radio project

⁶⁴⁵During 1996/7, I (the author) drafted a comprehensive industrial participation procedural manual for Armscor. It contained numerous flow process analyses. It is an internal Armscor document, referenced JUL-28/1 and JJVD/Procedure-OKT'98, A-POL-6100 of 1/4/97 and A-PROC-008 of 1/4/97, respectively. Please note that A-POL-6100 was later replaced by A-POL-6000 of 11 February 2002 and A-PROC-008 was replaced by two new documents referenced A-PROC-6031 of 19 March 2001 revised 11 February 2002, and A-PRAC-6030 of 11 November 2002. A-POL-6000 was redrafted in 2012, but will in all likelihood be redrafted again subsequent to the 2014 Defence Review recommendation on the proposed future DIP process

I explain how the DIP policy of 1997 came into existence and also provide an insider's reflection on the rationale supporting the policy's drafting. Part of the ensuing discussion also reviews, in context, some criticisms levelled at the policy and comments on the achievement of its aims and objectives.

'Hindsight is the esoteric art of passing judgement on historical events with new found wisdom on how those events should have been dealt with differently and ostensibly better.'

Author.

9.2 A Brief Historical Overview of the Armscor Countertrade Process

Since its inception in 1988 (*cf.* Van Dyk, 2004:256), the Armscor countertrade programme⁶⁴⁶ has used the reciprocity principles of government procurement as explained, for example, by Yülek and Taylor (2012). Reciprocity principles use procurement leverage to solicit countertrade in a structured manner to secure industrial and economic benefits for a country's industries (in SA's case, the SADI). Reciprocity aims at job creation, investment, technology transfer, R&D collaboration, market share increase and social upliftment⁶⁴⁷ (*cf.* Dunne and Lamb, 2003).

Between 1988 and 1999, Armscor contracted various countertrade-related transactions (*cf.* Willet and Batchelor, 1998; De Beer, 2014). The Armscor practice then included direct and indirect offsets and other countertrade deals (*cf.* the thesis lexicon on terminologies). The countertrade element mainly manifested as counter-purchased goods for export, excluding all raw materials, precious and semi-precious metals, gems and related stones and diamonds, but including commodities such as fruit, tyres and wine⁶⁴⁸ (Van Dyk, 2000⁶⁴⁹; Van Dyk, 2004:256).

However, exact details of those countertrade-related activities remain unpublished.⁶⁵⁰

The 1999/2000 Armscor Annual Report revealed that a total of seventeen

⁶⁴⁶Primarily commodity type exports

⁶⁴⁷*cf.* Armscor Defence Related Countertrade Guidelines of 16 September 1996; replaced by the Armscor Defence Industrial Participation Guidelines of 19 May 1997

⁶⁴⁸Internal Armscor document, referenced JUL-28/1 and JJVD/Procedure-OKT'98, A-POL-6100 of 1/4/97 and A-PROC-008 of 1/4/97 respectively (*cf.* Appendix B and C)

⁶⁴⁹Presentation made by JJ van Dyk on Armscor DIP at the SMi Countertrade Conference in Washington, DC, 24 January 2000

⁶⁵⁰I was the Senior Manager of the DIP division (until 2001) and by virtue of my appointment privy to the details of all these transactions. No official countertrade information for this period is available in the public domain, as a large majority of commitments occurred when South Africa was still under UN embargoes. The identities of South Africa's trading partners were closely guarded. However, if one considers the SANDF inventory, it can be safely assumed that companies in Israel (e.g. the Cheetah programme), Switzerland (with regards the Pilatus Astra trainer and 35mm anti-aircraft guns) and Spain (e.g. the Aljaba tank transporter) were the primary obligors. What is, however, not general knowledge, is that Armscor entered into a development project with Klimov, Russia to find an alternative engine for the Cheetah aircraft. The engine selected was the SMR-95 a modified RD-33 twin-shaft turbo-jet engine with afterburner for the MiG-29 that was developed in the mid-1990s to upgrade foreign-made 2nd and 3^d generation jet fighters - *cf.* <<http://en.klimov.ru/production/aircraft/SMR-95/...>>

countertrade agreements to the value of R 5,1 billion had been signed to that date, that the total discharge against those agreements amounted to R 4,46 billion with ten completed, and that twenty nine pro-active agreements were signed (Armcor, 2000:33).

9.2.1 The Origins of South Africa's Defence Industrial Participation

Until late 1996, Armcor remained the only government entity in South Africa requiring countertrade on foreign procurement contracts. The initial percentages were low and based on best effort. By the early 1990s, the scenario changed to a performance-based penalty, mainly because Armcor realised that certain best effort undertakings had become a process of deferred promises (Van Dyk, 2004:257).⁶⁵¹

Since Armcor gradually increased the percentage of countertrade commitments (to 70% from 1 April 1996, 80% from 1 April 1997, and by 1 April 1998 to a full 100%),⁶⁵² the percentage penalty also increased. By late 1996, Armcor required a 30 per cent penalty (*cf.* Armcor 'Defence Related Countertrade Guidelines' of 16 September 1996; also Dunne and Lamb, 2003:4).

However, by late 1996, the DTI published the National Industrial Participation (NIP) policy and established a penalty norm of 5 per cent. Armcor nevertheless maintained a sliding scale penalty base of between 5 and 15 per cent (*cf.* Armcor, A-POL-6100, 1997; DTI NIP *Guidelines*, 1997; also Van Dyk and Du Plessis, 1997).⁶⁵³

The last Armcor contract to apply the 1988 countertrade practice was project EBB,⁶⁵⁴ signed in late 1996 with Marshalls of Cambridge, UK⁶⁵⁵ for the C130 aircraft upgrade programme.⁶⁵⁶ This defence contract literally 'missed' the NIP process by weeks.

⁶⁵¹ This information, although known to me, as I was the responsible manager at the time, cannot be revealed due to non-disclosure constraints

⁶⁵² With the approval of the NIP policy of the DTI in 1997, the DIP figure was reduced to 50%. Refer to the Armcor Defence Industrial Participation guidelines booklet, 19 May 1997. *cf.* A-POL-6100 (later A-POL-6000)

⁶⁵³ During 1996 and 1997, I was responsible for developing a countertrade procedural manual for Armcor under the guidance of my former manager, J.C. (Koos) du Plessis. The document was referenced 'Armcor Countertrade: POLICY and PROCEDURAL MANUAL' - JUL97-28-1

⁶⁵⁴ *cf.* <http://www.af.mil.za/bases/afb_waterkloof/28%20Squadron.htm>

⁶⁵⁵ *cf.* <<http://www.saairforce.co.za/the-airforce/aircraft/22/c-130bbz->hercules>>

⁶⁵⁶ *ibid*

9.2.2 The National Industrial Participation Programme

Although this thesis is not focused on the DTI's NIP programme, it is nevertheless important to briefly reflect on it as a national industrial developmental policy.

Prior to 1996, Armscor was already involved in discussions with the DTI to convince them to introduce countertrade and offsets mechanisms to cover the vast foreign expenditure of state procurements (Pienaar⁶⁵⁷, 1995).

On 30 April 1997, Cabinet ratified Parliament's 1996 decision to allow the DTI to impose the National Industrial Participation Programme (NIPP) - published as the 'NIPP guidelines'.⁶⁵⁸ From then on NIPP became mandatory for all procurements with imported content. The requirements applied to the South African government (provincial and local) and all state-owned enterprises (SOEs – nowadays referred to as State Owned Companies (SOCs)). The South African National Treasury regulations on government procurement practices endorse this aspect.⁶⁵⁹ Whenever imported content value equals or exceeds USD 10 million - either as one contract or a number of contracts to the same supplier over a two-year period - a mandatory 30 per cent NIP requirement is imposed.⁶⁶⁰ (As stated earlier, Armscor continued with its defence industrial participation process, despite the new NIP process.)⁶⁶¹

In the foreword of the first NIPP brochure (DTI, 1997), then Minister of Trade and Industry, A. Erwin, stated: *'The role of South Africa's Industrial Participation Programme is to fast-track investment, exports and technology development by utilising the instrument of government procurement to leverage such initiatives. The Programme is a component of industrial strategy that seeks to work in partnership with the private sector.'*

The objectives of the NIPP were to seek sustainable economic growth and R&D collaboration, establish new trading partners, solicit foreign investments, promote value added exports, job creation, and technology transfer, and derive economic advantages for previously disadvantaged individuals (PDIs).

⁶⁵⁷ A.A. Pienaar, then Chief Director, Industrial & Technology Strategy. DTI. Delivering a paper on 'Offset agreements and competitive industrialization' at the countertrade symposium in South Africa on 20 April 1995. This was organised by SADIA (The South African Defence Industry Association), the predecessor of today's AMD.

⁶⁵⁸ cf. <<http://www.thedti.gov.za>>

⁶⁵⁹ National Treasury Standard Bid Documentation – SBD5

⁶⁶⁰ *ibid* - DTI NIP guidelines were officially issued in 1997, revised 2008 and 2013

⁶⁶¹ cf. Armscor Defence Industrial Participation Guidelines, effective from 1 April 1997, although only formally approved on 19 May 1997

In 2006, the Department of Public Enterprises commissioned the Competitive Supplier Development Programme (CSDP)⁶⁶² designed for 'big ticket'⁶⁶³ foreign procurements by Transnet and Eskom. The CSDP's aim is primarily developing SMMEs in an effort to reduce imports of manufactured goods and advance exports⁶⁶⁴ (cf. Dunne and Haines, 2005, 2006; Haines, 2012a,b).

The 1997 NIPP guidelines were revised in 2008 and again in 2013, this time by a more extensive revision. The most important change was the introduction of so-called 'direct NIP' that is meant to allow obligors to primarily focus on its core business when attending to its NIP discharge – this is basically a duplication of the Armscor DIP model. DTI spokesperson, William Ramutla (at the AMD⁶⁶⁵ SADI/DOD day held on 5 August 2014), confirmed that this was the case and that the DTI would commence discussions with Armscor to establish how these two objectives could be more closely aligned as there are now clearly an overlap which will cause problems for future foreign defence contractors. Ramutla indicated that the DTI may have to obtain Cabinet's approval for further changes to address the consolidation of direct NIP with DIP in cases of defence procurements.

9.2.3 Drafting the 1997 Defence Industrial Participation Policy

As the countertrade responsible manager at Armscor at the time, I was directly involved in drafting the new DIP policy under the directive of the then Secretary for Defence, P.D. (Pierre) Steyn (1996).⁶⁶⁶ The drafting occurred during a new democratic dispensation in South Africa and under a new Constitution – this fact inevitably required a much broader consultative process, albeit not required by law (i.e. Act 57 of 1968, as amended).

Redrafting the Armscor countertrade policy - that had changed to 'defence industrial participation' following Parliament's approval of the DTI NIPP - occurred under Armscor's legal mandate to develop and maintain a local defence industrial base.

⁶⁶²cf. <<http://www.dpe.gov.za>>

⁶⁶³Some R 400 billion - cf. <<http://www.moneyweb.co.za/moneyweb-2013-budget/2013-budget-speech>>

⁶⁶⁴cf. <<http://www.info.gov.za/view/DownloadFileAction?id=95793>>

⁶⁶⁵The Aerospace, Maritime and Defence Industry Association (AMD) represents the broader interests of the SADI and acts as its mouthpiece to government

⁶⁶⁶From 1992 to 1996 I was Armscor's Head of Arms Control, responsible for managing and issuing a range of arms control permits in terms of Act 57 of 1968. From late 1994 to mid-1996 I was seconded to the Defence Secretariat to establish a new Arms Control Directorate as instructed by the Cabinet. I then (for all practical purposes) reported to late Prof Kader Asmal as the Chairperson of the newly established National Conventional Arms Control Committee (NCACC, 1994) and Pierre Steyn as the Defsec, and the Minister of Defence Joe Modise and the Executive Managing Director of Armscor, Tielman de Waal. During 1996, I requested my secondment to the Secretary of Defence to be terminated and I was transferred to the Armscor Countertrade Department, to later take the position of the Senior Manager J.C. (Koos) du Plessis who was about to retire

Armcor is under no legal or other obligation to consult any government entity or industry (e.g. SADI or AMD), but reports to the Minister of Defence.

Drafting the 1997 DIP policy was directly informed and influenced by Armcor's practical experience in dealing with international countertrade transactions since 1988. In this regard I am indebted to the countertrade insights of my predecessor, J.C. (Koos) du Plessis. He taught me the finer nuances of this reciprocal trade practice and its dealings, sound contract management and performance monitoring and evaluation. In preparing for the drafting process I consulted the following sources to ensure international alignment with best practices - the academic, scholarly and practitioner works and views of, for example, Yoffie (1985, 1994), Horwitz (1987, 1989), Korth (1987), Agarwala (1991), Ellingsen (1991), Coetzer (1995), Marvel (1995), Verzariu (1985, 1992), Angelides (1993), Martin (1996), and Gleditsch, *et al.* (1996).

The new DIP policy also benefitted from insights into preceding defence studies carried out on the Minister of Defence's (the late Joe Modise) instruction. These study reports were known as 'MODAC'⁶⁶⁷ 1, 2, 3 and 4' and were extensively used as inputs during the drafting of the 1996 Defence White Paper, 1997 Defence Review, Armcor's and the DOD's acquisition policy - VB1000 (Griesel, 2013), and the subsequent Defence Related Industry White Paper of 1999⁶⁶⁸ (DOD, 1996, 1997, 1999).

In its objectives statement, the DIP policy recognised the strategic government papers on the South African military complex and the defence industrial base. It also recognised the changed process brought about by the 1997 DTI's national industrial participation programme. Although the review of the SADI was concluded and published only in 1999 (DOD, 1999), its contents were known to me well in advance and thus incorporated into the new DIP policy.

The DIP policy primarily *focused on retention*. The main reason the DIP policy adopted a retention type strategy versus an expansion type one was largely influenced by the serious decline in the defence industrial base (DIB) since the late

⁶⁶⁷At the same time that the DIP policy was being drafted, the DOD and the SANDF were engaged with Armcor in drafting MODAC (Reports 1 to 4). Together with the DIP policy, these formed the basis of many inputs to the Defence Review (1996/7) and subsequent SADI White Paper (1999). 'MODAC' stands for Ministry of Defence Acquisition report – a review of these documents was also provided in the joint AG report to SCOPA in November 2001

⁶⁶⁸The defence industry White Paper drafting and public consultative process was overseen by then Chairman of the National Conventional Arms Control Committee (NCACC), late Prof Kader Asmal

1980s and early 1990s. The creation of additional capabilities and jobs (as stated policy objectives) with any subsequent expansion of the DIB would have been a bonus - this is discussed in more detail in chapter seven. Therefore the DIP policy endorsed the principle that future DIP proposals were to be assessed on the extent to which they supported SANDF requirements for having a local DIB. The DIP evaluation model was premised on this approach as explained in chapter eight.⁶⁶⁹ The extent to which the DIP aims and objectives were met is discussed below and in chapter ten.

The DIP policy confirmed the technology and systems capability needs of the SANDF, notwithstanding an ever-decreasing defence budget. It also addressed the need to maintain key strategic facilities, such as the CSIR and Denel's Overberg Test Range. It was anticipated that internationalising defence production would facilitate the SADI's interdependence with international suppliers for product support.⁶⁷⁰ This made the mandatory enforcement of a DIP requirement during foreign acquisitions so much more important.

The DIP policy recognised that the SADI had to simultaneously satisfy certain unique demands from the local user (i.e. the SANDF) while fulfilling other demands from export customers (*cf.* Henk, 2006:120). Determining local needs was to be guided by South Africa's defence policy contained in the Defence White Paper of 1996 and the Defence Review of 1997 (*cf.* Chapter 4 of the White Paper on the Defence-related Industry of 1999).

The government was committed to promoting the SADI's defence exports (*cf.* Chapter Five of the White Paper on the Defence-related Industry of 1999). Defence exports were a means of generating additional income to complement local R&D spending and a way to ensure that companies maintained essential technologies required by the SANDF. The DIP policy applied the commonly acknowledged principle of leveraged procurement to secure benefits on a reciprocal basis for the SADI whenever purchases from abroad had to be made.

During the last quarter of 1996, in collaboration with the DOD's Chief of Acquisition, Armscor invited the Aerospace, Maritime and Defence Industry Association (AMD) to

⁶⁶⁹ Although in the SDP's DIP business plan, potential suppliers were required to provide an indication of jobs involved, it was not used as an evaluation criteria, it also did not form part of the DIP obligation

⁶⁷⁰ As for example covered in chapter four of the 1999 White Paper on the Defence-related Industry

submit input and recommendations on the first draft of the new DIP policy. This policy was to replace the Armscor countertrade policy (KP008), in use since 1988. It is my recollection that the Executive Director of AMD, (Maj Gen (ret) Julius Kriel), the CEO of Reutech (Llewellyn Swan), the Marketing Manager at Grintek (Colonel (now Brig Gen, retired) Paul Gerber) and the Marketing Director of Denel (Fritz Visser) actively participated in the redrafting process.

Finally, having incorporated the inputs from the AMD members and the DOD, the new DIP policy⁶⁷¹ of 1 April 1997 (*cf.* Appendix B) was officially approved by the Armscor Board on 28 May 1997. The policy was enhanced by an internal Armscor DIP procedural document referred to as A-PROC-008 of 1 April 1997 (*cf.* Appendix C). Dunne and Lamb (2003) note that the 1997 DIP policy aimed to facilitate business for the SADI, since the government could no longer support the general defence industry. Subsequently, the DIP policy directly contributed to increasing the participation of European companies in SADI.⁶⁷²

9.3 Key players in the Defence Industrial Participation Process

The DIP policy provided for proper governance and overseeing (briefly recorded in the following section).

The Secretary for Defence is the officer accountable for defence. The DOD is the civilian overseeing, policy planning and budgeting authority for all defence matters, the procurement and acquisition approval authority, and the initial custodian of the DIP policy⁶⁷³ (later replaced by revised legislation, i.e. Act 51 of 2003, repealing Act 57 of 1968). The DOD monitors DIP policy through the Chief of Defence Acquisition and Procurement's office, also as part of the joint DIPCOM structure (discussed lower down).

The process is as follows: the SANDF's Arms of Service (AoS) – in the case of the SDP these were the navy (for the corvettes and submarines), the army (for the main battle tank) and the air force (for the aircraft and helicopters) – have to submit the respective user statement of requirement (USR) for approval at the various AoS

⁶⁷¹ Armscor as an independent legal entity applies its own policy and procedural formats to all its official documentation – hence the use of the word 'parallel'

⁶⁷² This is covered in more detail in chapter seven, and actually gave effect to the then Minister of Defence's (the late Joe Modise) 'visionary approach' that dealt with this anticipated end result –discussed in chapter eight

⁶⁷³ *cf.* DOD DIP Policy of 20 May 1997

approval forums. The DOD (Chief of Acquisition Department) then processes these requirements for approval at the various DOD approval forums⁶⁷⁴ in accordance with the formal acquisition policy (VB1000 – Armscor, 1994; cf. Singh 2000; Griesel, 2013). Once the DOD has secured all the approvals for the respective projects, and based on the availability of budget, the Chief of Acquisition (C:Acq) instructs Armscor to issue a request for information (RFI). The RFI serves as an information gathering exercise to determine who can supply what types of defence equipment at what ‘ball park’ prices. This information is used to decide on a short list of potential suppliers. The identified suppliers are then provided with a formal ‘request for proposal’ (RFP), or a ‘request for offer’ (RFO).⁶⁷⁵

Armscor, the formally appointed acquisition agency of the DOD,⁶⁷⁶ has a dedicated DIP division responsible for implementing and managing the DIP policy and its processes and contracts. Armscor must ensure that invited tenders contain the necessary stipulations regarding DIP (and NIP according to the DTI guidelines whenever applicable). The above process is regulated through the Armscor Acquisition Authorisation Committee (AAAC), the official joint acquisition and procurement assessment body between the DOD and Armscor (VB1000 – Armscor, 1994; Appendix B; cf. Singh, 2000; Van Dyk, 2004:262).

The DIP process that is an integral part of the acquisition process is graphically depicted in the flow diagramme (Figure 27 below). The evaluation of offers (explained in detail in chapter 8) is concluded separately by the project teams and the Armscor DIP Division (and the DTI’s IP Secretariat). The combined results are approved at the relevant approval forums and eventually culminate in the signing of three agreements. One agreement covers the technical scope of the equipment to be supplied (normally called the main agreement) and the delivery and pricing schedules. This agreement is managed by the Armscor Project Team. A separate DIP agreement covering the supplier’s DIP obligation is signed in parallel to the main agreement. This second agreement is managed by the Armscor DIP Division. The third agreement signed in parallel to the main agreement is the NIP agreement managed by the DTI’s IP Secretariat. In terms of the respective DIP and NIP agreements, the foreign supplier commences with its discharge activities by sub-

⁶⁷⁴The AASB (Armaments Acquisition Steering Board), the AACB (Armaments Acquisition Control Board – chaired by DefSec) and the AAC (the Armaments Acquisition Council – chaired by the Minister of Defence). The JSCD – Joint Standing Committee of Defence is a Parliamentary committee overseeing defence matters

⁶⁷⁵In the case of the SDP this was done in terms of the DOD Instruction 4/47 – as discussed in chapter eight

⁶⁷⁶Also by Law – Act 57 of 1968 (later Act 51 of 2003)

contracting with local industry. This sub-contracting process later manifests as DIP (and NIP) claims that are assessed for validity before credits are granted. An example of DIP sub-contracting is when Agusta, Italy was to supply the air force with 30 light utility helicopters: 25 of these were locally built under licence by Denel. Once the work had been done, Agusta submitted a DIP claim to Armscor. Agusta also ordered rotor blades for export from Denel - this would then count as indirect DIP. The manufacturing licence of the Agusta Power A109 helicopters had a value – this would then be claimed as DIP technology transfer. The technical manufacturing and quality assurance process of the helicopters (whether built in Italy or South Africa) was managed by Armscor's Project Team, and the DIP crediting process was managed by the Armscor DIP Division. The crediting aspect is dealt with by the DIP Committee (DIPCOM), explained below. (In the case of the SDP there were 5 agreements, as explained in chapter 8.)

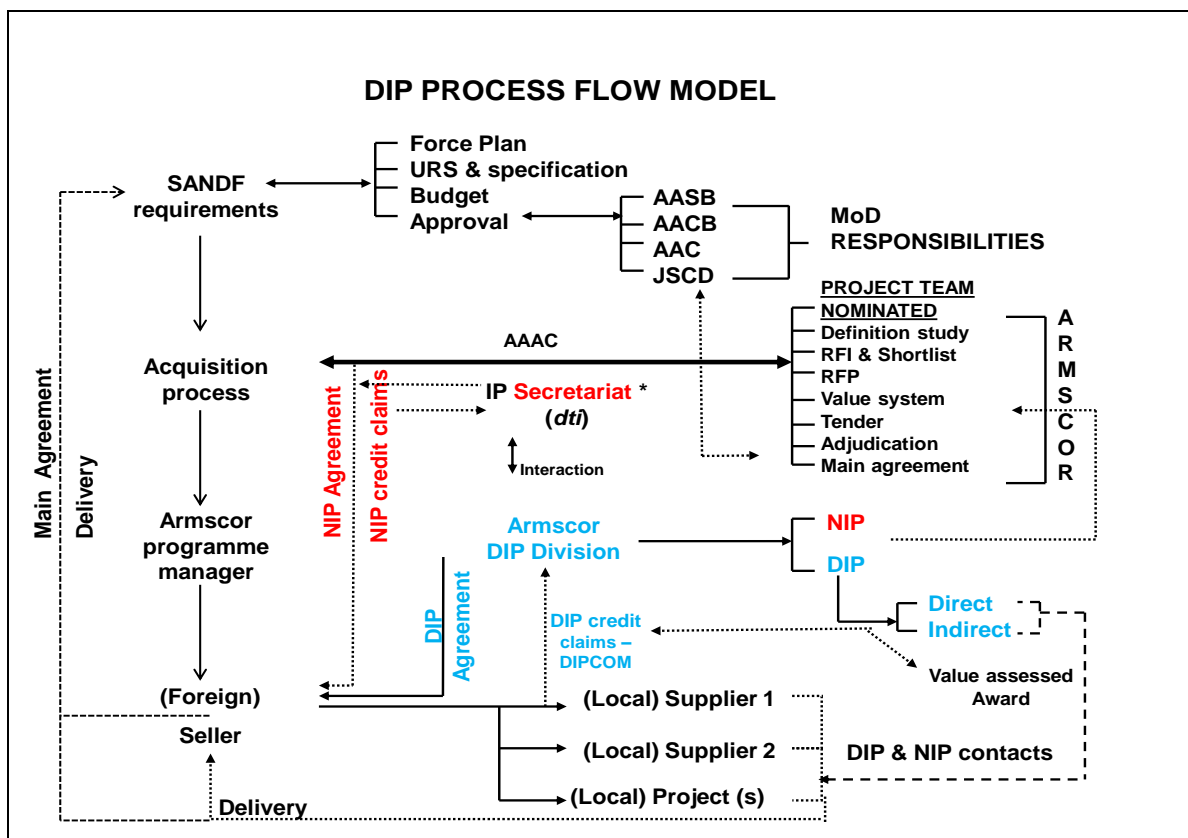


Figure 27: DIP flow process (Source: author; cf. Van Dyk, 2004:262)

The DIP Committee (DIPCOM) is formally constituted and co-chaired by the DIP Division's head and the Chief of Acquisition, or their nominated proxies (*cf.* A-POL-6100 and A-PROC-008 – Armscor, 1997 (as revised); Burger, 2014). This committee is responsible for approving all DIP requirements for tenders, and subsequent proposals, agreements, amendments, substitutions, credit claims and reductions of guarantees. The DIPCOM makes recommendations on penalties or any other contentious DIP issues to the AAAC and to the Armscor Board before taking any action against 'defaulters'. Considering the technical and operational environments, a dedicated project control board (PCB) is established, consisting of officials from Armscor, the DOD and the AoS. The DIPCOM solicits advice and input from the project manager in cases where the DIP activity under consideration is directly linked to the main equipment (refer to the Agusta example explained earlier) (*cf.* Singh, 2000; Van Dyk, 2004; Griesel, 2013; Burger, 2014).⁶⁷⁷

The DTI operates independently (*cf.* Figure 28 below). Whenever NIP is applied,⁶⁷⁸ prospective bidders are required to liaise directly with the DTI's Industrial Participation Secretariat to discuss NIP concepts and compliance. The NIP input is provided by the prospective supplier to Armscor as part of the total tender response. An Armscor tender (RFO) is a technical and commercial proposal, with separate DIP and NIP proposals. (In the case of the SDP a separate financing proposal was also required – this was eventually dealt with and contracted by the Department of Finance, as explained in chapter 8.)

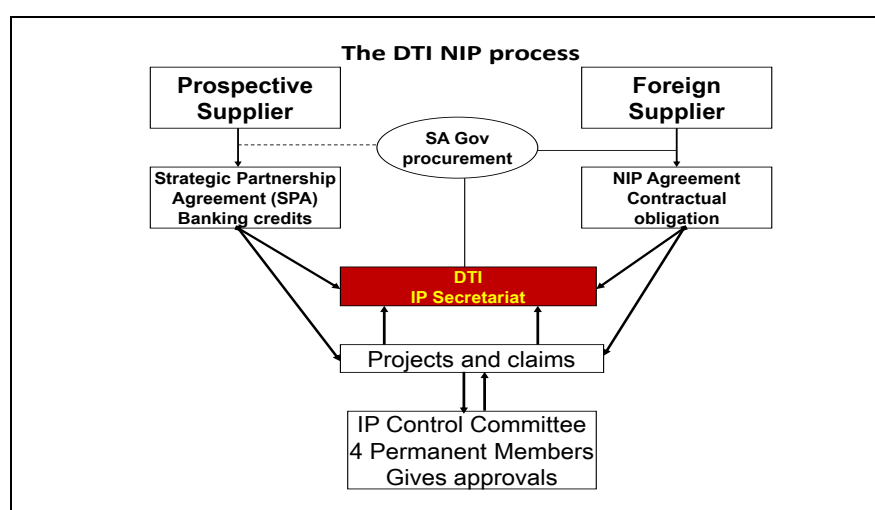


Figure 28: The DTI NIP process (Source: the DTI's NIP guidelines, 1997 as revised in 2008; *cf.* Van Dyk, 2004:266)⁶⁷⁹

⁶⁷⁷ *Cf.* Armscor DIP procedure document referenced A-PROC-008, 1997

⁶⁷⁸ *Cf.* <<http://www.thedti.gov.za>>

⁶⁷⁹ To note: there is a more comprehensive flow chart of this in Armscor's DIP procedure A-PROC-008 – Appendix C

9.4 An Analytical Content Review of the DIP Policy of 1997

Since I was an active participant⁶⁸⁰ in drafting the DIP policy, I am in a position to provide a comprehensive overview, including explanations and some insights into its practical application, albeit with some levels of subjectivity which I have tried to overcome by using opposing views and criticisms. The DIP policy was put to the test in the SDP process of 1998/99. Therefore, this review also includes practical insights as a result of my having worked at Denel subsequent to the SDP. In this review, I consider other independent views expressed on the 1997 DIP policy, for example, those expressed in the AMD's 2006 report on SADI and their recent (2014) DIP review article.⁶⁸¹ I also consider certain academic reviews, for example, Brauer and Dunne (2009), Dunne and Haines (2005) and Haines (2012a). I have also solicited inputs from targeted professionals in the SADI, such as Schür⁶⁸² (2014), Gerber⁶⁸³ (2014) and an independent defence analyst, Römer-Heitman⁶⁸⁴ (2014).

The next two sub sections focus on the DIP's 'aims and objectives' and 'key policy principles' with observations on each one's rationale and practical manifestations. It must be noted that these aims, objectives and principles are as they appear in the Armscor DIP Policy A-POL-6100 (Appendix B) and A-PROC-008 of 1997⁶⁸⁵ (Appendix C).

9.4.1 Key DIP Policy Aims and Objectives

The DIP policy's key aims and objectives were *'...that DIP shall be applied in such a manner that it contributes to the independence, as far as practically possible, as regards the maintenance and advancement of South Africa's defence industrial capabilities. It furthermore addresses specific defence industry objectives such as the retention and creation of jobs and capabilities; a sustainable defence industrial and economic base; defence export; like-for-like technology transfer, joint ventures;*

⁶⁸⁰I physically drafted this policy and procedures documents, attended to all the reviews, incorporated changes, and co-signed it before it was formally approved by the Armscor Board – cf. Appendices B and C

⁶⁸¹cf. <<http://www.amd.org.za>>

⁶⁸²Brig Gen (ret) Otto Schür was in the SAAF Headquarters, the DOD's acquisition department (from October 1998 till 2005). He then joined Denel Corporate office till 2013. He is presently a member of the AMD Policy and Strategy Committee and DIP workgroup member – he participated extensively in the DIP Survey of 28 February 2014

⁶⁸³Brig Gen (ret) Paul Gerber was a Mirage III fighter pilot in the SAAF, the Squadron Commander, then Staff Officer and Project Director in the SAAF, joined Grintek in 1995 till 2005 as Group Business Manager and Countertrade, consultant to Saab Grintek 2005-2006, then joined Aerosud – he participated extensively in the DIP Survey of 18 March 2014

⁶⁸⁴Helmoed Römer-Heitman is an expert South African defence analyst, providing also consultancy services to the DOD, MOD and SANDF – he participated extensively in the DIP Survey of 18 May 2014

⁶⁸⁵These two Armscor documents can be found in the evidence pack of De Beer's testimony to the Arms Procurement Commission of Inquiry (APC) in 2014 – cf. <<http://www.armscmm.org.za...>>

maintenance of skilled indigenous manufacturing capabilities and the provision of a sustainable local defence industry capacity...'

The DIP business plan design followed for the SDP's DIP process (see Appendix E for the pro-forma format then used) fully underwrote the policy aims and objectives. The DIP evaluation that was conducted in 1998 (*cf.* chapter 8) reflects on how using the DIP business plan format as a basis for evaluating those DIP activities offered, was managed (*cf.* De Beer, 2014; Burger, 2014).

A pertinent question that must be answered is to what extent the DIP policy achieved its objectives. The following section considers a number of sources who have commented on the efficacy of the DIP policy.

First, regarding the issue of retention and creation of jobs and capabilities Dunne and Lamb (2003) point out that downsizing and restructuring the defence industry took place in a policy vacuum: government adopted a hands-off approach as a result of the cut in military spending. This cut caused a loss of capabilities and skilled human resources.

Dunne and Lamb (2003) emphasise that offsets are generally problematic for attempting to show sustainability, number of jobs, actual benefits derived and technology transfer in relation to a country's absorptive capacity. This is because of the non-transparent nature of offsets. As explained earlier, empirical data on the exact scope and content of offsets transactions (that are protected under non-disclosure agreements) is unavailable, making detailed economic and commercial assessment extremely difficult.

With regard to the issue of jobs, as explained earlier, the DIP programme was not so much focused on creating jobs, but rather on retaining them. There was a noticeable change of emphasis in this regard, from official pronouncements in the earlier 2000s which did not stress the retention of jobs, and the mid- and later 2000s, which did. During his testimony at the APC, Armscor's acting senior manager for the DIP Division, Pieter Burger (2014:381),⁶⁸⁶ provided evidence that the DIP programme 'created/retained' at least⁶⁸⁷ 11 916 jobs against a 1999 anticipated figure of 16 000 (*ibid.*: par 13.4). The DIP's EIA shows that 7 970 direct jobs, 20 043 indirect jobs and

⁶⁸⁶Refer to page 381 of the evidence pack of P. Burger – *cf.* < <http://www.armscomm.org.za/hearings/...> >

⁶⁸⁷Burger stated that this jobs figure represented 80% of the DIP activities across SADI

30 989 induced jobs were created (or retained in this instance): a total of 59 002 jobs.⁶⁸⁸

Batchelor and Dunne (1999:14) estimated that the DIP obligation of approximately R 14,5 billion would create (or sustain) 40 000 jobs. This research could not locate a total review or record of job losses incurred over the same period⁶⁸⁹ (although chapter 7 provides an overview of the declining defence industrial base since the late 1980s, including a major loss in jobs from a high of 131 750 in the mid-1980s (Botha, 2003a) to around 70 000 by 1993 (*cf.* Henk, 2004), then down to 60 000⁶⁹⁰ and by 1999 it stood at 17 000 (*cf.* Singh, 2000:166) to the present level of 15 000 (AMD, 2012).⁶⁹¹ Based on the DIP's EIA, the total value of income earned by those employed as a result of the DIP is estimated at about R 8,03 billion. This income was used by individuals and households to fund daily consumer goods and services, including education, transport and housing. It can therefore be argued that to a certain extent the DIP objective of retaining jobs was met. According to Schür (2014), the SDP almost immediately provided stability to SADI and stopped further job losses.

From the onset of the SDP, an employment figure of 65 000 was frequently quoted. This figure stemmed from the various NIP projects, but over time, owing to the confusing use of the term 'offsets', implicated the DIB as well. This figure attracted a lot of criticism from the political arena, the media, and scholarly and academic papers. During the APC hearings 2013/2014, this employment figure came under scrutiny. DTI officials testified that at first the figure was an estimation; it was never a NIP contractual obligation placed on any of the respective NIP obligors. The DIP EIA reported a total of 59 000 jobs as a result of direct, indirect and induced productive economic activity in the DIB. The DTI's 2007 NIP report (covering the preceding 6 years of NIP activities - DTI, 2007:11-13) used the Social Accounting Matrix of South Africa (similar to that recently applied to the DIP – *cf.* chapters 3 and 9) to conduct a macro-economic impact assessment. According to this report the NIP resulted in 15 689 direct jobs, and 34 620 indirect jobs across various sectors.

⁶⁸⁸The DTI's Industrial Policy Action Plan (IPAP) for 2014/15 notes SADI's overall job contribution as 60 000

⁶⁸⁹Although Denel CEO, Riaz Salojee, in 2012 (*cf.* Financial Mail Oct. 19-24, 2012:33) indicated the Denel scaled down its employees from 'its peak' 10 000 to 6 500 it is not clear over what period that occurred – not clear to 'which peak' he was exactly referring to either, although from the media report it appears to be covering the period 2006-2009

⁶⁹⁰Creamer Media, Engineering News. 2008. South Africa's Defence Industry Report

⁶⁹¹Creamer Media, Engineering News. 2012. South Africa's Defence Industry Report

Another important DIP policy objective was 'retaining and maintaining an economic defence industrial base with sustainable manufacturing capabilities'. Although Dunne and Lamb (2003) acknowledge that the DIP policy was intended as a support initiative to the SADI, they maintain that defence spending and investment in the domestic defence industry is economically unproductive. However, they concur with Batchelor and Dunne (1999) that the aerospace and electronics industries benefitted the most from DIP. Although it is clear that some entities would have benefited more than others, the DIP EIA showed that SADI entities benefitted directly in the amount of R 14,17 billion, indirectly in the amount of R 11,9 billion and at an induced level in the amount of R 16,9 billion. This amounts to a total production benefit of R 43 billion. The SDP's DIP contribution to Gross National Product (i.e. GNP that is a measure of a country's economic performance, or what its citizens produced, namely goods and services, produced within its borders) is calculated as R 6 billion direct, R 4,6 billion indirect and R 7,5 billion induced: a total GNP contribution of R 18,2 billion.

Dunne and Haines (2005:4) note that lifting the UN arms embargo in May 1994, and South Africa's re-admission to the international community allowed the country to purchase armaments from foreign suppliers for the first time since 1977. The decline in domestic procurement expenditure and the shrinking international market led to considerable downsizing within both the public and the private sectors, although the share of imports in total procurement spending remained relatively constant from the early 1990s until the SDP (of 1999) (*cf.* Cilliers, 1998; Henk, 2004). However, Dunne and Haines (2005:8) point out that maintaining a general capability in military production was not feasible; therefore a major justification for DIP was the economic benefits these offsets deals provided. DIP can certainly be said to have provided something of a lifeline to the South African defence industry, and at the same time it undercut any remaining aspirations for South Africa to maintain its own defence industrial base. Dunne and Haines (*ibid*) emphasise that the SDP contracts - with the exception of the Hawk avionics suite and the corvette combat suite - were not guided by the strategic requirements spelled out in the defence industry White Paper of 1999.

However, it must be noted that the DIP evaluation guidelines (Appendix D) that were provided with the SDP's RFO made mention of the various strategically important aspects required by the SANDF, the DIP remained non-prescriptive about which DIP activities the potential supplier had to engage in with SADI. The only exception was

the corvette combat suite that was not a DIP prescription, but a formal tender requirement. With hindsight, many more of the strategic requirements, Dunne and Haines (2005) correctly observe, should have been included into the respective tenders. Although, such an approach is not risk free, as was clearly testified to at the APC (*cf.* testimonies of Smith, Nortje and Kammerman of 2014 in the case of the corvette's combat suite). Haines (2012) points out that the DIP brought about many hidden costs. This study noted that, for example, the navy had estimated the cost of the corvette's combat suite at around R 1,4 billion: when the final offers were assessed the cost was approximately R 2,6 billion, later lowered to approximately R2,1 billion, primarily by scaling down on the number of missiles (*cf.* Nortje, 2014⁶⁹²).

Notwithstanding, there was increased participation by European defence groupings and investors in the South African industry at prime contractor and sub-contractor levels. Within the private sector, the general expectation was that the SDP (and subsequent procurement exercise) would favour the larger defence firms, thus contributing to the defence sector's contraction with attrition particularly noticeable within the smaller firms. Dunne and Haines (2005:10) explain that the work given to the large companies side-lined the smaller companies. Another practice was giving a large number of small contracts to one company, which overloaded production facilities, making it extremely difficult to handle all work simultaneously (*ibid.*)⁶⁹³.

Dunne and Haines (2005) also highlight the presence of hidden costs, including unanticipated capital expenditure to activate imported equipment, and R&D expenditure required to benefit from technology transfers.⁶⁹⁴ It is their view that the DIP may have had a positive effect on the defence industry, but at a cost to the economy. Critics argue that there is a clear opportunity cost⁶⁹⁵ to the use of these resources – ostensibly referring to the cost of the SDP (Dunne and Lamb, 2004; Haines 2005; and Haines and Hosking, 2005). The above concerns raise important questions regarding the value of the SDP, and the use of offset deals in arms procurement generally (Haines, 2012a,b).

⁶⁹² Nortje in his APC testimony – pp5048-5052 also mentioned figures of an initial R 3,9 billion and R 2,3 billion

⁶⁹³ No examples were given. However, I can testify this to be true for Denel Aviation/Aerostructures who had to deal with LUH, Hawk and Gripen DIP work simultaneously

⁶⁹⁴ Hidden costs I interpret here as meaning costs to be absorbed by SADI in order to be able to do the DIP work offered – I am aware of at least one instance where Denel Aviation, due to financial constraints suffered by Denel at the time (mid-2000), could not secure adequate funding for production equipment with the result that the work went to a privately owned SADI entity, namely Aerosud

⁶⁹⁵ This argument refers to the rent-seeking debate discussed in chapter two

The 2006 AMD Report proposed that looking at obligations on a project basis must be explored (Chapter 7: par 9, p19 of 85). SADI reportedly stated that in terms of DIP, Armscor provided very valuable and effective support (Chapter 7: Section 11, par 1.1, p79 of 85). Other SADI responses were that the DIP concept was a good one, which worked well for some companies. Penalties were perceived to be too low and it was proposed that Armscor should find better ways to 'force obligors' to perform their discharges in batches, followed by cancellation if not compliant. SADI also stated that DIP should favour exports in a ratio of 70/30 (30 being local work). SADI members felt that DIP opportunities could be much better exploited with expanded levels of high technology, development and integration work. However, SADI members also understood that DIP alone would not sustain them. Lastly, the Report concluded that DIP should be closer aligned to the defence industrial development plan.⁶⁹⁶

Haines (2012) quotes Bond (2002), who reportedly stated that '*the defense offsets attached to the SDP were informed by the articulation of the Industrial Participation policy accompanying the neo-liberal GEAR (Growth, Employment and Redistribution) strategy.*' This was not strictly the case: Armscor had the legal right to develop such a policy without the need for external consultation – this is still the case today. Haines (2014), however, notes that around 1996 the government's new industrial policy direction veered away from the development state approach – confirming a shift from Keynesianism to global economic orthodoxy and fiscal discipline under the control of new elites.

Haines (2012:13, par 4.1) notes that the SDP, particularly via the DIP, provided the South African DIB with something of a lifeline, but simultaneously inhibited and compromised it. Haines (2012) adds that while the DIP programme was more focused and somewhat more effective than its NIP counterpart, there were structural shortcomings in both the private and public sectors. Within the private sector the major beneficiaries were those larger companies linked to the OEMs, such as ATE, Grintek and Denel. In the mid to late 2000s, a further restructuring of Denel was greatly influenced by the SDP and DIP processes.

⁶⁹⁶ It is not abundantly clear what this plan is and it is assumed that by inference Armscor is by law the responsible entity. The 2006 Report however states that this should resort under the DOD. This aspect was dealt with in Chapter Seven of the 2014 Defence Review

Haines (2012) expresses his opinion that neither the NIP nor DIP schemes fulfilled their core aims and objectives. These, neither diversified nor expanded the South African industrial economy. Job creation claims were significantly inflated (Haines is ostensibly referring to the NIP job figure of 65 000, discussed earlier). The purchase of new equipment did not mesh with existing production facilities and expertise and the new product cycle costs included a range of hidden costs (*ibid*). Haines (*ibid*) states that the equipment was mostly purchased at a premium (more than covering offsets costs) and largely did not meet expectations.⁶⁹⁷

In the 2014 AMD review on '*The Impact of Defence Industrial Participation*'⁶⁹⁸ it is stated that there has been much - and rather mixed - discussion of the DIP linked to the Strategic Defence Package (SDP) of 1999, and particularly on what impact that had on the South African defence industry. Some argue DIP was a lifeline, others that it was all fiction, and yet others that it helped mainly the foreign-owned companies in South Africa. The fact of the matter is that DIP injected some R 14 billion into South African defence companies over the decade following 1999.

AMD (2014) acknowledges that an extended DIP negotiation process could have resulted in more effective structuring. Instead there was no manufacturing framework and no related national technology that could have guided obligors to align industrial activities with national priorities. This resulted in non-sustainable projects. AMD observes that although smaller companies seemingly did not benefit directly, they benefited from sub-contracting by the larger SADI companies. There is also an argument that DIP should have placed a bigger emphasis on establishing meaningful support capabilities for the new systems and associated equipment during the actual execution of the SDP. DIP is also being blamed for not ensuring adequate support of SADI entities in the landward defence domain, although this attributable to the fact that the main battle tank was removed from the SDP.⁶⁹⁹ The 'compartmentalisation' of DIP and NIP did not contribute to industrial participation's envisaged approach. The above views are supported by Haines (2012), Schür (2014), Gerber (2014) and Römer-Heitman (2014).

⁶⁹⁷ It is not exactly clear how Haines arrived at these conclusions, as there are abundant official testimonies (some 40 senior SANDF, Armscor and Government Officials who testified to the contrary during the APC Hearings of 2013 and 2014)

⁶⁹⁸ An AMD position paper published on their website <<http://www.amd.org.za>>

⁶⁹⁹ In chapter eight it was pointed out that the SDP's scope of equipment initially included a main battle tank requirement for which both RFI's and RFO's were received and evaluated. However, as subsequently pointed out, not all the SDP equipment elements could be afforded and only the navy and air force requirements went through for award

'Like-for-like technology transfer' was another objective of the DIP policy. Armscor awarded DIP technology credits to the value of R 4 billion (cf. Table 16 in chapter 10; also Burger, 2014; AMD, 2014; Schür, 2014; Gerber, 2014 and Römer-Heitman, 2014). Technology credits amounted to 28 per cent of the total DIP commitment. Considering the DIP evaluation model (explained in chapter 8), technology transfer evaluation was capped at a maximum of 10 per cent of the total DIP obligation. Based on the 2014 DIP survey it is evident that SADI received much higher levels of technology than was anticipated during the evaluation phase in 1998. Gerber (2014) attributes the growth of SADI exports to these technology transfers (cf. AMD, 2012, 2014).

Dunne and Haines (2005:10) remark that the aerospace technologies received by Denel to perform work on the Hawk and Gripen cannot be regarded as '*overly high-tech manufacturing*'.⁷⁰⁰ On the other hand helmet sights⁷⁰¹ and high tech periscopes were procured from Denel Eloptra (later Carl Zeiss now Cassidian). Zeiss technology transfers to Eloptra put it a position to export repaired periscopes worldwide.⁷⁰² Although South African industries were incorporated further into global supply chains, Haines (2012) believes that the relationships with foreign defence conglomerates were essentially asymmetrical. Haines refers to a trade phenomenon where low quality goods are traded and the quality of the technology coming from a developed country is unknown to the buyer in the lesser developed country (cf. Baranowska-Prokop⁷⁰³, 2009). '*Technology transfer from European OEMs has been modest at best, while a range of South African technology and IP has been acquired relatively cheaply or merely side lined*' (Haines, 2012:18,19).⁷⁰⁴ To the contrary, this study for example shows that Carl Zeiss Optronics in 2003 secured a development order for helmet tracking systems from BAE Systems for the Eurofighter.⁷⁰⁵ This led to a production order of R 200 million in 2007 for 450 units to be delivered over five years.

⁷⁰⁰This seems to be a purely non-technically founded academic generalistic observation, as the main landing gear of any aircraft is of utmost importance and therefore involves very high technology design and manufacturing parameters – the design technology that Saab transferred to Denel later put them in a position to do high tech complicated structural design work on the Airbus A400M aircraft

⁷⁰¹Eurofighter Typhoon is a new generation multirole fighter aircraft that is presently one of the best in the world. The programme delivers cutting-edge technologies for the European defence industry. Gripen falls amongst the top ten most advanced aircraft today - cf. <<http://www.airforce-technology.com/features/feature-world-most-advanced-fighter-aircraft-f35/>> and <<http://www.eurofighter.com/the-aircraft>>

⁷⁰²A new generation of periscopes for conventional attack submarines is now being designed and manufactured at Carl Zeiss Optronics (now Cassidian) in Centurion, south of Pretoria, establishing South Africa as one of the few countries worldwide with such an advanced manufacturing capacity. The production of the periscope demonstrated the company's ability to design, develop, manufacture and deliver world-class optronics that could be used by navies across the world - cf. <<http://www.southafrica.info/business/trends/newbusiness/carlzeiss-130911.htm#ixzz3FcwKG86z>> 13 September 2011

⁷⁰³Enquiries can be directed to: Dr. Ewa Baranowska-Prokop, Institute of International Management and Marketing, Warsaw School of Economics, Al. Niepodległości 162, 02-554 Warsaw, POLAND.

⁷⁰⁴It is not exactly clear how Haines arrived at this conclusion, as there is contradictory evidence provided in chapter ten

⁷⁰⁵South Africa pioneered the research and development of the Helmet Mounted Display Systems (HMDS) in the 1970s and the SA Air Force was the first to use helmet-mounted sights operationally. With a HMDS system all flight and mission data can be projected on a helmet-mounted display. The system follows the head movements of the pilot providing him with the ability to

Contrary to the views of Dunne and Haines (2005), this study made the following observations with regard to various technologies that were facilitated during the DIP process. Among the most crucial were the manufacturing licences for the Agusta Power A109 and the Koala helicopters, and the aircraft design and development centre from Saab (more details are provided in chapter 10). What is particularly important here is that the Saab aircraft and design technologies put Denel in a position to become the design entity of choice for some of the critical components, such as the Gripen's main landing gear and the Airbus A400M's wing-to-fuselage section. Indirectly, through Denel Dynamics' award of the corvette's surface to air missile system (Umkhonto), led to the Finish navy to select the same, against stiff competition from Raytheon, US and MBDA, France. Subsequently, through further technological innovations, Denel improved this missile so that it could be used against surface skimming anti-ship missiles (Schür, 2014).

Furthermore, the expertise involved in designing and manufacturing the avionics suite for the Hawk and Gripen was retained – so this capability remains vested in SADI. Secondly, the insistence that the corvette's combat suite be provided by local SADI companies under the prime contractor, African Defence Systems (now TDS), retained a wide array of local technologically advanced capabilities. At sub-systems level, Grintek (later Saab Grintek), Reutech, Plessey and CCII were involved (although perhaps not to the extent anticipated for CCII). Therefore, to a certain extent the DIP policy objective of like-for-like technology transfer was met, although not to the broader extent that AMD, SADI and others may have anticipated, particularly since non-alignment with national industrial strategies was a shortcoming.

Another policy objective was the 'promotion of exports'. Armscor reported that DIP credits for R 9,9 billion were granted until the end of 2010/11 (Armscor, 2011). This export figure (approximately 62%) is not far off earlier SADI expectations (*cf.* AMD, 2006) of a 70/30 split in favour of exports. During the APC proceedings (2013/2014), various testimonies were heard of on-going DIP export activities at various levels. Much of this can be attributed to the last DIP objective, namely, the 'creation of joint ventures'. In chapter seven, several examples were provided of foreign entities acquiring an equity share in SADI companies. This led directly to SADI being

react and make mission-critical decisions within a fraction of a second – cf.
http://www.defenceWeb.co.za/index.php?option=com_content&view=article&id=21894:czo-launches-new-helmet-sight&catid=7:Industry&Itemid=116.. - a technological capability that can hardly be referred to as 'marginal'

entrenched in the supply chains of various European OEMs and their sub-contractors
- another positive outcome - supported by AMD's 2014 DIP review.

The following section reviews specific principles that were applied during the SDP process. A distinction is made between '*aims and objectives*', which are clearly focused on specific outcomes, and key principles that are more applied to the process assessment of anticipated outcomes - in other words a set of 'rules' needs to be applied. In the DIP policy these rules are captured as '*key principles*' to be used to assess various aspects of implementation and the granting of credits (*cf.* Burger, 2014).

9.4.2 Key DIP Policy Principles

The following *key policy principles*⁷⁰⁶ (identified through the use of *italics*), specifically applicable at the time of the SDP process (1998/1999), are commented on individually in the context of their respective relevance.

The DIP policy's departure point was *that DIP must not contribute to an increase in price (of the goods acquired)*.

The assumption was that any execution cost would be an integral part of the seller's programme costing and would not be reflected as an additional, below the line cost. In reality, countertrade does not, and cannot happen at no cost. However, given the structure of the SDP, any cost argument was primarily based on a required 10 per cent bank guarantee of the DIP and NIP. Donaldson (2014) indicates that the National Treasury automatically assumed that bidders had included the penalty in the price, since it is common practice for suppliers to cost the penalty into their selling price - also acknowledged by Brauer and Dunne (2009) and Gopalaswamy (2009).

It is a fact that the programme eventually pays for the implementation of DIP and the penalty guarantee (*cf.* Brauer and Dunne, 2009). However, the question that needs to be asked is what level of cost the programme is prepared to carry and what benefits the intrinsic and/or economic elements of DIP offer. These deliberations are covered

⁷⁰⁶The collective policy and principle statements as contained in the A-POL-6100 of 1997 (also the post SDP documents, i.e. A-POL-6000, A-PROC-6031 and A-PRAC-6030- all of these remained basically the same since 1997 – it is just presented differently and elaborated on certain aspects more fully with basically two major policy changes iro penalties which are now 100% and foreign owned SADI companies that can no longer qualify for DIP work). However, the DIP policy review (rev 005) of September 2012 contains a comprehensive re-write – main changes are to be found in the definitions, who qualifies for DIP and the 5% penalty raised to 100%

in fair detail in chapter four where I also make the observation that the cost of countertrade (in this instance, DIP) is in the region of between 5 and 10 per cent of the base transaction cost of the acquisition. If the DIP then requires 50 per cent in the form of work-share, exports and technology, it could be assumed that the net benefit will still be 40 to 45 per cent. Although the net benefit may be negatively influenced owing to the possible effects of indirect multipliers in technology transfers, the DIP's EIA showed the opposite. Haines (2012:18) states that the new products entailed a host of hidden costs as they did not mesh with existing SADI capabilities. Römer-Heitman (2014), on the other hand, views the SADI's capabilities as underestimated by foreign obligors, primarily owing to a lack of international exposure. Brauer and Dunne (2009) recognise that there is indeed a return of funds to the importing country, although it is difficult to show what this foreign exchange savings would amount to. Dunne and Lamb (2003), on the other hand, maintain that a local defence industrial base is a drain on the economy and that off the shelf purchases are a much better option, since this allows government to relocate (surplus) funds to other areas of the economy with higher potential growth.

The policy principle of *mutual benefit assumes that DIP should be profitable to the seller and beneficial to the South African economy, and the SADI at large.*

It could be interpreted that neither DIP (nor NIP) was expected to have any detrimental impact on the seller or the South African economy. Only a detailed economic cost-benefit impact analysis of each DIP-related transaction could prove or disprove this assumption. As explained earlier (chapter 3) the limitations to this research were primarily owing to the non-availability of empirical data protected under commercial confidentiality agreements. Since Denel was a major beneficiary of DIP, I gained considerable insight into DIP as a direct result of the SDP and several subsequent defence projects.

In my view the DIP programme resulted in positive work-sharing and technology transfer and also exports (see details provided in chapter 10). This view is supported by Schür, Gerber and Römer-Heitman, and AMD (2014). Although DIP boosted turnover, it is my view that it was at best marginally profitable for Denel, particularly in its early stages⁷⁰⁷ (supported by Schür, 2014). Denel and many other state owned

⁷⁰⁷This is my personal observation, but due to the commercial confidentiality issue, I cannot substantiate this in detail

entities (SAA and Eskom) experienced sustainability problems. Denel,⁷⁰⁸ a newly established, state owned enterprise in 1992, took over all the manufacturing and production entities of Armscor, hence inheriting huge facilities that had been established between 1968 and 1998 (part of the DIB - explained in chapter 7). This meant that Denel's overheads and workforce were disproportional to its business, making profitability and international competitiveness problematic.⁷⁰⁹ From mid-2004, Denel embarked on a major turn-around strategy, and only in 2011 could it for the first time post its operating profits.⁷¹⁰ Having scanned the websites of those SADI entities that were acquired (partially or in full) by European entities, all appear to carry a message of sound profitability and enhanced export business (e.g. Saab Grintek, MTU, Cassidian, TMA, BAE Systems, ADS, etc.). This is also true for Aerosud, albeit still a privately owned SADI company.

Another concern, based on my Denel experience, is that the 1997 DIP policy did not regulate aspects related to contra-investment requirements for capital equipment, infrastructure improvements and/or upgrading, non-recurring cost and learning curve constraints. These capacitating elements consequently had negative influences on the SADI because in many instances the foreign obligors demanded that SADI secure its own investments, or there was no deal. Although the policy implied that DIP activities should be sustainable, my experience at Denel was that obligors often offered DIP activities that were non-sustainable. These activities resulted in work packages that could not be offered at a competitive price. Industry was furthermore risk-averse, and could not profitably perform trial runs and sustain itself on promises of additional future work-share packages.⁷¹¹ It is my recollection that many DIP obligors unfortunately used such non-competitive or non-compliant examples to discredit the SADI with Armscor and the DOD,⁷¹² as one means of requesting substitutions.

⁷⁰⁸ Denel (Pty) Ltd is a State Owned Enterprise (SOE), under the Minister of Public Enterprises, similar to the South African Airways (SAA), Eskom and Transnet – in 2013 the SOE concept was changed to State Owned Companies (SOC)

⁷⁰⁹ Denel CEO, Riaz Salojee was quoted in *Financial Mail*, Oct 19-24, 2012 (p33) that Denel had ran up losses of R 2,8 bn between 2006-2009...and that after 1994 things changed fundamentally with Denel finding itself with infrastructure and employment numbers that did not match its business – at its peak Denel employed 10 000, down to 6 500 by 2012. He also stated that Denel should not be a burden to the state. However its sales remain too low relative to its employee base and that it cannot solely rely on the SANDF for orders and therefore needs to export

⁷¹⁰ cf. <<http://www.fin24.com/Economy/Parastatals-under-microscope-20090925>>; and <<http://www.fin24.com/Companies/Denel-subsidiary-may-cut-jobs-20100804>>; and *Engineering News*, May 24, 2011

⁷¹¹ There were exceptions – covered in more detail in chapter seven

⁷¹² The Armscor DIP Division compiled an internal detailed report on DIP problems experienced up to 2005. The report was referenced as Issue 1 of 1 February 2005. Armscor DIP Division requested my inputs/comments. As the General Manager for Countertrade and Offset Solutions on the Denel side, I provided extensive comment to the DIP Division in response to their observations, which included many complaints and accusations directed towards Denel and SADI as a whole (9 Nov 2005). It is not clear what happened to these DIP reports of 2005 - during that time there was a communications breakdown between former CEO of Denel, Victor Moshe, and Armscor former CEO Siphso Thomo (my first-hand experience at the time)

The policy principle covering *additionality* required the obligated party to create or ensure new, or incremental new business in order to prevent historic and/or on-going business to be claimed as DIP.

Coetzer (1995:276) states that ‘*additionality*’ is the concept that the purchaser has to make purchases in excess of what he previously made in order to qualify for credits. For example, if the buyer had been buying a certain number of products for a certain value in the period preceding the effective date of the obligation, the onus was on the obligor to prove that the transactions claimed for credits were not simply a continuation of previous business, but additional and incrementally new, and over and above what was purchased before the obligation was incurred. For example, if BAE Systems had been buying ammunition components to the value of R 20 million per annum for the preceding five years (i.e. R 100 million in total) and the DIP obligation took effect in April 2000, then any subsequent orders would have to be in excess of R 100 million over the seven year discharge period. During the initial years of the SDP DIP discharge, and subsequently while I was employed at Denel, I found that this principle appeared to work reasonably well in practice.

A major criterion was the application of the ‘causality’ test – meaning that the obligor had to be the direct effective cause of a transaction and not merely ‘instrumental’ (instrumental in the sense that one can directly or indirectly influence another buyer’s decision to engage in business under the auspices of the obligations incurred). As can be seen, the lines between the two concepts become rather blurred. In some cases, DIP claims fell outside the effective date stipulation of the DIP agreement, meaning a DIP claim was submitted for activities that occurred prior to the effective date of the DIP obligation. The DIP agreement stated that only transactions entered into after the effective date of an agreement would be considered.⁷¹³

Of course, Armscor has the right to initiate audits if there are substantive reasons to suspect the validity of any claim. This right is encapsulated in the contractual DIP agreement with the obligor⁷¹⁴ (cf. Appendix E).

⁷¹³I can recall that while at Armscor, both Thales and Vickers Plc tried to claim activities related to their respective equity involvements with ADS and OMC prior to the SDP’s effective date

⁷¹⁴A pro-forma DIP agreement that contained the definitions and rules of engagement was issued as appendix 2 with the respective RFOs to all the potential bidders – cf. evidence pack of De Beer, 2014:168 – cf. <<http://www.armscomm.org.za/hearings...>>

Dunne and Lamb (2003) believe that offsets seldom bring about new (additional) business. In the case of South Africa, this view cannot be supported by analysing the content of the respective DIP transactions (*cf.* chapter 10 and Appendices F and G). None of the SADI companies were involved in the supply chains of the foreign OEMs prior to when DIP took effect.

Sustainability: The policy principle governing sustainability anticipated that DIP transactions would not be implemented as once-off activities, but would instead result in a medium (three to seven years) to long-term (seven to ten years) economic activity between foreign obligated parties and SADI companies.

Although this principle might have been a fair assumption, the SADI⁷¹⁵ believed that the sustainability of specific DIP transactions became suspect when assessed at micro-level (*cf.* Dunne and Haines, 2005). Many DIP activities reflected transactions that constituted relatively short production runs, based on once-off contracts. However, Henk (2004:120) remarks that the SADI was well placed to attend to relatively short production runs, since it was accustomed to 'limited economies of scale'. This was particularly the case when considering the direct work-share elements of the SDP's DIP. The sustainability of DIP was also criticised in the 2006 AMD report (AMD, 2006). Dunne and Lamb (2003) and Brauer and Dunne (2009) generally disregard any notion that offsets can be sustainable or economically viable. In the case of the South African DIP experience, the opposite is true (various examples are quoted in chapters 6 to 10).

Schür (2014) expresses the view that sustainability should not necessarily be limited to the DIP contract period, as enduring impact is mostly realised in future years where newly acquired competencies lead either to follow-on orders for the same or similar products, or an involvement in new products. Schür cites the example of Denel Aerostructures (formerly Denel Aviation) that received technologies from Saab that eventually led them to a contract to design and produce certain critical parts for the Airbus A400M.

Examples of SADI entities⁷¹⁶ that have retained sustainable business resulting from the SDP DIP are Aerosud (Airbus and Boeing related), Denel Dynamics (former

⁷¹⁵Particularly based on Denel's experience as a DIP recipient and beneficiary. This is also substantiated by my 2007 DIP perception survey (*cf.* Van Dyk, 2008)

⁷¹⁶The respective websites of the entities listed contain further information on the nature of their respective businesses

Kentron) with their Umkhonto missile sales to the Finish navy (beating brand name suppliers like Raytheon, US and MBDA, France), MTU and Cassidian (former Denel Eloptro in which Carl Zeiss held a 70% share), Saab Grintek, TMA, ATE (now owned by Paramount), BAE Land Systems (former Reumech OMC, now owned by Denel, LIW) is continuing to do lucrative business internationally. Former naval officer, J.E.D. (Johnny) Kammerman (now working for Thyssen-Krupp, Germany) testified before the APC (2014)⁷¹⁷ that Thyssen-Krupp is still procuring manufactured parts for the corvettes from South African based SADI companies – seven years after their DIP obligation was fulfilled. Gerber (2014) views the DIP programme as having directly contributed to expanding SADI exports (67% of its total turnover of R 13,3 billion) including many new products and sub-systems.

Considering that the biggest concentration of SADI companies is in Gauteng, most of the DIP would be attracted to this province. Haines and Wellman (2005) note that this marginalised Western Cape SADI companies and suggest that the DIP policy should have been able to protect these SADI entities. However, the DIP policy has always retained a non-prescriptive neutral approach: it is up to the SADI to sell itself to foreign obligors.

The 2014 DIP EIA, using the DIP discharge figures (Armcor, 2012) shows an overall positive outcome, somewhat countering the opposing views discussed above.

The policy principle of *causality assumed that a DIP obligor would be the effective cause of any claimable DIP transaction.*

Although the principle was sound, concerns remained on both sides (authority and obligor alike) related to the extent to which an obligor was required to prove causality in any given transaction. This was particularly true concerning non-core business activities, which were claimable as indirect DIP. The DIP obligor often had no choice but to use a third party to execute indirect DIP transactions,⁷¹⁸ primarily due to the fact that such activities fell outside its core business (a major problem experienced in the SDP's NIP). It was mainly in these instances that 'causality' became rather blurred⁷¹⁹ and extremely difficult to prove to the satisfaction of the controlling authorities, whether Armcor, DOD or the DTI. Effective cause was seen as some

⁷¹⁷On 26 and 27 May 2014 – cf. <<http://www.armscor.org.za>>

⁷¹⁸For example, an obligor doing business in another country becomes aware of an ammunition requirement in that country's defence force. He uses his contacts to submit a quotation for South African products and if selected, earn DIP credits

⁷¹⁹Please refer to the Lexicon of terminology – section III

level of ‘physical and direct’ involvement of the obligor in any claimable DIP transaction. Numerous examples of how DIP transactions were caused by the respective obligors are covered in Appendix G that almost exclusively used media reports, including what was reported in Engineering News and by DefenceWeb.

The policy principle governing *responsibility*, referred to the requirement that the obligated DIP party would at all times be solely responsible for giving effect to the execution of its obligation and that such obligation could not be attended to by any other party, or transferred or delegated to any third party.

Although this was a sound principle, obligors often had to resort to ‘indirect transfer of such responsibilities’ because of the prospect of multi-dimensional, cross-linked international transactional business opportunities where the use of third parties was inevitable. This related specifically to non-core business. For example, Ferrostaal was directly responsible for contracting the German air force to test aircraft and weapons at Denel’s Overberg Test Range, and Agusta was responsible for contracting the Italian Army to buy BAE Land Systems (former OMC) armoured vehicles. In instances like these, the causal and/or instrumental argument comes into play. In the case of Ferrostaal, it is not likely that the order for the tests at OTB came from Ferrostaal, but rather from the German air force. It was then up to Ferrostaal to provide this proof from the German authorities. As a result the German air force took a deliberate decision to support their industry by placing the order in South Africa.

The DIP policy, in principle, required that any DIP obligor should be solely responsible for ensuring the full discharge of its obligation in the country. If this principle was applied too strictly it could restrict cross-linking, which was a useful tool to ‘trade-off’ or ‘swap’ SADI commitments in other countries with local DIP obligors. The distinction between causality, instrumentality and responsibility thus remains somewhat blurred. In his testimony Burger (2014) raised a similar issue concerning who is accountable and who is responsible: what is the difference between these two concepts and which takes precedence.⁷²⁰

In the SDP, the DIP and the NIP requirement was 50 per cent each, that is, 100 per cent of the contract value, although at the time the NIP policy required only 30 per

⁷²⁰Refer to the APC evidence pack of Pieter Burger, DIP Division – example of the corvette DIP Terms – pages 77-81 – also under Appendix E

cent. Due to the size of the SDP, the DTI felt that it was a good opportunity to leverage an additional 20 per cent on NIP.

The 50 per cent DIP requirement compared favourably with international practice (even with the inclusion of the NIP, bringing it to 100%). An offsets obligation threshold level of USD 2 million, although not really relevant to the SDP, is at the lower end of international practice: with the inclusion of NIP it still benchmarks well. It must be noted that the combined DIP and NIP offered under the SDP came to an amount of 340 per cent of the total procurement value (*cf.* Vögel, 2001) – the biggest in world countertrade history - the bulk of this figure (i.e. 86% of 340%) was destined for the DTI (AG, 2001).

The discharge of DIP obligations was to occur over a period not exceeding seven years with annual milestones.

During the SDP process the discharge was seven years for all the DIP activities. However, in the case of the Hawk programme, the discharge period was nine years, and on the Gripen, eleven years. This was to allow for the direct DIP to be discharged in line with the actual delivery of the aircraft. The DIP discharge table (*cf.* Table 16 in chapter 10) shows the planned and actual DIP discharge per year as it occurred - Armscor only began reporting on the SDP DIP discharge in tabular format from 2004.

The observations I made with regard to DIP discharge planning (*cf.* Table 16 in chapter 10), displayed some 'hockey stick' discharge effect - meaning that the bulk of the activities were planned to be discharged during the latter part of the discharge period. From an obligor's point of view, this might offer the best possible discharge model, posing least risk for paying non-performance penalties. According to Sanches and Lima (2014), the hockey stick effect occurs in different industries and its shape is directly related to the length of the reporting period. It is a delayed reaction with a correspondingly delayed effect, primarily found in the supply chain process. Its relevance in this instance relates to the indirect DIP that is export based and thus linked to supply chain considerations as well.

Judging from the DIP discharge planning and the actual performance figures (*cf.* Table 16 in chapter 10), it is obvious that the obligors had planned to have

approximately half of their obligations discharged by 2004. The obligations that became effective in 2000 had to be discharged by 2007 (except for Hawk and Gripen). The Armscor Annual Report of 2010/11 reflects that for 2004 a 50 per cent discharge was planned - actual credits granted came to 51 per cent (Armscor, 2011). This means that the remainder of the obligations had to be discharged in the remaining three years. What makes a comprehensive statistical analysis difficult to perform is the fact that BAE Systems had between nine and eleven years to finalise their direct DIP. Another problem is that on the corvette's combat suite, a later decision to procure surface-to-surface missiles (the Exocet) from MBDA, delayed this portion of the corvette's DIP discharge (almost R 1 billion) to 2016 (Burger, 2014).

According to SADI, the discharge period was too far in the future, causing uncertainty in business (*cf.* AMD, 2006) and making their planning regarding order cover almost impossible. However, the statistics in Table 16 (chapter 10) do not necessarily support this SADI view.

Penalties: *On the SDP a 10 per cent penalty for DIP and NIP was decided by government.*⁷²¹

The South African penalty on non-performance on the collective industrial participation obligation benchmarks well with the international norm of 10 per cent. However, the international scale of penalties ranges from a 'best effort', that is, no penalty (e.g. the UK and Israel) to a 100 per cent penalty (e.g. Poland - Appendix A contains a comprehensive list of the range of penalties applicable internationally). In providing for penalties, obligors were to secure bank guarantees that had to be issued in favour of the regulating authorities, that is, Armscor and the DTI.

The bank guarantee was a first call surety⁷²² and was valid until the obligor had fully discharged its commitments. Guarantees cost money to establish and maintain; therefore it is in the best interests of the obligated party to discharge its commitments as quickly and effectively as possible.

While employed at Armscor, I 'blacklisted' one sub-contractor who submitted a proposal on a sub-system for the maritime helicopter – my decision was prompted by

⁷²¹ Table 16 contains the respective contracted project percentages – the corvette deviated due to the platform and combat suite contractual structures

⁷²² Meaning that the obligor cannot obstruct any legitimate withdrawal of which the guarantor bank is the sole judge

the poor performance of this contractor under one the first series of countertrade contracts with Armscor that was not subject to penalties. Although I am aware of several other instances where this principle should have been applied by Armscor, I have no way of knowing whether my successors subsequently enforced it. However, the 2012 DIP policy now states that blacklisting will be applied. It is my experience that nowadays during the tendering process several countries⁷²³ require bidders to provide details of previous and current countertrade commitments. Burger (2014), in his testimony before the APC confirmed that Armscor did not invoke any penalties in the SDP process. Although, one may question this, what is evident (*cf.* Table 16 in chapter 10) is that in the end there was a full discharge (with the exception of MBDA) and some obligors were actually ahead of schedule and even exceeded its obligations. There is no evidence to suggest that the original DIP discharge period had been extended to allow a full discharge (other than for MBDA), however it is clear that intermediary milestones would have had to be extended, but still within the allowed full discharge periods.

I believe that during the course of the discharge period, obligors presented Armscor with compelling reasons to substitute DIP activities with revised milestones to avoid penalties. The DIP agreement provided for substitutions under Article 2.3.4 (*cf.* Burger, 2014:83; and Appendix E). Armscor allowed DIP activity substitutions without any collaboration or consultation with the SADI. There was also no obligation on the part of the obligor to do so. Substitutions were presented to Armscor one-sidedly from only the DIP obligor's position and not from the originally nominated SADI company's position. This fact was confirmed in Burger's statement to the APC (2014, par 8.4). AMD (Hamilton, 2012) confirmed that they were never consulted by Armscor in regard of any substitution proposals made by any of the obligors.

Contractually (*cf.* Appendix E), Armscor's DIP Division must engage with all obligors on a six monthly basis to monitor progress and detect problems. This is standard DIP operating procedure. Based on my 2007 DIP perception survey (*cf.* Van Dyk, 2008:209-212), SADI companies would welcome a more structured discharge process specifying minimum levels of performance at closer intervals (*cf.* also Dunne and Haines, 2005; AMD, 2006; Schür, 2014; Gerber, 2014). This approach would enhance the SADI's order cover and improve sales forecasts. It is my recollection while at Denel, that none of its subsidiaries relied substantively on any DIP prospects

⁷²³Particularly the Nordic countries and Turkey

in their business forecast planning, primarily due to the unreliable nature of obligors' actions.

DIP 'credits' *were expressed in monetary terms and in the same foreign currency as the main supply agreement for all SDP equipment. Obligations were in GBP, USD and Euro* (AG, 2001, Burger, 2014).

In the SDP's case, the 'offsets credit model' predominantly anticipated the 'input model'.⁷²⁴ This practice allowed credits to be earned at the time of an actual DIP activity, for example, placing a DIP contract, an export order, or commencing with a DIP credit-worthy event, such as an investment, or transfer of technology. However, the JIT report (AG, 2001) recommended that Armscor grant credits only once the DIP transaction was completed and payment had been received. This recommendation followed the 'output model' that only granted credits once a specific activity resulted in a tangible output. A DIP credit could therefore only be granted once the foreign obligor had awarded a contract to a local company, and this company had produced the stated goods, delivered them, and confirmed full payment. The SDP's DIP Terms (as per Article 3.2 – Burger, 2014:46, and Appendix E) contained very strict rules for claiming and subsequently granting any DIP credits.

The DIP principle related *to the imported content policy principle states that imported content could not be claimed as DIP.*

The rationale behind this policy statement was that imported content did not provide any economic benefit to the local economy, or the SADI (*cf.* DIP terms Article 3.2.7.8 – Burger 2014:46; and Appendix E). Armscor required all local companies to certify a DIP claim as correct (the format of this claim was prescribed in the DIP Terms as Annexure A, *cf.* Burger, 2014: 47; and Appendix E) in providing information on the imported content, which was then deducted from the claim. There is still much confusion in the South African DIP process concerning what exactly constitutes 'imported', 'foreign content' and 'foreign contract values', which form the basis when deciding on the extent of the obligations and commitment. I can explain this related to the practical problem that I experienced with the process while working at Denel. I found that it was not always possible to calculate the total value of all imported content that trickled down into manufacturing a final product; for example, a horde of

⁷²⁴Refer Armscor Defence Related Countertrade guidelines of 1996 and 1997 and 2014 – available from <info@armscor.co.za>

minute parts such as sensors, capacitors, printed circuit boards, connectors, and a variety of other components are used in the manufacturing of a missile. Hence a very difficult task to track each element of any contract's deliverables. This is further complicated when such parts and components are bought in bulk.

Investments: although not a direct policy statement, investments were nevertheless one of the anticipated results of DIP activities, either in the form of foreign equity capital, capital equipment (including all production machinery, test benches, jigs and tooling), or foreign loans with a beneficial interest rate.

Since DIP required no minimum level of investment, and no incentives (or multipliers) were linked to investments, the result was particularly poor. Only R 285 million of the R 15 billion was in the form of investments (*cf.* Table 16 in chapter 10). This is a mere 1,7 per cent, whereas between 10 and 14 per cent of the total DIP obligation was expected. No DIP credit was given for equity partnerships because Armscor saw these transactions as purely financial and not qualifying for DIP credits - falling under Exclusions in the DIP Terms clause 3.27 of Appendix E⁷²⁵ (*cf.* Burger, 2014). Considering how numerous the equity partnerships were, had they qualified for DIP credits, the originally anticipated investments might have been achieved, but then it could have impacted on sales and exports credits.

DIP Technology transfers were required to improve defence industry efficiencies and assist the SADI with product development and after-sales life cycle support. The DIP policy required a 'like-for-like' transfer of technology. In other words, the technologies that are offered should be comparable to the level of technology embedded in the purchased equipment.

When technology transfer took *place*, the number of credits was determined by the appointed DIPCOM, consisting of members from Armscor and the DOD. No multipliers were allowed when credits were granted. Armscor implemented a fairly elaborate and systematic evaluation and validation process, involving all parties in a transparent procedure that leaves auditable traces. This process was explained and discussed in chapter seven. According to Table 16 (in chapter 10), technology DIP credits of R 4 billion were awarded. A more detailed discussion on the respective technology elements under each of the SDP equipment follows in chapter ten.

⁷²⁵Burger's evidence pack – page 77 (part 2) – *cf.* <<http://www.armscomm.org.za>>; also Appendices E and F

The DIP policy *also covered so-called 'Strategic considerations.'* This required DIP to focus on areas of national 'strategic concern', such as the CSIR, Gerotek and Denel's Overberg Test Range (OTR).

The DIP policy covered these aspects briefly. The DIP Evaluation Guidelines distributed with the RFI and RFO for the SDP contained no endorsements of the importance of any strategic facilities (*cf.* Appendix D). The result was that only a small portion of DIP business was eventually allocated to both OTR and the CSIR (details follow in chapter 10; *cf.* Appendix F). Unless the DOD and Armscor can implement attractive incentives, facilities like the OTR and CSIR will remain at the mercy of the DOD while trying to maintain and sustain their capabilities. The result will be considerable cost to the defence budget and the taxpayer. This highlights earlier criticism that the DIP policy is not properly aligned with national industrial and strategic considerations. The 2014 Defence Review also highlights this shortcoming.

Concerns around the absence of an after sales logistic support strategy and the need to address maintenance repair and overhaul (MRO) capabilities have since also surfaced (Hamilton, 2011, also the 2014 Defence Review; AMD, 2014). The view is that the 1997 DIP policy failed to mandatorily encapsulate MRO requirements. However, the Defence Industrial Participation Evaluation Guidelines of 27 January 1998 (paragraphs 2.3 and 5.1.5 of Appendix D - *cf.* De Beer, 2014:213 and 219) recognise the need for capabilities to maintain and upgrade equipment. Unfortunately, life cycle support was never enforced in the DIP contracting process. Notwithstanding, the air force and navy appear to be satisfied with their support.⁷²⁶ This was testified to during the APC's Phase 1 hearings during 2013 and 2014.⁷²⁷

It is my recollection that all the foreign suppliers committed themselves to some level of transfer technology to establish logistic support capabilities within the SADI; however, there is not much evidence to indicate that these commitments were honoured. Clarification was almost impossible because of the non-disclosure agreements between Armscor/DOD and foreign suppliers, and one had to draw conclusions from reported DIP activities.⁷²⁸ Not even the DIP discharge tables that

⁷²⁶ *Engineering News*, 7 October 2010

⁷²⁷ *cf.* <<http://www.armscomm.org.za>>

⁷²⁸ I recall one specific case, c. 2004/5, where one of the foreign OEMs was prepared to establish levels of logistic support at one of Denel's divisions however the technology and capability establishment content was inadequate and of poor quality and the expected credit value totally unrealistic (disproportionate to the anticipated benefit)– again due to non-disclosure limitations I cannot reveal any details

Burger (2014 and replicated in Appendix F) provides a clear picture. Consequently, there is the prospect of the SANDF becoming totally dependent on various foreign suppliers for certain levels of logistic support (*cf.* Haines, 2012). This observation is supported by both Schür and Gerber (2014). Thus the question arises whether the DIP policy or the contracting process was flawed. It is my view that it was the contracting process. As noted earlier, the complex, concentrated SDP contracting process had to be completed in nine to ten months – this process involved six diverse equipment types across five countries to the value of R 30 billion with approximately R 104 billion in offsets (*cf.* Griesel, 2013; Naidoo, 2014). Ample time was not afforded to duly assess and analyse each DIP (and NIP) proposed activity. This is not only relevant in the case of the technology, but across the board of activities. There was also a lack of a collaborative structure between the DIP and technical project teams (Grobler, 2014).

The DIP Policy stated that a comprehensive evaluation model/value system was part of the total value system. The Senior Manager, Countertrade, in collaboration with the Armscor Programme Manager, will decide on the weight DIP will carry in the final evaluation.

The above principle was dealt with in detail in chapter eight. The Defence Industrial Participation Evaluation Guidelines of 27 January 1998 were distributed to all potential bidders to assist the DIP planning process on the seller's side (*cf.* De Beer, 2014:207-240; and Appendix D).

The SDP's legal agreements pertaining to the DIP and NIP were contracted separately as part of the SDP's Umbrella Agreement, which included an agreement that covered the technical supply terms with delivery schedules.

The loan agreement was dealt with separately by the Department of Finance (*cf.* AG, 2001; Griesel, 2013; Donaldson, 2014; Manuel, 2014). It later surfaced that the DIP and NIP agreements did not bind an obligor to place DIP contracts with SADI on the same legal basis which was premised on South African law. Foreign obligors, therefore, imposed their own countries' commercial laws onto the SADI, which in many instances were much more onerous. This put the local industry at a constant disadvantage when negotiating for contracting on DIP work.

The pro-active approach to DIP: *This allowed prospective obligors to use DIP credits to off-set part of a future DIP obligation.*

At the start of the SDP process in 1998, a large number of potential bidders signed up for pro-active agreements with Armscor and twenty-nine agreements were signed (Armscor, 2000). As the SDP tender process was an open, competitive process, no one foreign supplier could be certain of any favourable outcome.⁷²⁹ Proactive DIP agreements remain an attractive option for potential foreign suppliers of defence equipment to the DOD. However, the latest Armscor DIP policy (2012) indicates that a pro-active approach will no longer be permitted (Armscor, 2014).⁷³⁰

9.4.3 Defence Industrial Policy Developments since 2000

This review would have been incomplete without a brief summary of developments on the DIP policy front post the SDP. It must be remembered that the JIT report (AG, 2001) found certain control deficiencies in the DIP crediting system that granted up front credits. The AG recommended that credits only be granted post completion and verification by Armscor. This appears to have been sound advice.

During 2001/2, Armscor's DIP Division revised the original DIP policy (A-POL-6100 of 1997) and developed two complementary documents covering practice and procedure. This change was prompted by the Armscor Countertrade division being renamed the Defence Industrial Participation division. The 1997 DIP policy (A-POL-6100) was replaced by A-POL-6000 and approved on 11 February 2002 (*cf.* De Beer, 2014:10). The original principles and objectives were retained.

A new Armscor DIP practice document was created – referred to as A-PRAC-6030. This document was based on the new Armscor Acquisition Management Policy (A-POL-1000 dd 23 June 2003 and based on VB1000 of 20 April 1994), the Defence Review of 1997, and the White Paper on the SADI of 1999 (*cf.* Burger, 2014). This practice document defined the responsibilities of the DOD, Armscor Acquisition Divisions, the DIP Division and the DTI during the tender process. The practice document contains definitive interpretation statements and stipulates the roles and

⁷²⁹However, I recall one pro-active agreement with Renk, AG Germany who had engaged in gearbox related work with Gear Ratio of OMC at the time. Renk was one of the potential suppliers of transfer gearboxes on the corvette in competition with MAAG, favoured by the SA Navy. Renk's pro-active DIP with Gear Ratio played a role in the final sub-trade off outcome that swayed the selection in their favour. Interesting to note that in 2007 Renk acquired MAAG - *cf.* <<http://www.renk-maag.ch/en/company/history/...>>

⁷³⁰*cf.* Armscor website <<http://www.armscor.co.co/...>>

responsibilities of all the relevant parties and of the DIPCOM.⁷³¹ It also covers the levying of penalties process. Furthermore, it makes provision for the Armscor DIP Division to charge certain facilitation fees for arranging any swap (credit trade-off deals). Revenue from credit trade-off deals is intended to complement Armscor's income – this was not part of the original Armscor DIP policy A-POL-6100 or the DIP procedure A-PROC-008 of 1997.

A new Armscor DIP procedure, referenced A-PROC-6031, replaced the original A-PROC-008 document of April 1997 on 11 November 2002. The new document focused on DIP process issues and reiterated the basis for implementing DIP and NIP obligations (*cf.* Burger, 2014). The document specifically stated that DIP shall be applied in such a manner that it contributes to advancing South Africa's defence industrial capabilities. DIP programmes would have to incorporate a planned, organised, controlled approach, and support the DOD/MoD goals, namely, promoting and coordinating development, manufacture, standardisation, maintenance, acquisition and supply of armaments and related products and services. DIP (and NIP) proposals would be discussed jointly between all relevant parties (A-PROC-6031, par 4.1.2.9), which did not occur in the SDP process.

This revised DIP procedure makes a distinction between three sets of agreements, namely,

- the main agreement that governs the scope and conditions of supply,
- the DIP agreement⁷³² that governs the 50 per cent DIP obligation between the seller (obligor) and Armscor,
- the NIP agreement (if applicable) that governs the 30 per cent NIP obligation between the obligor and the DTI.

In 2012, Armscor reported further changes in DIP policy as a result of developments since early 2000.⁷³³ The SANDF's aim is to maintain a critical minimum state of preparedness that includes an equally prepared and capable local defence industry. Through its National Industrial Participation (NIP) programme the DTI aims to grow and develop various economic sectors: DIP complements this process by specifically focusing on the defence industry. DIP is an integral part of the DOD's policy

⁷³¹ DIPCOM did not play any major role in the SDP's DIP approval contracting process due to its (the SPD's) unique structures – explained in chapter eight

⁷³² The above 'agreements' must not be confused with the DIP and/or NIP contracts between the obligor and the local industry, which are concluded as a consequence of the DIP and/or NIP agreement between the obligor and Armscor and/or the DTI. DIP contracts, *per se*, are defined in the DIP agreement – cf. Appendix E

⁷³³ 'What is DIP?' - cf. <<http://www.armscor.co.za>> (a 2012 posting on their website)

framework for retaining and developing the South African defence industry, which is regarded as a national strategic, economic asset.

In order to stay abreast of the changing environment since the conclusion of the SDP agreements, Armscor embarked on an inclusive process to review and revise the current DIP policy and practice to ensure a more focused approach. The organization believes that DIP contributed significantly to retaining self-sufficiency in key areas, establishing life cycle support for sophisticated equipment, earning foreign exchange through exports, creating domestic employment and developing defence technology (cf. Armscor Annual Report, 2012/13 – Armscor, 2013). Owing to the huge unemployment figures in South Africa, government generally adopts national policies that require all industries to focus primarily on job creation, particularly for the youth.⁷³⁴

Armscor's Annual Report for 2012/13 (Armscor, 2013) reported that the DIP programme also actively contributes to the government objective of BBBEE⁷³⁵ and now requires at least 25 per cent of all obligations to be discharged as benefits to companies that have at least 25 per cent Black equity ownership. On its website (2012)⁷³⁶ Armscor stated that since the introduction of BBBEE development initiatives, DIP credits to the value of R 1 billion were approved. The same Annual Report (*ibid*) refers to a further review of the DIP process to ensure that the status of BBBEE beneficiaries are verified and conform to South African law. The 2006 AMD report records BEE shareholding in SADI companies such as Grintek (at 39%), Reunert (at 30%), Tellumat (at 14%), ADS/TDS (at 40%), BAE Land Systems (at 25%⁷³⁷), Ansys (at 37%), Waymark (at 38%), RGC (at 26%) and Natcom (at 26%). Denel, a State Owned Entity (SOE) is regarded as 100 per cent BEE.

⁷³⁴These statements are to be found across the board – from the President's State of the Nations Address (SONA), to each of the provincial premiers' State of the Province' (SOPA) speeches

⁷³⁵BBBEE stands for 'Broad-based Black Economic Empowerment'. South Africa's first democratic government embarked on a comprehensive programme to provide a legislative framework for transforming South Africa's economy. In 2003, the Broad-based Black Economic Empowerment (B-BBEE) Strategy was published as a precursor to the B-BBEE Act, No. 53 of 2003, amended in 2013. The fundamental objective of the Act is to advance economic transformation and enhance the economic participation of black people in the South African economy. The Act provides a legislative framework for the promotion of BEE, and empowers the Minister of Trade and Industry to issue codes of good practice and publish transformation charters, paving the way for the establishment of the B-BBEE Advisory Council. President Jacob Zuma appointed members to the B-BBEE Advisory Council on 3 December 2009 (Section 6(1)(c) and (d) of the Act). The B-BBEE Advisory Council aims to provide guidance and overall monitoring of the state of B-BBEE performance in the economy, with a view to making policy recommendations to address challenges in the implementation of this transformation policy. The B-BBEE Codes of Good Practice emerged in February 2007 as an implementation framework for B-BBEE policy and legislation. After the implementation thereof, institutional mechanisms were established for the monitoring and evaluation of B-BBEE in the entire economy, this process is under consistent review - cf. <http://www.thedti.gov.za/economic_empowerment/bee.jsp>

⁷³⁶cf. <<http://www.armscor.co.za>>... 'what is DIP?'

⁷³⁷This 25% was in OMC now sold to Denel – cf. Chapter seven

It must be noted that at the time of the SDP, BEE involvement, although stated as an objective, did not attract much attention, primarily because there were not many BEEs engaged in SADI as yet. In 2004, Armscor introduced its Broad Based Black Economic policy as a result of the BBEE Act 53 of 2003 (*cf.* Armscor Annual Report, 2004/5:11).

The revised Armscor DIP guidelines of 2014⁷³⁸ (based on the 2012 DIP policy) contain several changes. For example, DIP will be applicable to so-called matériel Category 1 (i.e. major or cardinal equipment) and will not be applicable to spares and ammunitions with the exclusion of torpedoes and missiles, but including logistic support and procurements for the SAPS (ostensibly those done through Armscor). The 1997 DIP objectives have been expanded to specifically include a minimum of 25 per cent BEE participation, the development of human resources in the defence environment and the minimisation of the outflow of foreign reserves as a result of defence purchases abroad.

Future DIP activities should primarily be in the area of the obligor's core business.⁷³⁹ The most important policy changes are the increase of the penalty from 5 to 100 per cent (with an 'acceptable' guarantee)⁷⁴⁰ and the fact that local SADI companies (51+%) owned by foreign companies can no longer be used to discharge DIP obligations. This means that any future DIP with companies such as Saab Grintek, ADS/TDS, Grintek Ewation, AMS, Cassidian, TMA, Reihnmetall Denel Munitions and Fulcrum will no longer qualify for DIP credits. The rationale for this is unclear: the Armscor presenter at the AMD/DOD/SADI day on 5 August 2014 (AMD, 2014) stated it was an Armscor Board decision. This decision is also reported in the Armscor Annual Report for 2012/13 (Armscor, 2013).

The 2014 Defence Review recommends specific changes to the present (2012) DIP policy. For example, in Chapter 15 (par 54 (a) to (d)) pertinent changes are required in the Armscor DIP approach. It is stated that DIP requirements attached to the acquisition of equipment or systems from abroad, will in future be focused primarily on a balanced and aligned consideration between DIP and NIP obligations that may emanate jointly from a defence acquisition.

⁷³⁸ Armscor DIP Guidelines. January 2014 – received via email from W. Klomp (since retired) from the DIP Division – now available from <pburger@armscor.co.za> or <info@armscor.co.za>

⁷³⁹ The dichotomy is that it now directly overlaps with the Direct NIP objectives of the DTI

⁷⁴⁰ I have assisted some SADI companies in the past few months (since the 2012 DIP policy was implemented) with preparing tenders for Armscor and it was found that the DIP guarantee required by Armscor would be a combination of a bank guarantee for between 5% and 10% and the balance in the form of a company guarantee – this is reportedly subject to negotiation

This is to ensure effective and efficient life cycle support of equipment, including upgrading, support for key sectors of the industry and/or establishing identified key technologies within the industry, and facilitating efficient linkage with related government industrial developmental initiatives. Export facilitation and access to international supply chains will be important factors, but will rank after the above in priority (Chapter 15, par 55, page 15-8).

9.5 The DIP ‘Benefit’ Model Explained in Practical Terms

In 1998 (while still at Armscor),⁷⁴¹ I developed a basic ‘benefit’ flow diagramme. Over time this evolved into a more comprehensive model.⁷⁴²

I have used this model on numerous occasions to explain the concept of reciprocity that manifests in countertrade, offsets and DIP. The diagramme demonstrates how industrial and economic benefit occurs during the discharge process.

The diagramme (as per Figure 29 below) is used to explain the consequences of a defence acquisition purchase with a countertrade (i.e. DIP or offsets) obligation.

To my knowledge, I am the first to attempt this descriptive step-by-step process. Each of the numbers that appear in either a circle or a triangle is explained in the step-by-step activity analysis after the diagramme.

Although this diagramme is used to explain the DIP process, it is generic in its approach and can be used to explain other similar offsets programmes. The flow process description provided is a product of my creativity and not based on any similar process description that I am aware of.

The respective principles covered by this step-by-step activity explanation can be benchmarked against the academic and scholarly works of Ellingsen (1991); Coetzer (1995); Martin (1996); Rowe (1997); Brennan (1998); and Treahan (1999); Dunne, *et al.* (2005), also Yülek and Taylor (2012).

⁷⁴¹ Refer to the Armscor Countertrade procedural manual developed in 1996/7. Referenced internal ‘Armscor document JUL97-28/’ and JJVD/Procedure OKT’98, also the new DIP guidelines ‘Jan.2014’

⁷⁴² *ibid*

First a decision to buy is taken and the contract with the supplier (i.e. the seller) is concluded. Normally the countertrade agreement (DIP in this instance) forms part of the contracting process and is a prerequisite to signing the main purchase agreement. The same applies when NIP is triggered, that is, if the acquisition amount contains imported content of USD 10 million and more.

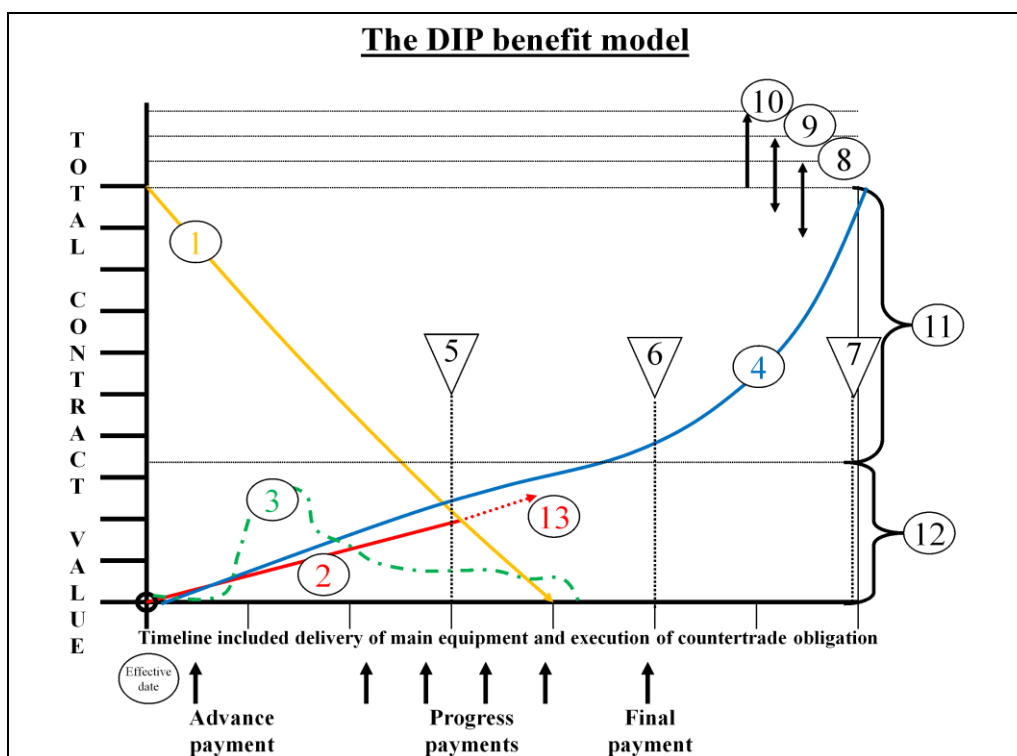


Figure 29: The DIP benefit model (Source: author)

Step 1 is the actual commencement of the process. At this point the main purchase agreement and the DIP agreement have been signed. The effective date of the main agreement is also the effective date of the DIP agreement. However, for such agreements to take effect, certain conditions must prevail: these normally cover performance guarantees (both for the equipment and DIP), warranties, advance payment guarantees, export license confirmations, country of origin certificates and International Traffic in Arms Regulations (ITAR) approvals (in the case of any equipment of US origin).⁷⁴³

Second, the buyer pays the supplier the advance payment portion (there is no set percentage) of the price. This is the first step to inject money into the seller country's

⁷⁴³Enforced by the US Department of State – cf. <pmddtc.state.gov/regulations_laws/itar_official.html>

economy. This is money going out of the buyer country into industry in the seller country. It consequently has a direct balance of payment and foreign exchange impact, particularly when these figures run into hundreds of millions or even billions of Rands, as was the case in the SDP (*cf.* Donaldson, 2014). This is countered by money that is then paid to the local SADI entities performing DIP under the DIP agreement as explained below.

Three, the *advance payment* is the trigger for the seller to commence producing the main equipment by buying raw materials, parts, components, sub-systems, etcetera, which must be delivered within a certain period. Activity **item 1** of the diagramme represents the delivery time line for the main equipment or order.

Four, in terms of the DIP agreement the seller is committed to place certain **direct work share** orders with the local industry (i.e. SADI). Activity **item 2** of the diagramme represents the proportional participation of SADI in the part production and delivery of direct DIP, which is in direct relation to the delivery of the main equipment. For example, BAE Systems is to produce twenty four Hawk aircraft; hence they will order twenty four sets of flaps and airbrakes from Denel. This reciprocal activity step means that a portion of the money is spent back in the local economy.

Five, activity **item 3** of the diagramme represents any **technology**, training, skills development, capacity creation or technical support to enable SADI to deliver the direct work-share orders placed with them. This could be highly problematic particularly with complex systems, since SADI companies would need time to assimilate in order to reproduce. In the case of the SDP, it took considerable time to up-skill and train people in the manufacturing and subsequent assembly of the Hawk, Gripen and LUH. With the LUH, the problem was much bigger, since the technology transfer involved a complete aircraft and not part production as in the case of the Hawk and Gripen.

Six, activity **item 4** of the diagramme represents **indirect DIP**.⁷⁴⁴ In other words, these are activities that have nothing to do with the main equipment's manufacturing

⁷⁴⁴For the sake of clarity it must again be stressed that South Africa is the only country in the world that practises four tiers of countertrade in the form of direct offsets (defence-related direct work share), indirect offsets (defence-related exports), non-defence NIP (plus now direct NIP, since 2013) – that is all civilian transactions - and finally, the CSDP of certain SOEs such as Eskom and Transnet – the revised 2013 NIP guidelines of DTI contain various categories of industrial participation also as related to 'fleet procurement' - *cf.* <<http://www.thedti.gov.za>>

requirements. For example, where Denel PMP was issued orders to export ammunition, or Denel Optronics (Carl Zeiss Optronics, now Cassidian) to develop and subsequently export helmet sights for Eurofighter and UK Tornados.

Seven, activity **items 5, 6 and 7** of the diagramme represent the ***contractually prescribed milestones*** the seller must reach to discharge his countertrade obligations. Normally these milestones are linked to the DIP guarantee covering the penalties payable. In the case of DIP, seven annual principal milestones were stipulated, but for BAE Systems there were nine (for Hawk) and eleven (for Gripen) (cf. Burger, 2014).⁷⁴⁵

Eight, activity **item 8** of the diagramme represents the ***Rate of Exchange (ROE)*** fluctuations applicable to the main agreement. Any direct DIP was calculated in order to claim credits at the same exchange rate. The economic benefit or deficit refers to significant fluctuations in the rate of exchange between the contract currency and the buyer country's domestic currency. From Donaldson (2014) testimony, it appears that in the case of the SDP, the rate of exchange fluctuations were to a large extent costed into the loan agreements and disbursement of the payments.⁷⁴⁶

Nine, as and when applicable **activity item 9** of the diagramme represents any major ***change in the scope*** of the main agreement, which can either increase or decrease the contract value. Normally a change in scope, particularly when substantial, will have an impact on the DIP obligation of the seller, particularly on the direct work-share portion. For example, in the case of the BAE Systems contract for Hawk and Gripen, the government contracted for the delivery of the air craft in three specific batches (also referred to as a three tier system, or tranches) with the option, at certain dates, to cancel the remaining batches. This would have had a direct impact on the DIP. (For example, batch or Tranche 1 was for 12 Hawks and 9 dual seater Gripens, Tranche 2 was for 12 Hawks, and Tranche 3 was for 19 single seater Gripens – cf. AG, 2001:106.). Another example is the later placed MBDA missile order on the corvettes.

Ten, as and when applicable activity **item 10** of the diagramme relates to ***escalation***. Most multi-year supply contracts make provision for escalation. Depending on how

⁷⁴⁵Note: I have used three milestones for illustrative purposes in the interests of not over-crowding the diagramme with figures

⁷⁴⁶Under normal contracting conditions the SA Reserve Bank allows up to three years of advance cover to be taken against severe exchange rate fluctuations

the DIP obligation was contracted, escalation may have an impact on the obligation, as it is proportionally increased in accordance with the escalation formula in the main agreement. In the case of the SDP's DIP, Armscor did not apply this principle and kept to the 1999 baseline for tracking and reporting the discharge progress (*cf.* Burger, 2014).

Eleven, activity **item 11** of the diagramme represents the **percentage** of the DIP obligation that must be minimally satisfied through **indirect offsets**. Normally there is little prospect of subsequently doing more indirect work *in lieu* of direct work, and 'rolling such over performance into the direct portion' is not permitted.⁷⁴⁷

Twelve, activity **item 12** of the diagramme represents the **minimum level of direct DIP** required and includes an agreed percentage of technology transfer, which is normally capped. The transfer of technology does not guarantee any income, and the buyer country needs to ensure that there is a direct relationship between the transfer of technology, its assimilation (*cf.* Eliasson, 2010) by industry, and subsequent successful delivery and sustainability. Transferring technology is in itself an extremely complicated and time consuming process and has to be carefully planned when linked to the delivery schedule of the main equipment.

Thirteen, activity **number 13** represents **certain direct DIP that could occur after the delivery** of the main equipment. This may sound strange, given the explanations under Activity 2, but there may be some after-sales support capabilities related to the maintenance, repair and overhaul (MRO) capabilities that need to be established in the buyer country for life cycle support and for which credits may be granted even after the delivery of the main equipment. In the case of the SDP's DIP this did not happen.

The above explanation illustrates how the buyer (in this case Armscor) spends money by paying the foreign supplier for deliverables. The supplier, through its process of discharging its DIP obligations in a reciprocal manner, engages the SADI companies in technology transfer, training and skills development, while placing orders for co-production, buy-back items and products for exports.

⁷⁴⁷This is a standard DIP contractual clause – *cf.* Armscor's Pieter Burger's APC evidence pack where the DIP terms agreement document/extract of the corvettes was provided - *cf.* <<http://www.armscomm.org.za/hearings/...?>> – *cf.* Appendix E

Through this process, ‘reciprocal’ money or technology transfer benefits flow back into South Africa’s economy, and people are employed (or kept in employment) and trained. Foreign direct investments occur (in the form of equity, capital injection in infrastructure, or production equipment, for example, test benches, jigs and tooling).

The foreign supplier (also referred to as the seller, or in this case, the DIP obligor) establishes indirect offsets projects primarily related to manufacturing for exports and sales generating income earnings – both local and foreign (the latter contributing to the country’s foreign exchange and tax earnings).

After being exposed to the practical side of DIP and other countertrade-related matters (as practitioner and reflexive observer), I compiled the graphic below (Figure 30) to illustrate how a seller can analyse any given activity to achieve its DIP discharge that could appear across the spectrum of areas identified below. Commencing as a so-called ‘up-stream’ activity, each is analysed based on whether imported or local. The model assists in determining into what levels activities can be divided, and then further sub-divided into sub-products and sub-systems. It also considers the equipment’s life cycle. The model could serve as a blueprint to structure an appropriate discharge plan and identify areas where activities could be offered to satisfy the broader DIP requirements.

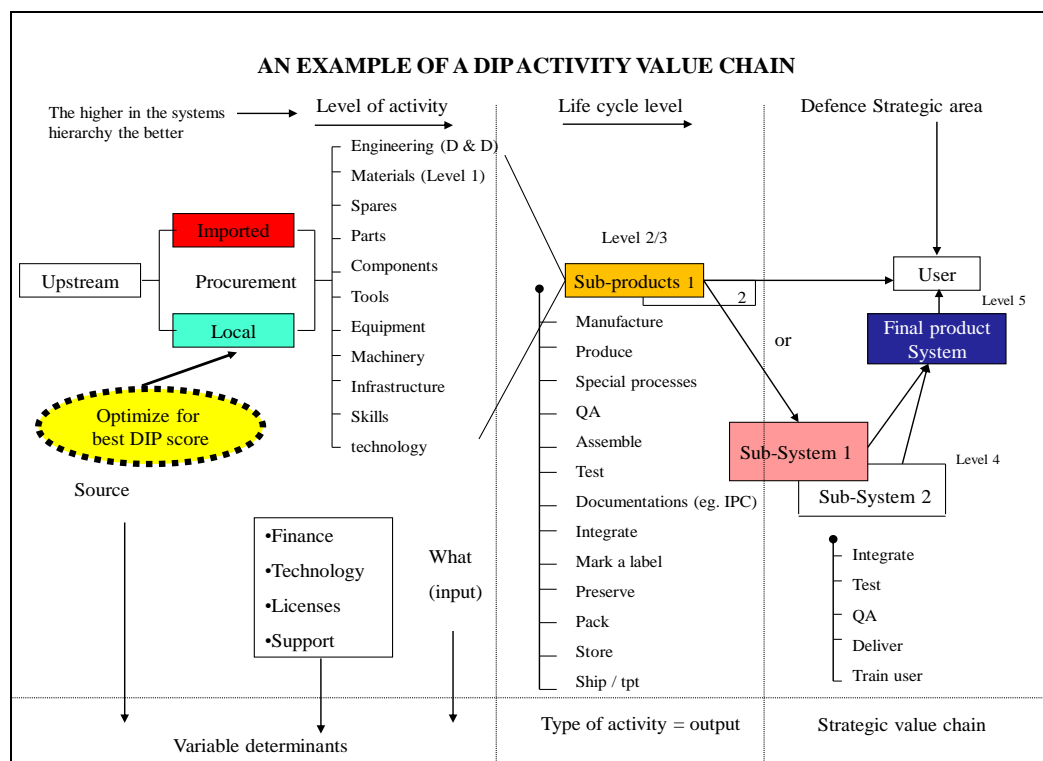


Figure 30: An example of a DIP activity value chain (Source: author)

9.6 DIP's Economic Impact Assessment in Context

An economic impact assessment (EIA) was required to illustrate the DIP's impact, economic contribution and activities. The socio-economic assessment based on the South Africa's National Social Accounting Matrix (NSAM) was used to quantify the impacts of the DIP (*cf.* Chapter 3).

Since the defence industry (SADI) is not a single economic activity (primarily because it comprises various economic and sub-economic activities) the 2013 *manufacturing of transport equipment*⁷⁴⁸ category of the NSAM was chosen. This category of industrial activity includes the manufacturing of military transport equipment that provides a useful basis for strategic assessments of this nature. The NSAM was subsequently populated with the appropriate data obtained from Armscor's Annual 2012/13 reports (*cf.* Table 16 in chapter 10; Armscor, 2013) and used to determine the DIP's strategic economic impact and contribution. This EIA exercise relied on interpreting the DIP programme activities that manifested in the SADI from 2000 until 2010/11 (*cf.* Appendices F and G). It was accepted that the three macro categories of DIP values reported by Armscor (sales and exports, technology and investments) were primarily involved in manufacturing transport equipment (i.e. aircraft, helicopters, ships and submarines) for defence purposes. The SADI has varied capabilities that span the various types of procured defence equipment.

The socio-economic impact assessment (the NSAM) assessed the macroeconomic effects of the DIP on national production, that is, on GNP, employment and worker income. There were three types of economic impacts assessed: **direct impacts** are generated when new investment leads to a demand for new business activities, job creation (in the case of the SDP, job retention) opportunities, and income to satisfy the respective DIP objectives; **indirect impacts** occur when the suppliers of goods and services to the new businesses experience larger markets and potential to expand. **Indirect impacts** result in an increase in job creation or retention, GNP, and household income. **Induced impacts** represent shifts in spending on food, clothing, shelter and other consumer goods and services. Induced impacts are the result of the increase/decrease in the number of workers and the payroll of directly and indirectly affected businesses. These impacts lead to further business growth/decline throughout the local economy.

⁷⁴⁸As applied in accordance to the DTI's SIC (Standard Industrial Classification) system

The results of the macroeconomic impact of the DIP between 2000 and 2012 (at 2013 prices) are summarized below in Table 15.

Table 15: The economic impact assessment of the SDP's DIP				
Variable	Impact of the DIP on the South African Economy			
	Direct Impact	Indirect Impact	Induced Impact	Total Impact
Production (R million)	14 165.00	11 857.95	16 922.57	42 945.53
Gross National Product (R million)	6 142.68	4 568.04	7 484.00	18 194.72
Employment opportunities (person year)	7 970	20 043	30 989	59 002
Employee income (R million)	2 591.86	2 120.70	3 320.22	8 032.79

(Source: EIA of 2014, based on the National Social Accounting Matrix (2004 updated to 2013, of the Development Bank of Southern Africa) done with the assistance of Ben van der Merwe from Urban-Econ)

The results depicted above can be explained as follows. Firstly, **Production** can be defined as the process through which labour and assets are used to transform inputs of goods and services into outputs of other goods and services. The impact assessment measures the expected changes in production as a result of the respective DIP projects. Between 2000 and 2012 the total value of the DIP of R 14,17 billion⁷⁴⁹ was mainly invested in manufacturing (67,3%) and the transfer of technology (28,3%). Apart from this new demand in the economy, the DIP created indirect business opportunities for supplying sectors to the value of R 11,86 billion.⁷⁵⁰ The estimated effect of the DIP on the economy is R 16,92 billion. This implies a further benefit to the economy in the form of household income and its effects on spending, creating a demand for consumer goods and services, investment and potential growth. In total, the DIP raised the level of economic activity by R 42,95 billion, or R3.03 for every DIP Rand.

Secondly, the impact on **GNP** refers to the market value of all final goods and services produced within a country in a given period of time. The assessment therefore measures the impact of the various DIP projects on the South African economy. The DIP projects of R 14,17 billion created an additional direct GNP of R 6,14 billion and a total GNP of R18,19 billion. This implies a total multiplying effect of 1,28 for every Rand spent through DIP projects.

In conclusion, based on the above strategic macroeconomic impact assessment, it is evident that the DIP created at least three times its value in production in the economy with a positive net effect.

9.7 Summary

The DIP policy (past i.e. 1997 and present i.e. 2012) endeavours to largely underwrite the developmental aims and objectives of Armscor in relation to the SADI, and as contained in the relevant White Papers. Although Armscor, by law, remains largely in charge of the process, the 2014 Defence Review makes it clear that there needs to be much better alignment of the defence industrial base with national industrial development imperatives.

⁷⁴⁹The total value of the DIP expenditure in South Africa at 2013 prices

⁷⁵⁰NSAM valued at 2013 prices

The manner in which DIP was structured and subsequently performed, provides some indications of it being primarily focused on retention rather than growth. This is noted at the hand of the decline of the DIB as recorded in chapter seven. However, Chapter 15-8 (par 54(d)) of the 2014 Defence Review emphasises the need for efficient links with related government initiatives as set out in, for example, the Industrial Policy Action Plan (IPAP), the Preferential Procurement Policy Framework Act (PPPFA) and the National Industrial Participation Programme (NIP).

In their 2004/5 Annual Report (Armcor, 2005:13), Armcor states that the SDPs came at a time when industry was looking for other international business opportunities. As a result of the DIP programme, local defence companies secured much needed export contracts and exposed themselves to overseas partners who were able to appreciate SADI's technological capabilities (covered in chapters seven and ten).

With the general decline in defence budgets internationally, SADI had to rely on forming strategic partnerships with other international defence companies. Now, some fourteen years later, both Armcor and the DOD seem to have derived 'second thoughts' on the sovereign strategic importance of SADI. This is evident in the revised DIP policy of 2012 and the 2014 Defence Review. The 'ramping up' of the defence budget to allow for increased contracting of SADI can only take place over an extended period time (as discussed in chapter 7). One can only wonder whether this is again a matter of too little too late.

Nevertheless the DIP process today (2014, some 17 years after the first DIP policy emerged) still requires obligated entities to include the local industry (SADI) in the execution of their activities, and to award SADI contracts for direct work-share (for example, production, assembly, integration, testing), receiving and assimilating various levels of technology, skills development and training, executing export contracts, establishing JVs, with associated financial considerations (investments and loans) and promoting SMME and BBBEE activities. The DIP policy still prescribes the same terms and conditions and the criteria for earning credits, albeit with an extended range of definitions, some exclusions (e.g. spares) and some limitations on foreign owned entities eligible for future DIP and a drastic increase in the penalty provision up to 100 per cent.

In a contracted defence market, OEMs increasingly guard against competition, which presents another hurdle in defence offsets. OEMs across the world have become centres of final assembly, having aborted the concept of vertical integration by outsourcing almost all their production into the Tier 1 to 5 supplier network. In this regard, the South African industry (defence and civil alike) has the opportunity to be entrenched in the international supply chains of key OEMs (*cf.* Haines, 2012b).⁷⁵¹ However, productivity, quality, competitiveness, and periphery competition remain serious stumbling blocks, further aggravated by a host of national and international arms control and non-proliferation regimes.

Despite the various positive postulations on the 1997 DIP policy objectives, it is clear that further reviews and revisions are required – from a national industrial and technology strategy and support point of view. Another ‘mind set’ change that Armscor and SANDF will have to undergo is the additional time it will take to conclude DIP contracts with SADI as a prerequisite part of the DIP Agreement before the Main Supply Agreement can take effect. This process will require at least one additional year of contracting, which should be built into the DOD’s master acquisition plan.

In the context of this chapter’s policy review, chapter ten provides an overview of the various DIP activities that stemmed from the SDP’s DIP. Numerous practical examples are provided explaining how the DIP’s aims and objectives were achieved over 12 years. These examples furthermore serve as some means of putting DIP’s developmental contributions in context of this study’s research question.

⁷⁵¹The DPE CSDP refers to supply chain as a series of transactions involved in transforming raw materials into final products – this process reflects the modern realities of a myriad non-linear relationships between suppliers and buyers - *cf.* <<http://www.info.gov.za/view/DownloadFileAction?id=95793>>. Due to its technologically advanced stage of production, I believe that SADI’s involvement in supply chains goes way beyond simply ‘transforming raw materials’

CHAPTER TEN: HOW DEFENCE INDUSTRIAL PARTICIPATION BENEFITTED THE SOUTH AFRICAN DEFENCE INDUSTRY

10.1 Introduction

Criticisms, comments and observations related to the 1997 DIP policy were dealt with in chapter nine. This chapter explains how the DIP process manifested in practice, and how discharging the R 15 billion contractual commitments made in 1999 unfolded from 2000 until 2012.

In relation to arguments that defence spending is an unproductive drain on the economy, as discussed across chapters two, four and five, the former Minister of the DTI, Alec Erwin, (in 2014, during his testimony at the Arms Procurement Commission's (APC) hearing), explained that offsets, (i.e. the industrial participation process as applied in South Africa) must be viewed as the economic rent earned by the country as a result of the capital outlay for the imported defence equipment.

Erwin (2014) provides an opposing view to those traditional arguments holding that defence spending is actually diminishing economic rent opportunities (*cf.* Brauer and Dunne, 2009). In response to the APC's question related to the WTO's restriction on the use of offsets under the GPA, Erwin (*ibid*) replied that countries are excluded from that restriction for military strategic procurement activities (*cf.* De Beer, 2014). This aspect was also discussed in more detail in chapter four.

The reader's attention is again drawn to the fact that this study primarily focuses on the SDP's DIP process and how it actually involved the SADI. Therefore, the following review neither covers the NIP process in any detail nor explains how the DTI went about crediting any of the SDP NIP obligors in the SDP - this rather controversial matter is discussed in section 10.6.3.

10.2 Statistical Data Related to the DIP Discharge

Armcor began reporting on the SDP's DIP progress in its annual report of 1999/2000 (Armcor, 2000).⁷⁵² The DIP discharge progress was tracked through the

⁷⁵² I was the responsible line manager at Armcor and initiated the first DIP reports from 1999 until I left Armcor in 2001

annual Armscor reports until discharge was completed around 2012.⁷⁵³ During Armscor testimonies to the APC (*cf.* De Beer and Burger, 2014) an update of the DIP was provided (the DIP credits that were granted against each DIP activity commitment are replicated in Appendix F, using the tables provided to the APC by Burger, 2014).

Table 16 below⁷⁵⁴ shows the DIP composition and spread over the respective SDP equipment. It shows the planned cumulative discharge and the actual discharge across the major categories of sales and exports, technology transfer and investments. Information in this tabular format became available for the first time in the Armscor 2004/5 Annual Report (Armscor, 2005). Prior to that DIP information was provided in summarised narrative form.

⁷⁵³Further substantiating records can be found under Dr Richard Young's 'Arms Deal Virtual Press Office' – *cf.* <<http://www.armsdeal-vpo.co.za>>, and <<http://www.defenceWeb.co.za>> and <<http://www.engineeringnews.co.za>> - defence sector category, also at Creamer Media's Research Channel and <<http://www.defenceWeb.co.za>>

⁷⁵⁴This form of table is also referred to as a 'multivariate table' by Babbie and Mouton, 2006

Table16: The SDP's DIP Commitment and Performance Table							
Project	Year	Obligation Rm	Planned performance Rm	Actual performance Rm	DIP categories of performance Rm		
					Sales & export	Transfer of technology	Investments
Meko A200 corvettes, Germany SANDF Project: 'Sitron' Note 1: Missile obligation (MBDA) split between Platform (GFC) and Combat Suite (TNF). New DIP Agreement with MBDA; discharge in 2016 and milestones rescheduled. Excess under GFC and TNF transferred to their Pro-actives.	2004/5	2 941	1 632	1 595	1 241	348	6
	2005/6	2 941	1 763	1 716	1 319	390	7
	2006/7	2 941	1 979	1 950	1 423	501	26
	2007/8	2 941	2 274	2 085	1 539	520	26
	2008/9	2 941	2 460	2 169	1 623	520	26
	2009/10	2 941	2 094 (Note 1)	1 995	1 505	464	26
		The DIP penalty was 7,5% of the platform's contract price and 10% on the imported content price of the Combat suite					
Herione Type A209 Class submarines, Germany SANDF Project: 'Maulstick' Note 2: Excess credits transferred to pro-active.	2004/5	1 121	703	609	576	34	0
	2005/6	1 121	717	660	612	48	0
	2006/7	1 121	746	741	639	95	7
	2007/8	1 121	877	997	752	237	8
	2008/9	1 121	1 121	1 239	867	364	8
	2009/10	1 121	1 121	1 121 (Note 2)	749	364	8
		The DIP penalty was 10% of the Contract Price					
Agusta A 109 , light utility helicopter, Italy SANDF Project: 'Flange' Note 3: Completed in advance of the contractual discharge period	2004/5	1 194	943	710	356	324	30
	2005/6	1 194	1 035	905	548	325	32
	2006/7	1 194	1 194	1 194	676	487	31
		The DIP penalty was 10% of the Contract Price					
Hawk 100 aircraft (LIFT), The UK SANDF Project: 'Winchester' Note 4: Completed in 2009 as contractually agreed	2004/5	4 252	2 358	2 221	1 922	292	7
	2005/6	4 252	2 843	2 769	2 289	463	17
	2006/7	4 252	3 616	4 001	3 195	789	17
	2007/8	4 252	3 978	4 265	3 275	973	17

Table16: The SDP's DIP Commitment and Performance Table							
Project	Year	Obligation Rm	Planned performance Rm	Actual performance Rm	DIP categories of performance Rm		
					Sales & export	Transfer of technology	Investments
(The SAAF refers to their model as the Mk120)	2008/9 (Note 4)	4 252	4 252	4 252	3 262	973	17
		The DIP penalty was 10% of the Contract Price					
Gripen JAS39 aircraft (ALFA), Sweden SANDF Project: 'Ukhozi' Note 5: Certain TT credits transferred to DTI annually as per agreement. Note 6 : Completed in 2011 as contractually agreed	2004/5	5 050	1 864	2 459	932	1 385	141
	2005/6	5 050	2 459	3 130	1 209	1 750	171
	2006/7	5 050	3 130	3 383	1 461	1 750	172
	2007/8	5 050	3 241	3 765	1 768	1 825	172
	2008/9	5 050	4 056	4 012	2 022	1 817	173
	2009/10	5 050	4 398	4 157	2 234	1 750	173
	2010/11 (Note 6)	5 050	5 050	5 050	3 184	1 693 (Note 5)	173
		The DIP penalty was 10% of the Contract Price					
Super Lynx maritime helicopter, UK/Italy SANDF Project: 'Wills' Note 7: Completed in 2011	2004/5	550	80	93	93	0	0
	2005/6	553	117	103	103	0	0
	2006/7	553	188	149	118	29	2
	2007/8	553	250	201	170	29	2
	2008/9	553	374	292	258	31	3
	2009/10	553	514	388	354	31	3
	2010/11 (Note 7)	553	553	553	519	31	3
		The DIP penalty was 10% of the Contract Price					
Total Note 8: Under-performance due to Note 1 under corvettes.	2004/5	15 108	7 580	7 687	5 120	2 383	184
	2005/6	15 111	8 934	9 283	6 080	2 976	227
	2006/7	15 111	10 853	11 418	7 512	3 651	255
	2007/8	15 111	11 814	12 507	8 180	4 071	256
	2008/9	15 111	13 457	13 158	8 708	4 192	258

Table16: The SDP's DIP Commitment and Performance Table							
Project	Year	Obligation Rm	Planned performance Rm	Actual performance Rm	DIP categories of performance Rm		
					Sales & export	Transfer of technology	Investments
Note 9: The DIP figure presented to Cabinet in August 1999 was R15 326 – this is because the LUH number was for 40, but eventually only 30 were ordered.	2009/10	15 111	14 573	13 107	8 780	4 069	258
	2010/11	15 111 (Note 9)	14 264 (Note 8)	14 165	9 895	4 012	258

(Source: Armscor Annual reports between 2004 and 2013, and Burger, 2014)⁷⁵⁵

Note (i): Armscor (2012⁷⁵⁶, Burger, 2014) indicated that with regard to the corvette DIP, a value of R 949 million related to MBDA's portion of the obligation remains the only outstanding portion of the total obligation that is to be discharged by March 2016. The penalties are quoted from the JIT Report (AG, 2001:362)

Note (ii): The Armscor 2012/13 Annual Report reflected the DIP figures as follows:

- **Obligation** – R 15,111 billion
- **Actual performance** – R 14,178 billion - the 2010/11 account was R 14,165 billion (the additional R 13 million is accrued under 'investments')
- **Sales and export credits** – R 9,894 billion – the 2010/11 account was R 9,895 billion
- **Technology transfer** – R 4,013 billion – the 2010/11 account was R 4,012 billion
- **Investments** – R 271 million - 2010/11 account was R 258 million. The additional R13 million came from R12 million on the corvettes and R 1 million from the LUH programmes
- **Transferred to DTI** – R 151 million (Saab Gripen) (Burger, 2014⁷⁵⁷ – cf. Appendix F)

⁷⁵⁵ DIP performance related to the SDP up to 2010/11 (Source: Armscor Annual reports) – table was verified for correctness and completeness by Armscor's DIP Division on 25 Oct '11 – as reported on by Armscor in its Annual Reports up to 2010/11

⁷⁵⁶ cf. <<http://www.armscor.co.za...>> 'what is DIP?'

⁷⁵⁷ cf. <http://www.armscomm.org.za/hearings/...>

10.3 Defence Industrial Participation Manifestations in Practice in Relation to the Strategic Defence Package Obligations

The respective OEMs and their foreign sub-contractors engaged in the following types of DIP activities with various SADI companies. The information was extracted from various Armscor and DOD annual reports, and several *DefenceWeb*, other media and *Engineering News* articles on the SADI and the SDP (*cf.* Appendices F and G).⁷⁵⁸ However, no detailed, comprehensive information could be obtained on the exact commercial nature and content or value of every DIP-related activity, its economic benefits (particularly with regard to its profitability and sustainability, nor to contra-investments, jobs, etc).⁷⁵⁹ This is owing to the legal constraints posed by the various non-disclosure agreements.

It was a condition of the SDP tenders (*cf.* AG, 2001; De Beer, 2014) that the bidder had to identify suitable SADI companies and conclude a memorandum of agreement (MoA) with each, ensuring that both parties were willing to execute the nominated DIP activities. This agreement was submitted as part of the respective DIP business plan used primarily as some means to ensure that no ‘fictitious activities’ had been made up (the DIP evaluation process is explained in chapter 8; *cf.* Appendix D). The DIP business plans⁷⁶⁰ were subsequently incorporated as an integral part of the DIP Terms (agreement, *cf.* Appendix E) of the successful bidders (*cf.* Griesel, 2013; De Beer, 2014; Burger, 2014).

When selecting the local SADI companies as DIP recipients, the foreign OEMs used certain international qualification standards, such military standards (called

⁷⁵⁸Further substantiating records can be found under Dr Richard Young's 'Arms Deal Virtual Press Office' – *cf.* <<http://www.armsdeal-vpo.co.za>>, and <<http://www.defenceWeb.co.za>> and <<http://www.engineeringnews.co.za>>...defence sector category

⁷⁵⁹During my term of office in Denel, 2001-2009 I had direct access to such information and actually maintained a comprehensive progressive record on progress, problems, jobs and profitability – alas due to commercial confidential constraints I am not allowed to use this information and related statistical data

⁷⁶⁰This DIP business plan is not a comprehensive commercial business plan one would normally expect. It was, instead, an innovative abbreviated one pager (per DIP activity) that I designed in such a manner that would enable the DIP evaluation. Each individual DIP activity would be recorded individually. It would then also serve as appendices to the DIP agreement. This had worked extremely well and is seemingly presently still in use as such (e.g. the Armscor tenders for the Oryx upgrade 2008/9, and in c.2010/11 Package, Teamster and Blesbok have reference, with the HF and Package II tenders of 2013/14. According to the 2012/13 Armscor Annual Report, except for one contract for SAPS pistols, no new DIP agreements were signed since 2011, because there were no further major acquisitions/procurements done. However the 2013/14 Annual Report makes reference to some 16 DIP agreements still active with an outstanding commitment of R131 million – do details provided. On the SDP DIP it is only the BMDA portion that remains due for 2016

'milspecs'), aeronautical standards and ISO 9000 series standards (*cf.* Armscor, 2005).

The following is a summary of the most important areas of each of the six SDP programmes' involvement with the SADI. Between 2000/1 and 2011/12, Armscor annual reports included only brief progress reports on the delivery of the main equipment and the associated DIP discharge progress. The 2012/13 Armscor Annual Report noted that all the SDP main equipment had been delivered. The only outstanding item was the anti-ship missiles (the Exocet from MBDA). In the testimonies to the APC of several navy and air force officers and Armscor officials, certain declassified information surfaced regarding DIP.⁷⁶¹ Some of this information is covered under each of the equipment types commented on below.

10.3.1 Meko A200 Valour Class patrol corvettes

Considering Table 16 above, the DIP-related activities stemming from the German Frigate Consortium's (GFC) DIP commitment of R 2,941 billion are summarised below. There were two sets of DIP Terms – one for GFC and the other for Thompson-CSF, France (*cf.* Burger, 2014⁷⁶², *cf.* Appendix E that contains the GFC part).

The total amount was discharged as follows: R 1,505 billion in the form of work packages (both direct and indirect⁷⁶³), R 464 million in technology transfer and R 26 million in the form of investment. In the 2012/13 Armscor Annual Report, an additional R 12 million investment was recorded.

The DIP transactions occurred in primarily the defence electronics sector as the combat suite made up 60 per cent of the DIP commitment and the platform 10 per cent. The single biggest prime sub-contractor (incorporated into the Corvette Consortium) was ADS/Thompson, contacted for the complete combat suite. SADI companies such as Grintek (later Saab Grintek), Siemens and Bartel⁷⁶⁴ (non SADI

⁷⁶¹ *cf.* <<http://www.armscomm.org.za/hearings/...>>

⁷⁶² *cf.* Part one and two of Burger's evidence pack - <<http://www.armscomm.org.za/hearings/...>>

⁷⁶³ Indirect DIP meaning primarily exports of defence goods

⁷⁶⁴ Although this activity was marred by the delivery of faulty cables that were manufactured by its sub-contractor, Bartel, most of the work was completed to the satisfaction of the GFC (and Armscor/SA Navy) - *cf.* Mail and Guardian, 10/1/2003

specific entities), Reutech Radar Systems, CCIL, Plessey, Denel Dynamics, Denel LIW and Denel PMP (for all the weapons systems) received sub-contracts under the combat suite contract. Mechanical and electro-mechanical auxiliary equipment for the platform comprised air conditioning systems (Boyco), diesel engines (MTU), gearboxes (Gear Ratio, OMC), and specially designed controllable pitch propellers (Hyflo) (cf. Appendices F and G, also Armscor Annual Report 2004/5 – Armscor, 2005).

With regard to the combat suite, R 948 million related to MBDA's (France) portion of the obligation, remains outstanding as a result of the later decision to procure the Exocet surface-to-surface missile (Armscor, 2012; Burger, 2014). The MBDA obligation is reported to be discharged by March 2016 (Burger, 2014). The MBDA DIP commitments (Appendix F) entail the Royal Navy's use of the Armscor dock yard at Simons Town, a transformation revitalisation programme for this dock yard, and exports of Denel Dynamics products (no details provided – Armscor, 2012; Burger 2014).

Armscor's dock yard at Simons Town is being charged with providing full maintenance support to all the navy's vessels. However, the 2012/13 Armscor Annual Report states that this facility is underfunded and lacks the capability to provide the support the navy requires. In March 2013 one corvette had to dock for unscheduled repairs due to collision damage (no details provided); another corvette required repairs to its clutch system. There was also a faulty engine that had to be replaced due to overheating, since the cooling agent was not adequate to cater for the much warmer waters off South Africa compared with the North Sea (cf. Schoultz⁷⁶⁵, 2013). Another corvette docked for scheduled maintenance. Armscor reported that all these tasks were carried out successfully.

With regard to sustainability, all the SADI entities that provided products and sub-systems to the corvettes will for their operational life be tasked periodically for product specific maintenance, repairs, upgrades and replacements. For example, ten years later MTU reports continued growth of its business portfolio.⁷⁶⁶ As a

⁷⁶⁵ Admiral Philip Schoultz, Flag Officer SA navy testifying at APC 20-22 Aug 2013 – cf. <<http://www.armscomm.org.za...>>

⁷⁶⁶ cf. <<http://www.engineeringnews.co.za/article/MTU...2011-09-22>>

consequence of Denel Dynamics providing its surface to air missiles (the Umkhonto) to the SA navy, it received a contract from the Finnish navy against competitors like Raytheon, USA and MBDA, France. This put Denel Dynamics in a position to develop the search head technologies on the Umkhonto so that it to be used for low-incoming surface missiles, a highly successful outcome (Schür, 2014). Kammerman (2014), testifying at the APC, indicated that various parts of the platform that were produced in SA, such as the rudders, masts and hydraulics, are still ordered by Thyssen-Krupp, Germany for use in their export corvettes.

10.3.2 Herione Class 209 Type 1400 MOD submarines

The DIP-related activities stemming from the German Submarine Consortium (GSC) DIP commitment of R 1,121 billion are summarised below.

The above amount was discharged as follows: R 749 million in the form of work packages (both direct and indirect), R 364 million in technology transfer and R 8 million in the form of investment.

The DIP transactions occurred primarily in the defence electronics sector with companies such as Denel Optronics (later Carl Zeiss Optronics, now Cassidian), Grintek, Siemens KZN and Tellumat. Electro-mechanical activities involved, for example, 40 mm fuses (discussed below). Flight test work for the German Air Force was performed at Denel OTR⁷⁶⁷ (cf. Appendix F; Armscor, 2005).

Vermeulen, the submarine project manager at Armscor, testified⁷⁶⁸ at the APC (2013) that the attack periscopes and optronics mast were supplied by Denel Eloptra (later Carl Zeiss Optronics now Cassidian). Siemens KZN supplied the electrical distribution units. MTU received technology to maintain engines. PERTEC/IMTEC received technology for diagnostics and re-engineering of the navigation data management centre, steering stand and battery monitoring systems. The CSIR received technologies related to test infrastructure, cylindrical transducer array adaptation and production and its support. CYBICOM ATLAS DEFENCE received

⁷⁶⁷Business Day, 22/4/2002

⁷⁶⁸Rob Vermeulen used an array of highly marine naval technical terms and acronyms – not all had been explained – cf. <<http://www.armscomm.org.za/hearings/...>>

technology for the 'CIC simulator' and for software development related to man-machine-interfaces, also for the weapons control unit and 'Depth C/D' maintainer capabilities for the 'ISUS 90-45 Combat Management System', including maintaining the system. Grintek Communications manufactured and installed the external communication system and provided ILS elements with technical handbooks, training and spares. Grintek Avionics (later Ewation, now also part of Cassidian) manufactured and installed Electronic Support Measures (ESM), part of the Electronics Weapon (EW) suite. Simons Town Dockyard was the recipient of the Inertial Navigation System (INS) workshop facilities to facilitate the on-board sensors. All the above involved intensive training undertaken over a period of 18 months. Vermeulen (2013) viewed the above transactions as positive results brought about by the DIP, and Gerber (2014) indicated that Saab Grintek had been selected by HDW, Germany, to supply all future 'ESM' export systems for their corvettes/frigates.

Following the commissioning and delivery of the three submarines, Armscor began implementing a number of engineering changes for operational and safety reasons. These were excluded from the original supply scope owing to budget restrictions (Armscor 2013:32). Maintenance and refit work is done by the Armscor dock yard at Simons Town. Schoultz (2013) notes that there were faulty battery systems that had to be replaced.

With regard to sustainability, the same argument given for the corvettes applies here, particularly considering the host of capabilities that had been established in the SADI (Vermeulen, 2013). Tellumat received a technology transfer to enable its Laingsdale Engineering subsidiary (since sold to Reihnmetall AG, Germany and Reihnmetall Denel Munitions⁷⁶⁹) to manufacture Junghans (Germany) self-destruct fuses for 40 mm grenades (locally produced by Denel). The significance of this lies in the improved export marketability of these grenades as they became compliant with the Wassenaar Agreement that requires certain types of ammunition be fitted with self-destruct fuses.⁷⁷⁰

⁷⁶⁹cf. <<http://www.defenceweb.co.za/...>>

⁷⁷⁰When Reihnmetall acquired 51% of the ailing Denel in 2008 — forming Reihnmetall Denel Munitions — the accumulated loss was R 414 million. Five years later, the company posted a R1.4bn profit — cf. *Business Day Live*. 6 Feb, 2014

10.3.3 Agusta Power A109 light utility helicopter

The DIP-related activities stemming from the Agusta Westlands (AW) DIP commitment of R 1,121 billion are summarised below.

The amount was discharged as follows: R 676 million in the form of work packages (both direct and indirect), R 487 million in technology transfer and R 31 million in the form of investment. An additional R 1 million in investments was reported in the 2012/13 Armscor Annual Report.

DIP work entailed licenced manufacturing of 25 helicopters by Denel Aviation (later Denel Aerostructures). This included the manufacturing of the French Turbomeca⁷⁷¹ engine and gear box.⁷⁷² Optronics was supplied by Denel Eloptro. Electronics-related work was carried out by companies such as Grintek, ADS/TDS (for the A109 flight simulator),⁷⁷³ Tellumat and Chelton. Futuristic Business Solutions (FBS) supplied certain logistic support elements and the CSIR (Aeroflo) manufactured the sand filters⁷⁷⁴ for the air intakes (*cf.* Appendix F).

Subsequent to the delivery of these helicopters, a cabin mounted gun, improvements to the communications system and cabin rails and tie-downs were added (Armscor, 2013). Denel Aerostructures built the majority of the helicopters, and TMA supplied the engines and gearboxes: this guaranteed these companies on-going work. The same applied to the other SADI entities involved at various product and sub-system levels.

The fact the Denel Aerostructures had been involved in the manufacturing of the airframes, the modifications/additions as alluded to in the above Armscor report, would not have been possible without the involvement of Agusta, Italy. Denel Aerostructures years ago acquired substantive capabilities to manufacture composite main rotor blades for the Oryx and the Rooivalk, resulted in them

⁷⁷¹ As stated in chapter seven, Turbomeca of France acquired a 51% equity stake in Denel Airmotive to form Turbomeca Africa (TMA)

⁷⁷² Business Day, 19/2/2003 and <<http://www.iafrica.com>>

⁷⁷³ ADS previously designed and built the cockpit procedural trainer for the Pilatus PC 7 as well

⁷⁷⁴ This technological capability was acquired by the CSIR (used during the time the Pumas and later the Oryx operated in the sandy and dusty environments of Namibia and Angola – source the author who started his career in Armscor's Aircraft and Helicopter division in 1980) – *cf.* <<http://www.issafrica.org/Pubs/ASR/5No5/Cilliers.html>>

producing these blades for the SAAF A109, and exporting same to Agusta, Italy (Schür, 2014; AMD 2014).

10.3.4 Hawk 100 aircraft (SAAF model Mk120)

DIP-related activities stemming from the BAE Systems (BAES) DIP commitment of R 4,252 billion are summarised below.

This amount was discharged as follows: R 3,262 billion in the form of work packages (both direct and indirect), R 973 million in technology transfer and R 17 million in the form of investment.

DIP packages involved mechanical and electro-mechanical work, such as engine and gearbox work by TMS, airframe parts by Denel Aviation (later Denel Aerostructures) and Aerosud,⁷⁷⁵ and armoured vehicle export production by OMC (then owned by BAES Land Systems, now sold to Denel). Electronics-related DIP work was undertaken by, for example, AMS, Tellumat and Grintek. ATE was a major supplier (DIP beneficiary)⁷⁷⁶ in this process and responsible for the complete avionic suite⁷⁷⁷ (cf. Appendices F and G).

Brig Gen John Bayne (2010) of the Makhado SAAF base, reports⁷⁷⁸ that 85 per cent of all the maintenance work on the Hawks is done locally; this saves the country a considerable amount of foreign exchange. Bayne attributes this saving to the offsets programme (i.e. DIP), which empowered local industry to support the SAAF. On the Hawk, 65 per cent of the maintenance is done by the SAAF, 20 per cent by the SADI and the balance overseas. On the Gripen, the SAAF can attend to 50 per cent of the maintenance work and the SADI to 15 per cent; the balance will be attended to abroad. Bayne (*ibid*) noted that the technology transfer on both aircraft was

⁷⁷⁵Aerosud, which was initially not a major beneficiary under the DIP programme, is today one of the main beneficiaries under it and has become fully entrenched in the Airbus and Boeing supply chains, also on the NIP side. The company had to expand to meet this increase in demand, and further expansion is reportedly imminent, which not only earns more foreign currency for the country, but is also creating more jobs than anticipated

⁷⁷⁶As pointed out in chapter seven, BAE at the time held 25% shares in ATE. (Bayne, 2013). ATE had been a major DIP participant in the Hawk programme ATE later bought out BAES (c. 2003) and during 2007/8 planned to form a JV with Denel on UAV products, but this never happened. cf. *Engineering News*, 22 February 2008

⁷⁷⁷The scope of this avionics suite is contained in the SAAF's Staff Target 1/98 dated 20 February 1998 – see evidence pack of the former Chief of the SAAF, Lt. Gen (ret) W. Hechter page 50 – cf. <<http://www.arsmcomm.gov.za/hearings/...>>

⁷⁷⁸*Engineering News*, 7 October 2010

'significant' and on the Gripen included radar, fly-by-wire and full digital engine control systems.

With regard to the sustainability of the Hawk's DIP, Denel PMP acquired the licence from BAE Systems to produce the ammunition (30mm) for the Hawk's cannon: this ammunition is now exported worldwide.⁷⁷⁹ PMP also acquired rights for the ejection seat cartridges for both Hawk and Gripen (these cartridges are 'shelf-life-expire' items and need to be replaced continuously). During 2013, ATE⁷⁸⁰ was on the brink of financial collapse and bought by the Paramount Group of South Africa.⁷⁸¹ This event caused the repository of the air force's air craft avionics design, manufacture and maintenance technology to be retained. The Hawk's 'mission design authority' technology was transferred to Denel, which allows all kinds of weapon systems integrations to be undertaken (Ferreira, 2013). Denel furthermore understands the Hawk's airframe as it was responsible for its assembly (*cf.* AMD, 2014). This puts Denel in a position to carry out maintenance and any modification work that may be required. Another sustainability success is the DIP work that was contracted to Aerosud. Aerosud received business improvement technology transfer from BAE Systems with several follow-on orders from both Airbus and Boeing, which continue ten years later. Aerosud is also the only non-European parts manufacturer for the Eurofighter Typhoon⁷⁸² (*cf.* Eliasson, 2010; AMD, 2014).

BAE Land Systems received orders for armoured personnel carriers from the US Army,⁷⁸³ since it was majority owned by BAE Systems, that also had a partnership in the US. Armoured vehicles were also exported to Finland, Ireland and Sweden. Agusta was responsible for an export order for the Italian armed forces. However, the US' withdrawal from Iraq since 2009, and partly from Afghanistan⁷⁸⁴ saw an end to the order stream. BAE Land Systems (OMC) was bought by Denel in 2013. Denel now boasts a repository of armoured vehicles and mine-resistant, ambush-protected manufacturing technologies and capabilities, including heavy calibre weapon

⁷⁷⁹ *Engineering News*, 22 Feb 2008

⁷⁸⁰ *cf.* <<http://www.defenceWeb.co.za>>. ATE, part of the local SA defence industry for 27 years, fell victim to the harsh economic conditions and was bought over by the Paramount Group mid-2013.

⁷⁸¹ Paramount Advance Technologies, the largest privately owned defence and aerospace business in Africa, originally established in 1994 - *cf.* <<http://www.paramountgroup.biz>>

⁷⁸² This contract valued at around R 138 million ran for six and a half years – from mid-2006 till early 2013 - *cf.* <<http://www.southafrica.info/business/trade/export/aerosud-110806.htm#VCZ2rvmSxqU>>.

⁷⁸³ *cf.* *Financial Mail*, Oct 19-Oct 24, 2012

⁷⁸⁴ *Washington Post*, 29 May 2014

systems (e.g. Olifant, Rooikat, G5 and G6). Over and above the international exposure OMC received during the BAE 'reign', it will now be used by Denel for the manufacture (under licence from Patria, Finland) of the new generation infantry fighting vehicle (the Badger).⁷⁸⁵

10.3.5 Gripen JAS39 aircraft

The DIP-related activities stemming from the Gripen, supplied by Saab, Sweden were committed by Saab in partnership with BAES, which in this instance was the main DIP obligor. This was as the result of the aircraft 'tranching'⁷⁸⁶ proposal accepted by government (AG, 2001).

DIP-related activities stemming from the BAE Systems (BAES) DIP commitment of R 5,050 billion are summarised below.

This amount was discharged as follows: R 3,184 billion in the form of work packages (both direct and indirect), R 1,693 billion in technology transfer and R 173 million in the form of investment.

During the DIP discharge period, Denel Aerostructures was tasked with several production export contracts for the NATO standard pylons, rear fuselage and the main landing gear for the Gripen aircraft. The company reported that it had at that stage (c. November 2010) already exported 100 ship sets, comprising the main landing gear and the rear fuselage section.⁷⁸⁷ The company was also contracted to manufacture twenty Agusta A109 airframes for Sweden, with follow-on orders for twelve export A109 airframes for the Nigerian Air Force and at least an additional 100 main rotor blade sets and rotor-heads for the export market. In addition, the company secured Hawk airbrake, flaps and tail plane manufacturing contracts for export to Bahrain, India and the UK (AMD, 2014).

⁷⁸⁵cf. <<http://www.defenceWeb.co.za>...> 11 August 2014. I am of the opinion that this transaction has everything to do with the award of the Badger (Hoefyster) contract of R 8 billion to Denel in October 2013. Reason being that the vehicle platform from Patria, Finland would have been built locally by BAE Land Systems as part of Patria's DIP obligations under this contract. Denel LIW builds the turret and the weapons systems – the latter now successfully sold to Malaysia – this activity is over and above the range of other products OMC developed, exported and/or upgraded and maintained for the SA Army

⁷⁸⁶In order to make the LIFT and ALFA programmes affordable, BAES devised a 'clever' three tranching model, which enabled the DOD to procure both aircraft (AG, 2001) to be delivered in three batches

⁷⁸⁷Engineering News, 3 May 2001

DIP activities included a major skills transfer activity,⁷⁸⁸ referred to as the 'STTP' (skills transfer and technology programme, cf. Armscor Annual Report 2004/5 - Armscor, 2005; also Eliasson, 2010). Saab established this STTP in 2002/3, which included a design and development centre for systems and air frames⁷⁸⁹ to the value of SEK 2,8 billion.⁷⁹⁰ In 2008, it was reported that since the launch of this STTP, skills and technology transfer training had been provided to 100 South African engineers and manufacturing staff. All had been seconded to Saab's factory in Sweden for a long term (two years) and short-term (2-3 months) period.⁷⁹¹ (Appendix F shows that DIP credits of USD 14,7 million were granted for this specific activity). However, the Armscor Annual Report of 2008/9 (Armscor, 2009) noted that owing to the financial constraints of the DOD, this specific facility was under-utilised. Marketing its capabilities and capacity to foreign entities is also proving difficult owing to the highly classified nature of the work that can be undertaken.

However, the STTP later contributed to Denel Aerostructures being awarded part production share in the Airbus A400M military cargo aircraft. Denel Aerostructures is the only Tier 1 supplier of manufactured parts to the A400M outside Europe. In June 2014, Airbus Military placed a third multimillion-rand contract with the company announced during the Paris International Air Show.⁷⁹²

In 2005/6 Saab engaged with Denel and the Department of Public Enterprises (DPE), with a view to Saab acquiring an equity stake in Denel Aviation.⁷⁹³ The equity was set at an initial 20 per cent (approximately USD10 million),⁷⁹⁴ but was anticipated to grow into a majority share. The new company was called Denel Saab Aerostructures. Saab also required a ZAR 1,6 billion indemnity from the South African government on the 'risky' Airbus A400M work.⁷⁹⁵ However, Saab withdrew from this partnership in 2011, although no information is available on the exact

⁷⁸⁸At the time I was involved in processing the Saab DIP claim and subsequently witnessed the process of first dividing the former Denel Aviation into a MRO facility and restructuring the manufacturing part as Denel Aerostructures. Saab bought a small equity stake into Denel Aerostructures. In this process the design centre fell between the cracks as it was a costly capability to maintain without the prospect of turning profitable business – it nevertheless proved quite useful in the A400M project

⁷⁸⁹cf. <<http://www.saabgroup.com...>>

⁷⁹⁰Defence.professionals GMBH, 2008

⁷⁹¹cf. <http://www.saabgroup.com/.../Gripen_successStory_SA.pdf>

⁷⁹²DefenceWeb, 1 October 2013. 'Denel excited about company's role in Airbus A400M airlifter to French air force...'

⁷⁹³cf. <<http://www.saabgroup.com...>>

⁷⁹⁴DefenceWeb, 4 June 2012 – cf. section 10.6.3 for a more detailed discussion

⁷⁹⁵cf. <<http://www.polity.org.za>> - 27 February 2009

details of this exit transaction (*cf.* Saab, Sweden Interim Report for January to June 2011).⁷⁹⁶

Denel Aerostructures benefitted substantially by being exposed to the standards of international companies who were manufacturing aircraft and helicopters (UK, Italy, Sweden and Germany). Being exposed to different technologies and training under the various DIP programmes, resulted in Denel dramatically changing the way it approached manufacturing. The process resulted in lean, modern manufacturing practices, which put the company on a path to financial recovery (Schür, 2014).

Denel OTR (near Bredasdorp) was tasked with various Gripen flight tests via Denel Aerostructures – the DIP value is given as USD 2,4 million (*cf.* Appendix F). OTR also received work under the submarine programme as a result of Ferrostaal securing a test flight contract for the German Tornados – the value of this contract was Euro 4,7 million.

Since 2003, Denel Optronics secured contracts for its helmet-mounted display/tracking system (HTS) for Gripe. This eventually led to an export contract in May 2007 to the value of R 200 million for the Eurofighter-Typhoon aircraft.⁷⁹⁷ Some 700 units of the HTS were reported to have been manufactured over a four- to five-year period. Denel Optronics is a pioneer in head-tracker systems, having designed and produced operational pilot helmet-mounted sighting and tracking systems in the early 1970s. Evaluations have shown the Denel system to be superior to any other similar system available in the world.⁷⁹⁸ Because of the much protected European Union's approach to its defence industrial base, it is extremely difficult for other suppliers to enter this market. Without the Minister of Defence's 'vision' (*cf.* chapter 8) of securing access to this market through the SDP partnering with European companies, it is unlikely that a non-European company would have been allowed to supply such sophisticated equipment to this market.

The CSIR was put in a position to obtain much needed technical information on the Saab/Ericsson, Swedish-produced PS-05A long-range radar. Tactical simulation

⁷⁹⁶*cf.* <<http://www.slideshare.net/SaabGroup/saab-interim-report-january-june-2011>>

⁷⁹⁷*Business Day*, 1 June 2007

⁷⁹⁸*Engineering News*, 15 June 2007

development of digital models and data links for radar warning receivers were also linked to the CSIR's virtual ground-based air defence system demonstrator (in collaboration with Denel Dynamics). This DIP activity put the CSIR in a position to help develop a local capability to understand the Gripen's complex digital flight control system in order to integrate the Denel manufactured 5th generation air-to-air A-Darter missile system.⁷⁹⁹ Without this, specifically Denel Dynamics and Aerostructures would not have been in a position to develop a local weapons design and integration programme to these levels of technological sophistication.

Denel's munitions group (PMP) received a number of major contracts from BAE Systems⁸⁰⁰ to export brass parts and components for ammunition production in the UK. At that stage, this was the largest single contract ever awarded to PMP in its 68-year history. This occurred in late 2006 and amounted to R 296 million (Appendix F indicates a value of USD 28 million).

Saab also secured equities, first in Grintek Avitronics, then in Grintek Holdings, and acquired AMS (discussed in chapter 7). Saab Grintek is reported to be engaged with Grintek in developing a civil aircraft missile protection system. DIP was reported to have boosted the former Avitronics' turnover with USD 16 million.⁸⁰¹ Saab Grintek is Saab, Sweden's biggest operation outside Sweden,⁸⁰² and employs 1 064 people with a turnover of R1,4 billion – 60 per cent of which came from exports (2011 figures). It has become a manufacturing base for the Swedish group in Africa, supplying and serving countries in East, West and Southern Africa. It is developing markets in Asia, Latin America and Europe. Saab South Africa will be supporting the SAAF Gripens throughout their life-spans (30 to 40 years). The company employs highly skilled technical staff and approximately 10 per cent of its turnover is re-invested in R&D.

According to the AMD DIP review (2014),⁸⁰³ Saab Grintek also secured orders for submarine radar warning receivers for Greek, Portuguese and South Korean submarines and electronic support measures (ESM) systems for German navy mine-

⁷⁹⁹ cf. <<http://www.csir.co.za>> - Denel has been involved in a co-development programme on the A-Darter with Brazil

⁸⁰⁰ Sunday Argus, 8 Oct 2006

⁸⁰¹ Engineering News, 6 June 2003

⁸⁰² cf. <<http://www.saabgroup.com...>>

⁸⁰³ cf. <<http://www.amd.org.za...>>

hunters. As owners of the former AMS, it also secured export contracts to provide Health and Usage Monitoring Systems (HUMS) for the 22 Hawks operated by the NATO Flying Training Centre in Canada, the 33 Hawks acquired by the Royal Australian Air Force, the 44 Hawks of the Royal Air Force and the 66 Hawks for the Indian Air Force. HUMS will be a standard feature in all future Hawk orders. Saab Grintek's DPSS and the radar divisions participated extensively in system design and optimisation of the Gripen radar and electronic warfare systems to meet contracted specifications of the SAAF. These upgrades are now an integral part of the Gripen C/D in service with the Swedish, Hungarian, Czech and Thai air forces. Gerber (2014) indicated that Saab Grintek will also supply all microwave components and sub-systems for all future Gripens.

During 2007, Armscor commenced with the weapons integration design process that entailed using the A-Darter that was co-developed with the Brazilian air force. The integration of this missile and reconnaissance pod onto the Gripen was completed in 2012 (Armscor, 2013:33). Without the technologies received from BAE Systems and Saab this would not have been possible.

10.3.6 AW Super Lynx 300 Mk64 maritime helicopter

DIP-related activities stemming from the Agusta Westland (AW)⁸⁰⁴ DIP commitment of R 553 million are summarised below. This amount was discharged as follows: R 519 million in the form of work packages (both direct and indirect), R 31 million in technology transfer and R 3 million in the form of investment.

The DIP-related activities stemming from the figure above were mainly in Grintek's and Denel Optronics' electronics sectors. Not many DIP activities lent themselves to this sector. Aerosud was contracted to supply engineering services for the infrared suppression system and armoured crew seat for the Lynx helicopter, while Saab Grintek was contracted to supply electronic warfare equipment. Through their co-operation with Agusta-Westland Helicopters, Aerosud and Saab Grintek appear to be the preferred suppliers of this equipment and also for the export market.

⁸⁰⁴The Lynx was initially offered by GKN Westland, UK, which was later (2001) bought by the Italian Finmeccanica Group, incorporating the maritime helicopter business with Agusta, becoming Agusta Westland (AW) - cf. <<http://www.agustawestland.com>>

Otherwise funding was provided for a new material cutting machine needed for local manufacturing of tents and canvas items – no detail could be secured on this in any of the testimonies made to the APC (except for the fact it was only mentioned by Griesel (2013) as part of his evidence pack) and no specific ‘official’ information on this programme was offered and thus remains obscure. The maritime helicopter was contracted later after it went through exactly the same process of selection and contracting as the rest of the SDP equipment.

Table 17 (below) shows the spread of industrial activities across the various types of equipment and demonstrates the industrial productive impact that DIP had over a period of some 12 years.

Table17: DIP categories of productive industrial contribution over the period from 2000 till 2012

Assumptions of SDP's DIP impacts on productive industrial economic activities in respect of manufacturing are as follows, based on a face value review of the type of DIP activities recorded – there is no official Armscor data on this specific subject published:		%	Only considering the category: Sales & exports - in Rand million
Meko A200 corvettes, Germany			1 505
	Mechanical	35	527
	Electronics (optronics, electro-optical and electrical)	60	903
	Electromechanical	5	75
Herione A209 submarines, Germany			749
	Mechanical	15	112
	Electronics (optronics, electro-optical and electrical)	70	750
	Electromechanical	10	75
	Flight test	5	37
Agusta Power A 109 light utility helicopter (LUH), Italy			676
	Mechanical	65	439
	Electronics (optronics, electro-optical and electrical)	34	230
	Electromechanical	1	7
Hawk 100 aircraft (LIFT), the UK:			3 262
	Mechanical	50	1 631
	Electronics (optronics, electro-optical and electrical)	40	1 305
	Electromechanical	5	163
	Flight test	5	163
Gripen JAS39 aircraft (ALFA), Sweden			3 184
	Mechanical	45	1 433
	Electronics (optronics, electro-optical and electrical)	45	1 433
	Electromechanical	5	159
	Flight tests	5	159

Table17: DIP categories of productive industrial contribution over the period from 2000 till 2012

Assumptions of SDP's DIP impacts on productive industrial economic activities in respect of manufacturing are as follows, based on a face value review of the type of DIP activities recorded – there is no official Armscor data on this specific subject published:		%	Only considering the category: Sales & exports - in Rand million
Super Lynx Mk64 maritime helicopter (MH), Italy/UK (Agusta Westland)			519
	Mechanical	35	182
	Electronics (optronics, electro-optical and electrical)	60	311
	Electromechanical	5	26
Total amounts as direct productive economic activities that translate into the following:			9 895
	Mechanical	40	3 958
	Electronics (optronics, electro-optical and electrical)	50	4 948
	Electromechanical	5	495
	Flight tests	5	495
Expressed in terms of Gross National Product, the following analysis is made:			
GNP - direct impact			6 142
NGP - indirect impact			4 568
GNP - induced impact			7 484
Total GNP impact			18 194
Transfer of technology, which include training, data packs, production manuals, IPCs and technical drawings – not possible to define in all cases. On the LUH credits were granted for licences, and on Gripen the design and development centre at Denel also attracted a substantial credit. Specific Engineering and R&D activities could not be identified.			4 012
Investments – all of the below can be considered as equipment, test benches, jigs and tooling			258

(Source: author, supported by the 2014 EIA that was done with the assistance of Urban-Econ, 2014, based on information in Appendices F and G)

10.4 Defence Industrial Participation Surveys

The purpose of any survey is to obtain first-hand information from all those persons who have been affected by certain events. In the case of DIP the focus is on trying to understand how SADI views the DIP process. The purpose of the DIP surveys conducted in 2007, 2012 and 2014 was to decide on corrective action and/or a change in processes and procedures. The surveys were also analytical tools used to judge the efficacy of the 1997 DIP policy (discussed in chapter 9).

The first DIP survey was in 2007,⁸⁰⁵ to establish the general perception of the DIP programme's effectiveness (Appendix H.1). Data was collected from the SADI companies that were nominated as targeted beneficiaries under the SDP's DIP programme (*cf.* Appendix F).

The results are shown in Table 18 below.

⁸⁰⁵Van Dyk, J.J. 2008. Masters degree: 'An Evaluation of the South African Department of Defence's Policy on Defence Industrial Participation (DIP), as a Defence Industrial Development Mechanism.' NMMU. Twenty two respondents across SADI, with AMD participated in that survey – a random sample of 40 respondents was selected and issued with questionnaires

Table 18: SADI DIP survey 2007					
Recorded responses from the DIP Survey Questionnaire	Strongly Agree	Agree	Neutral	Disagree	Strongly disagree
1. The DOD/Armcor must continue using DIP for contracts with imported content	65%	20%	10%	-	5%
2. The DIP process works very well in practice	-	35%	15%	35%	15%
3. DIP activities are commercially viable and profitable for my company	5%	45%	15%	15%	20%
4. DIP forced my company to become more competitive	15%	50%	10%	15%	10%
5. DIP contributes to job retention in key vocational areas	10%	40%	10%	20%	20%
6. DIP has caused foreign partnerships to be formed with my company	20%	30%	25%	5%	20%
7. The DIP (Armcor) process should be combined with the NIP (DTI) process	20%	20%	50%	10%	-
8. The DIP process should implement incentive schemes to secure higher levels of investment	50%	30%	15%	5%	-

(Source: Van Dyk, 2008: 209)

At the time of the survey, most of the DIP obligations should already have been contracted with the SADI. In 2007/8 the planned performance was R 11,8 billion (against a total R 15 billion). Actual performance of R 12,5 billion was recorded for that period, a sound basis for performing the survey.

At the time of the survey, one prominent SADI company, OMC, did not receive any substantial benefits. However, the company's position changed almost overnight after BAE Systems acquired it, bringing a multimillion Rand armoured vehicle order for the US military.⁸⁰⁶ OMC (after 2007 BAE Land Systems) delivered 2 182 RG33 and 773 RG31 armoured and mine protected vehicles to the US customer.⁸⁰⁷ This supports earlier observations that DIP is a useful instrument for forging mutually beneficial international partnerships. In this instance the partnership provided entry into the very tight US arms market. Due to the commercial nature of transactions like this it is not possible to estimate the economics of this transaction. BAES is the majority shareholder, so it can be assumed that a proportional profit share would have gone to the UK. However, the company is tax paying South African, and the bulk of its work force is South African. In economic terms this means that a direct, an indirect and an induced impact were created. According to the figures shown in Appendix F (Burger, 2014), the total amount of DIP credits granted was USD 205 million.

The 2007 survey aimed at measuring perceptions about the DIP aims and objectives. It was divided into six categories (depicted in the graph below – Figure 31 - Note: The graph should be read using the 'series numbering 1 to 6' in context with the explanation provided for each).

⁸⁰⁶ *Business Day*, 22 November 2004 and 17 December 2008

⁸⁰⁷ Please note that due to the non-disclosure restrictions imposed on DIP this figure cannot be officially substantiated

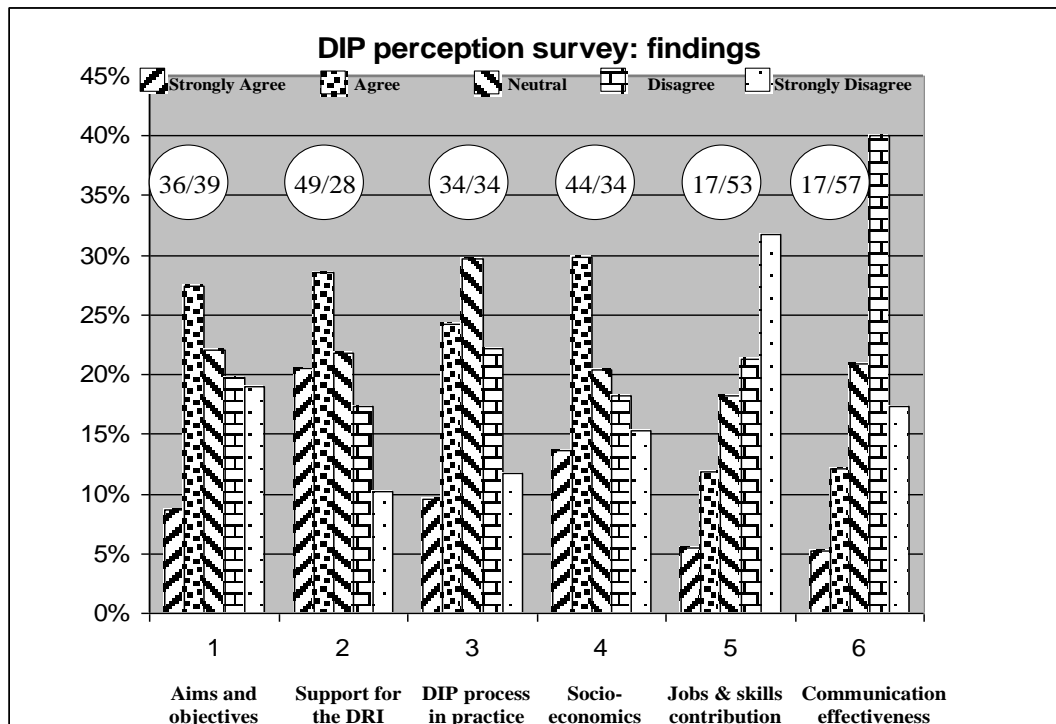


Figure 31: The 2007 DIP perception survey (Source: Van Dyk, 2008:211)

The graph plots the following propositions and deductions:

Series 1: The DIP **aims and objectives** were perceived to have not been fully met. Those in agreement with this statement were marginally fewer (36%) than those who disagreed (39%).

Series 2: Forty nine percent of respondents agreed that the DIP **benefitted the SADI**, while 28 per cent did not.

Series 3: The respondents' views on how the DIP **process worked in practice** showed a balanced response of 34 per cent (the respondents either did not know, or had a neutral view on the subject).

Series 4: Forty four percent of the respondents indicated that some **socio economic benefits** had been observed from DIP, while 34 per cent indicated the opposite. In response to a specific question on profitability, the majority of respondents indicated that profits of less than 10 per cent had been achieved.

Series 5: On the issue of *job creation and skills enhancement*, the general view (53%) was that DIP did not contribute much to achieving this goal; 17 per cent of respondents indicated that some contributions were visible. Respondents indicated that there had been no contribution in the engineering sphere, although some contributions had been observed in technical areas.

Series 6: On the subject of *communication* (sharing the aims, objectives and achievements of DIP), the view was mostly negative: 57 per cent of the respondents indicated their dissatisfaction with Armscor's communication strategy. Only 17 per cent of the respondents expressed satisfaction with the level of communication.

I presented the results of this survey to an AMD Board session early in 2008. The purpose was to inform the Board of members' perceptions about DIP. As a consequence AMD engaged with Armscor on several matters. The result was that AMD was subsequently invited to provide comments and suggested changes on the DIP policy. However, the 2012 DIP Policy review issued by Armscor bears very little witness of any of the AMD comments, suggestions and inputs provided earlier (Hamilton, 2012).

During 2011, a second DIP survey (Appendix H.2) was conducted with two focus groups. The first was Armscor's DIP Division, the custodian of the SDP's DIP process, and the second was AMD, the representative body for SADI. Although excellent information was obtained from Armscor, they subsequently refused its dissemination. This occurred as a result of the APC indicating late in 2011 that it would commence its public hearings in 2012. Since then Armscor has refused to provide me with any DIP information whatsoever.⁸⁰⁸ The inputs received from AMD are therefore one sided, and cannot be weighed against the information received from Armscor. For example, AMD was concerned that various equity deals had been terminated (Thales/RRS, BAES/ATE and Saab/Denel) and how this would affect those DIP credits already granted. In its various testimonies to the APC (2013 and 2014), Armscor did not elaborate on this aspect whatsoever, although the DTI responded concerning the Saab/Denel equity issue (covered under section 10.6.3).

⁸⁰⁸ Official email from Pieter Burger, Armscor dated 16 November 2011

AMD indicated that Armscor did not consult them about any aspect of the SDP's DIP discharge process, nor was AMD afforded the opportunity to comment on possible alternative considerations. To AMD's knowledge no DIP transaction was ever subjected to any form of due diligence. AMD acknowledged that it had no monitoring and evaluation in place to track any DIP progress. This indicates deficiencies in Armscor's management of the DIP process. One issue revealed by the 2007 survey is a serious lack of communication between Armscor and SADI (and between Armscor and AMD as shown above).

As a result of the 2013 APC hearings, a substantial amount of official information came into the public domain that was previously obscured by non-disclosure agreements and its classified nature.⁸⁰⁹ Opposing views from various critics, such as Crawford-Browne, Holden and Van Vuuren, and the lawyers for Human rights surfaced. Several of these 'critics' (referred to as such by the APC) were allowed the opportunity to cross examine all the various government witnesses. These included three former Ministers, and former President Thabo Mbeki (discussed in chapter 8).

Despite all these testimonies it was still not clear how the DIP process was proceeding. The APC probably did not have the knowledge to extract more meaningful information from the respective Armscor officials, particularly Pieter Burger (acting senior manager of the DIP division). In the absence of cross examination testimony on the DIP, I performed a third survey (Appendix H.3) using SADI experts with solid institutional knowledge of SADI and the SDP DIP process. Three surveys by means of questionnaires and interviews (personal, by phone and email) were conducted with Brig Gen (ret) Otto Schür, Brig Gen (ret) Paul Gerber and Defence analyst Helmoed Römer-Heitman. However, owing to the sensitive nature of certain of the responses I received, I was requested by the respective respondents that I either not use or not elaborate on in any detail certain aspects in the thesis.

A summary of the three surveys are provided below. Schür, for example provided information on the SAAF, DOD, Denel group and AMD. Gerber provided information

⁸⁰⁹ As can be seen from the respective evidence bundles of the various government witnesses (testifying at the APC 2013/2014) that show that numerous documents had a 'SECRET' classification attached to them

on Grintek and Aerosud, while Römer-Heitman provided a defence analyst's perspective on the DIP process but also to what extent it delivered on its objectives and how SADI benefitted in the end.

These three independent respondents concurred that the SDP's DIP brought about almost instant economic relief to SADI. As noted previously, certain SADI entities benefitted more than others, particularly the larger companies, although substantive sub-contracting occurred. (Major SADI entities are no longer vertically integrated businesses as in the early 1990s, *cf.* Dunne and Haines, 2005). Initially quality standards were low and SADI entities struggled to meet international standards, with resultant reworking and slippages. Technology transfers were generally viewed as enhancing human capital potential. New export markets were secured despite a contracted global defence market. Long term sustainability was a controversial issue. The respondents viewed BEE SMME development as marginal: new entrants did not understand the stringent quality production requirements, particularly with regard to the type of high tech SDP equipment bought. The situation was further aggravated by limited order cover particularly on the direct DIP side. Obligors placed limited orders in batches for manufacturing which made costing and production work planning highly problematic as there were no certainties provided of follow-on orders. Nevertheless as SADI entities learnt the ropes of international business; it in general became more competitive.

As noted previously, when the DIP programme began in 2000, infrastructure and production equipment and processes were rather out-dated. However, DIP brought about numerous industrial capability improvements in the defence industrial base. DIP was regarded as an instrument of development that government should continuously use to leverage new technologies, skills and capabilities into the defence industrial base, from where they will spill over into other sectors. The respondents agreed that DIP and NIP should be consolidated and only DIP should apply for defence acquisition programmes managed by Armscor. However, SADI should not be excluded from NIP projects. NIP should not be used to force defence contractors into doing business in areas where they have no competence (a primary reason why the SDP NIP is blamed for being unsuccessful compared with the much

more focused DIP programme). The fact that the obligors appeared to wilfully exclude logistic support was seen as a critical oversight.

There was a mixed response to certain mergers and acquisitions that were used to structure SADI partnerships with European defence companies, although the respondents raised common concerns related to sovereign control. Finally there was general consensus that all DIP activities should be much better aligned with national industrial objectives (*cf.* Haines, 2012) and be contractually concluded before the main purchase agreement is signed. The general view was that the impact of industrial participation opportunities could have been significantly enhanced through a clear industrial strategy linked to the SDP.

10.5 Involvement of Black South Africans in the SDP through DIP

At the time that the IONT negotiated the SDP's DIP agreements, there were no clear guidelines on the percentage of DIP commitment to be allocated to Black Economic Empowerment (BEE) activities. The need for foreign entities to embrace businesses owned by previously disadvantaged individuals was stressed at the two day SDP conference in February 1998.⁸¹⁰ Furthermore, the DIP evaluation guidelines distributed with the RFOs stipulated a 20 per cent DIP expectation (in chapter 8 it was noted that the DIP response was very poor). The SADI DIP review (2014) makes no mention of any successes. At the time, a BEE entity was regarded as a company with at least a 25,1 per cent equity held by an historically disadvantaged individual (HDI),⁸¹¹ or group. The Broad-Based Black Economic Empowerment Act (53 of 2003) lay down much stricter rules to enforce broader empowerment. It must be noted that the first draft (for public comment) of the so-called BEE Codes was published in December 2004. The final codes were published in 2006, that is, in the second last year of the DIP discharge period. The Codes therefore had little influence on the DIP commitments that, by then, were almost fully contracted with SADI entities. These BEE Codes furthermore seem to be under consistent review.⁸¹²

⁸¹⁰ Armscor Market Leads newsletter No 24 of July 1998, available from <info@armscor.co.za>

⁸¹¹ HDIs then referred to Blacks, Indians, Coloureds and White Women – everyone who had been disadvantaged by apartheid

⁸¹² These codes are up (again 2014) for further review – *cf.* <<http://www.thedti.gov.za>>

I recall that since the inception of the SDP's DIP programme, the DIP division attempted to engage DIP obligors encouraging them to consider using BEE companies to fulfil some parts of their DIP obligations to the RSA. Armscor's Annual Report of 2001/2 (Armscor, 2002) confirmed that several BEE entities had been identified and were being evaluated by certain foreign OEMs with a view to engaging them in DIP business. At the time a substantial number of 'un-allocated'⁸¹³ DIP activities remained to be decided on and could have been used for BEE contracting.

I do recall at the time, the biggest obstacle experienced by the foreign OEMs was identifying suitable BEE companies, since there were no official records indicating SADI BEE companies and their capabilities and capacities. Furthermore, it was a DIP condition that obligations could only be discharged through Armscor accredited and registered suppliers (*cf.* Burger, 2014). The few BEE companies that were eventually identified either lacked the necessary certification (military, aerospace and international), or the capacity and capabilities to undertake work in the military or aeronautical fields. As Daliff Precision Engineering Chairman, Rowland Chute pointed out: *'Entry into the aerospace industry is not simple. Entry costs are extremely high and time-consuming. It took us seven years to achieve certification. If a component fails even 30 years down the line, it must be traceable.'*⁸¹⁴

Nevertheless and despite these challenges, some of the OEMs managed to find BEE companies and the Armscor Annual Report of 2004/5 confirmed that at that stage some R 20 million DIP was contracted to 25 BEE entities (Armscor, 2005). In their 2005/6 report this figure stood at R 68 million (Armscor, 2006). However, considering Appendices F and G, there are only three specific BEE entities that appear as DIP beneficiaries. These are FBS Defence Logistics (formerly known as

⁸¹³Owing to time constraints, I allowed almost all the SDP DIP obligors to supplement their respective DIP obligations by committing to a fixed amount of DIP that could be allocated at a later stage. Obligor were experiencing difficulties in finalising business proposals with potential SADI companies. This fact can be substantiated by Armscor DIP archives of 1999/2000 – this can also be gleaned from Appendix F

⁸¹⁴ Financial Mail Oct 19-Oct24, 2012:39 – Daliff produces aluminium and titanium components for the aerospace industry

Futuristic Business Solutions)⁸¹⁵ and Lechabile.⁸¹⁶ Under the LUH project Agusta was credited for DIP activities with Waymark Infotech.⁸¹⁷

Armcor's 2012/13 Annual Report notes that the DIP programme actively contributed to the government's BBBEE development objective (Armcor, 2013). The report states that since the BEE policy change of 2009, in excess of R1 billion worth of credits had been granted, 90 per cent of which related to export contracts (2012).⁸¹⁸ Armcor did not provide any details of who these BEE entities were.

The issue of fraud and corruption in the SDP process was discussed in chapter eight. Both the SADI entities mentioned there were so-called black empowerment companies. African Defence Systems (formerly known as Altech Defence Systems - ADS) was awarded the controversial corvette combat suite, which later sparked a series of investigations (cf. AG, 2001) and court cases. During April 1998, Thompson-CSF, France, acquired a 50 per cent stake in Altech Defence Systems, then renamed African Defence Systems (cf. Smith⁸¹⁹, 2013). Thomson-CSF later became Thales Naval, owned by Thales International Holdings (Thint) of France. Nkobi Holdings, directed by Shabir⁸²⁰ Shaik, owned 24.75 per cent of Thint (from 1995, Shaik was also Jacob Zuma's financial advisor (cf. AG, 2001; Du Plooy, 2008; Young, 2011; Holden and Van Vuuren, 2011). ADS was subsequently restructured into the present Thales Defence Systems (TDS).

The second company was Futuristic Business Solutions (FBS). There were allegations that the then Minister of Defence (the late Joe Modise) had acquired an interest in this business. In about 2008, FBS acquired a 25 per cent stake in TDS (it can be assumed that FBS took over Shaik's 'Nkobi' shares) (cf. Engelbrecht⁸²¹,

⁸¹⁵ Mail & Guardian, 18 August 2000. Ivor Powel who indicated that this entity was owned by Keith Mokoape, a former Umkhonto weSizwe commissar and involved with the Military Veterans and an Armcor Director at the time. FBS directors were retired Lt Gen Lambert Moloi (also a director of Denel at one stage) and his son Tshepo Moloi - cf. <<http://www.asdsources.com>> - as at 27 September 2014 - under the corvette programme DIP two activities were credited by Armcor for respectively Euro 513,000 and Euro 205,000

⁸¹⁶ A BEE IT company established in 1998 - cf. <<http://www.lechabile.co.za>> - received Euro 3,900,000 under the corvette DIP

⁸¹⁷ Established in 2003 - cf. <<http://www.waymark.co.za>> - Waymark received DIP from Agusta for respectively USD 2,804,989 and USD 2,500,000

⁸¹⁸ cf. <<http://www.armcor.co.za>>... 'what is DIP?'

⁸¹⁹ Byrall Smith of Armcor testifying at the APC between 22/10/2013 to 1/11/2013 - cf. <[http://www.armcomm.org.za/hearings/...](http://www.armcomm.org.za/hearings/)>

⁸²⁰ As explained in chapter eight, Shabir Shaik was the brother of Shamin (Chippy) Shaik then Chief of Acquisition in the DOD

⁸²¹ cf. <<http://www.defceweb.co.za>> 21 January 2008

2008; Young, 2011; Holden and Van Vuuren, 2011). All these aspects are part of the APC's on-going investigation (covered in chapter 8).

10.6 Problems with the DIP Discharge Process

For many years prior to the SDP, there was very little activity in the SADI owing to a lack of any substantial defence acquisition programmes (discussed in earlier chapters). Between 1988 and 1994, deliberate demilitarisation occurred in South Africa. In 1998 the rearmament programme, which became known as the SDP, commenced (Cilliers, 1998; Botha, 2003; Cock, 2004; Henk, 2004).

The Armscor DIP Division compiled a detailed internal report on DIP problems experienced up to 2005.⁸²² The report noted specific 'problem areas' and included many issues raised by DIP obligors. The Armscor DIP Division requested my comments on their report in my capacity as General Manager overseeing the DIP discharge process within Denel.⁸²³ The 2005 Armscor DIP report was only for internal consumption.⁸²⁴

Armscor stated that the slump in the aerospace market (aggravated by the 'SARS virus' at the time)⁸²⁵ caused many lost opportunities to the local aerospace industry. Armscor added that owing to the breakdown in the equity discussions between government and BAE System, they were no longer interested in investing in Denel.⁸²⁶

The next two subsections address specific capacity and capability issues from the Armscor internal report, extensively covered by my 2014 DIP survey process.

⁸²² This internal Armscor DIP report was referenced as Issue 1 of 1 February 2005

⁸²³ Referenced CTD4.14.4 of 9 Nov 2005 - a Denel classified Company Confidential document and such information could thus not be used, except to now observe that there are always two sides to the story

⁸²⁴ An undisclosed source in Armscor indicated to me c. 2006 that this report was only meant for internal Armscor management consumption

⁸²⁵ SARS: 'severe acute respiratory syndrome' – a severe form of pneumonia that caused over 700 deaths in 2002/3 - cf. <<http://www.nlm.nih.gov/medlineplus/ency/article/007192.htm>>. Denel was already in the process of quoting for various production packages for so-called 'regional jets' – smaller passenger jet powered aircraft used for shorter trips – all cancelled

⁸²⁶ To the contrary – it is my recollection that the amount BAES offered for an equity stake in Denel (Pty) Ltd at the time was far lower than the government anticipated. Many BAE Systems contracts earmarked for Denel landed up with Aerosud, and later with OMC, that had been acquired by BAE Systems, as noted earlier

10.6.1 Initial Capability Problems

Capability constraints prevented optimised DIP results. These included a lack of engineering, quality control and programme management skills, and limited capability in structuring appropriate tenders in response to foreign obligor requests, and in negotiating international contracts. SADI companies endured frequent changes to management structures and, in the case of Denel, management was not properly empowered to make decisions, since their positions were temporary (as a state owned entity subject to rigorous rules and regulations under the PFMA). There was also a tendency to disregard contractual commitments with foreign suppliers. In addition, there was a lack of openness with foreign suppliers regarding problems with processes and technology, and an inability to perform effective pricing and costing and submit bids on time.

Subsequently, over its discharge period, the SDP DIP brought about significant changes in SADI's capabilities, enhanced through equity partnership structures that exposed SADI to international management standards.

10.6.2 Initial Capacity Problems

SADI's capacity constraints included outdated processes and old equipment, aggravated by non-coherent use of production structures and personnel, and a general failure to gear up for lean manufacturing processes (confirmed by the 2014 DIP survey). There was also a lack of security investment in capital and human capital.

Companies suffered from shortages of trained personnel, which led to crisis management (that is, trained personnel being moved from project to project when the OEMs complained about delays in their supply lines). There was a disregard for OEM planning to build up to production stage: personnel needed to be appointed well in advance, since they had to be trained to handle all the new processes. There were undue delays in the timeous procurement of items with long lead times, and of raw materials (for example, a serious scarcity of aircraft grade aluminium). Certain companies expressed a preference for manufacturing only high-value items with

quick turn-around times. All of the above led to inefficient cost structures that did not support productive output.

Certain SADI companies regarded the DIP programme as a *right* that would *force* the DIP obligors to place work with them at any cost. Failure to regard the DIP programme as an opportunity to establish long-term partnerships led to many lost opportunities to establish sustainable business relationships.

Although some of the OEMs rose to the occasion and provided additional technology transfers (Armcor, 2005) and physical technical assistance, many preferred to find alternatives. It came to light (Armcor, 2005) that most of the SMME companies were not certified in terms of ISO, Milspec and Aeronautical standards; this situation was aggravated by financial constraints in obtaining this certification. While at Armcor and Denel, I specifically recall that although DIP credits were 'offered' to encourage foreign OEMs to assist with certification, not much materialised. Excellent capabilities existed within various SMMEs, but on a small, limited scale. Most of these companies did not have the capacity or the appetite to take on an increase in demand. In many instances this would have required substantial investment in infrastructure and equipment. There were serious financial restraints in expanding capacities, and a clear lack of capabilities in management, production and quality assurance. Many companies were unable to meet contractual delivery times (confirmed by the 2014 DIP survey).

Owing to the confidential nature of Denel's response to Armcor (2005), I can reflect on certain generic issues, but provide no details. For example, poor contracting was attributable to a complex combination of reasons on both the obligor's and SADI's sides. Denel subsidiaries were faced with a lack of any sustainable business offerings, and strong price pressures with no longer term commitment. For example, quotations were requested on an item price basis for a quantity of 100 and then only 25 were ordered. This problem was aggravated by foreign aircraft manufacturers demanding five year fixed prices - highly risky in the volatile currency market of the ZAR.⁸²⁷ On the Denel side, inadequate infrastructure, lack of commercial/business

⁸²⁷ Quoting Dr Paul Potgieter, MD Aerosud. *Financial Mail* Oct 19-Oct 24, 2012:39

acumen, quality and delivery problems were prevalent. This situation was further aggravated by a lack of communication between Armscor and Denel as a result of non-disclosures between Obligors and Armscor.⁸²⁸ Denel Divisions regarded the bulk of DIP work as non-sustainable and marginally profitable. On the direct DIP work Denel incurred losses. Denel during the 2000 to 2009 period was a loss making enterprise dependent on government bail outs.⁸²⁹ These poor commercial conditions rendered little to no leverage⁸³⁰ for securing major infrastructure investments from either own sources or from obligors. This is most probably one of the reasons why the Saab Aerostructures venture never managed to take off.

However, it was evident that there were several instances of poor technical performance on Denel's side. Notably absent from the Armscor annual reports between 2000/1 and 2012/13 is any reference to any of the issues discussed above. Nevertheless looking back over a period of 13 to 14 years, SADI's capacity has improved substantially as was confirmed in the earlier DIP discharge review, the 2014 DIP surveys, and the AMD DIP review of 2014.

10.6.3 Unorthodox Allocation of NIP Credits by the DTI

One of the many controversial issues related to the whole SDP is the manner in which the DTI unilaterally changed the SDP's contractual NIP crediting from a 1:1 principle to one that applied substantial multipliers.

During the testimonies of the DTI officials to the APC it was confirmed that several of the SDP's NIP obligors had been granted multiplied⁸³¹ credits up front. In the case of some SADI entities DIP and NIP credits were interchangeably recognised, although not duplicated.⁸³² Reference to this aspect is also made in chapter eight. At this point it is necessary to focus on a particular matter related to Saab's shareholding agreement with Denel. During the APC hearings on 4 February 2014, Sipho Zikode,

⁸²⁸ Also aggravated by a communication breakdown between former Denel CEO Victor Moshe and Armscor's former CEO Sipho Thomo – this occurred during the time I was employed at Denel in their office in Erasmuskloof

⁸²⁹ Between 2006 and 2009 its losses stood at ZAR 2,8 billion – Financial Mail, Oct 19-Oct 24, 2012:33

⁸³⁰ Denel was a loss making entity at the time with little prospects of securing additional government grants for investments across all its Divisions - cf. <<http://www.thearmsdeal-vpo.co.za>> and <<http://www.pmg.org.za/docs/2004/appendices/041014denel2004.pdf>> (This was a serious limitation in accepting any profit risk sharing work)

⁸³¹ Meaning that instead of a credit of 1 to 1, a multiplier was used to grant substantially larger NIP credits – cf. section 10.6.3

⁸³² According to Armscor's Pieter Burger, R 151 million of DIP credits (under Gripen) was 'transferred' to the DTI

one of the senior DTI officials was cross examined on the basis for granting Saab a NIP credit of R 1,5 billion related to the Denel equity transaction. This transaction appears to have been negotiated with the DTI by BAES' local SANIP Office, which was established in 2000/1 to attend to all the NIP programmes (the NIP obligation was R 7,2 billion). Zikode indicated that the NIP credit was granted on the basis of the equity stake (of 20%)⁸³³ Saab would have been taken in Denel's aerostructures subsidiary (this equity was around USD 10 million). The DTI had merely relied on promises made by Saab in their 'NIP business plan'. These credits were granted upfront and were irrevocable. Zikode added that Saab's withdrawal from the equity partnership, some 18 months later, had no bearing on the NIP credits granted as the credits were granted on an irrevocable basis. Erwin (2014) 'defended' the DTI approach, stating that it was the DTI's 'executive right provided for under the Constitution'.⁸³⁴ DTI indicated that three types of multipliers were used to calculate credits based on the benefit of the respective NIP projects (Zikode, 2014:4488).

This unilateral kind of approach by the DTI is unacceptable by any standards and contributes further to the prevailing negative perceptions on 'offsets'. In terms of the SDP's respective legal agreements no changes may be made to any of the agreements unless with the collective consent by all the parties. Armscor, as the legal custodian of these contractually binding agreements, as demonstrated by the DTI's testimonies clearly had not been involved with any form of formal contract amendment process.

The APC recalled the DTI on 24 November 2014 to explain again on what basis and how many NIP credits were eventually granted against the original commitments of each of the obligors (Zimela, 2014:pp8922-8938).

Only time will tell how the APC will eventually pronounce on this matter, if at all. (It must also be noted that Armscor (*cf.* Table 16 and Appendix F) had transferred R 151 million of DIP credits to the DTI for BAE Systems/Saab).

⁸³³ *Engineering News*, 2 June 2007; 22 Jun 2011

⁸³⁴ *Meaning rights that conferred upon him as the line minister*

10.7 Summary

It is postulated that the 1997 DIP policy applied during the SDP's DIP contracting process appears to have worked reasonably well in its application, particularly given the EIA results of the DIP programme (*cf.* Table 15).

The results show an economic benefit of R 14,2 billion accrued to the defence industrial base, which is further supported by the economic impact assessment results that show that the DIP created at least three times its value in South African production and the economy with a positive net effect (as discussed in chapter 9).

The primary defence sectors that were involved were electronics, mechanical and electro-mechanical. The level of technology transfer represents 28 per cent of the total obligation. Several examples have been provided on how these technologies are contributing to the sustainability of the SADI.

It is clear from this research that in the early days of the SDP DIP, SADI suffered from a range of capability and capacity problems. Many have been resolved and today SADI can compete in most instances on an equal footing with international suppliers. The DIP policy created numerous opportunities for SADI. Römer-Heitman (2005) notes that the real long-term effect of DIP is the fact that the DIP obligations 'brought good opportunities to take South African technologies into the world and to establish ourselves in niche areas internationally.'⁸³⁵

However, Römer-Heitman (2011)⁸³⁶ adds that although SADI can sustain its international competitiveness, its lead-in niches face the danger of being eroded, unless the DOD can place orders for new equipment with reasonable frequency (this issues was discussed in earlier chapters as well, also a topic in the 2014 Defence Review). Römer-Heitman (*ibid*) proposes defence industry partnerships with other developing countries (ostensibly referring to the BRICS and IBSA platforms), rather than with first world developed countries as has been the case to date. He (*ibid*)

⁸³⁵ *Janes Defence Weekly*, 27 July 2005

⁸³⁶ *Engineering News*, May 13, 2011

expresses the concern that these first world entities will simply consume SADI technologies, to the detriment of our defence industrial base.

In conclusion it is worth noting the AMD DIP review of 2014⁸³⁷ titled: *‘THE IMPACT OF DEFENCE INDUSTRIAL PARTICIPATION.’* The following is a direct quote that underwrites and supports most of the critical analysis in the above discussions: *‘The key lesson to be taken from the SDP initiative is that DIP in its mandated forms worked. However, its impact and effect on SADI and the wider South African technology and industrial base could have been far greater had the opportunity been guided by overarching national industrial and technology development objectives that are aligned with and prioritised against national objectives and investment focus.’*

The AMD paper recognizes the fact that there were specific successes and limitations in execution of assigned DIP obligations. As in the case of the 2014 Defence Review AMD observes that it is essential that future contracts contain specific directives related to desired industrial participation that must contribute significantly to attaining the industrial objectives defined in the Industrial Policy Action Plan (IPAP) and the National Development Plan (NDP).

AMD expresses some satisfaction with the results of the DIP that demonstrably brought measurable industrial benefits for South Africa’s defence industry. However, they were of the opinion that many of the successes materialised by default and not by design.

AMD proposes that, based on the lessons learnt, the DIP process can provide a foundation to develop a targeted industrial strategy that will serve South Africa’s manufacturing and the related technology/R&D and human capital development segments well into the future while meeting immediate manufacturing and maintenance optimisation targets. However, the ‘critics’⁸³⁸ remain: those who maintain that DIP did not work and was merely ‘created as a conduit for fraud and corruption’. However, no proof of these allegations has been established (as yet) by

⁸³⁷ As published on the AMD website – cf. <<http://www.amd.org.za...>>

⁸³⁸ Such as Fernstein, Woods, Maynier, Holden, Van Vuuren and Crawford-Browne - the most vocal on the matter – all guilty of very often confusing the DIP and NIP as a convoluted ‘offsets’ process, which it clearly was and is not

the Arms Procurement Commission (APC) of inquiry, after having heard the testimonies of close to 50 individuals (between 2013 and 2014).⁸³⁹

Many practical examples have been provided of DIP activities within the SADI undertaken over some 12 years. This research is concerned with their developmental impact. With regard to the DIB, development should be viewed from two perspectives: the first is the retention of South Africa's defence industrial capabilities, including a 15 000-strong higher-end, skilled labour force, although substantially reduced from the heydays of the 1980s. The second is a combination of foreign partnerships (discussed in chapter 7), sustainable technology applications (A400M, Umkhonto and A-Dater are the most prominent), and exports. Human and industrial development, international market access, and technology assimilation are all key ingredients of development.

⁸³⁹cf. <<http://www.armscomm.org.za/hearings/...>>

CHAPTER ELEVEN – FINAL FINDINGS AND CONCLUSIONS

11.1 Introduction

This concluding chapter provides an overview premised on my hypothesis that countertrade may be used in a substantive manner to advance developmental aims and objectives. The study considered possible linkages between development and countertrade in an internationally comparative context. It examined the state's role in using leveraged government procurement – through applied international countertrade and offsets practices – to extract some form of benefit for the country. With regard to South Africa, the primary focus was on industrial development, particularly the defence industrial base (DIB). This research draws its findings primarily from the Strategic Defence Package (SDP) of 1999, which applied the 1997 revised Defence Industrial Participation (DIP) process.

The research question posed was '*whether countertrade can be considered an element of development?*' A literature search found very few studies linking development theory and the discourse on countertrade in any substantive manner (exceptions were Martin, 1996 and Watermeyer, 2012).

Although the research question may appear to be primarily one dimensional the research findings pointed to a multi-dimensional outcome. Therefore, the study examined and tested possible links between development, countertrade and (defence) offsets, and technology transfers - the latter being as prevalent in development as in countertrade. The study compared the magnitude of specific international defence offsets transactions with global defence spending in relation to the military industrial complex and the defence industrial base.

The research found that although linkages exist between development and countertrade, these are seemingly not recognised as yet by developmentalists, academics and scholars. Those linkages identified point to some synergies related to the primary overlapping tenets of development, particularly industrial and human development through the use of technology as one case in point. The study further explored issues of overlapping synergies within the constructs of globalisation,

modernisation, internationalisation, industrial and human development, technology, the borderless society theory and the global periphery activities of multi-national enterprises (MNEs) within Wallerstein's world systems theory (*cf.* Gleditsch, *et al.*, 1996; Haywood, 2000; Hardt and Negri, 2000; Haines and Batchelor, 2006).

The study also pointed to the dichotomy between the regulatory role of the state and neo-liberal paradigms of free trade and zero intervention in industrial development, which includes the military complex (*cf.* Schoenfelder, 2003; Dunning and Lundan, 2008, and discussed in chapter 2). This dichotomy was highlighted against observations that international market access seems more and more to be driven by the increasing integration and contraction of global demand (particularly defence, *cf.* SIPRI, 2013).

The study's findings support the increased use of government's power of procurement, commonly referred to as leveraged procurement (*cf.* Watermeyer, 2012; Yülek and Taylor, 2012). The findings endorse government's continued presence in development through forced reciprocity that manifests in various forms of countertrade and offsets benefits being extracted by the buying country from the foreign supplier.

The study furthermore points to the fact that countertrade and offsets are not limited to defence procurement, but appear across various governments' foreign procurement programmes. They are here to stay and there is abundant evidence that these reciprocal trade practices will increase in both magnitude and complexity. Countertrade and offsets transactions are structured through the use of complex and intricate business, financial and commercial transactional processes (*cf.* Czinkota, 2011).

The array of national, regional and international countertrade and offsets organisations and forums that meet regularly to discuss and debate the international countertrade phenomena bear testimony to the intricate challenges posed by this international trade practice.

11.2 A Compendium of Research Findings

11.2.1 This Research's Contribution to Development Theory

This research confirms that internationally government's involvement in countertrade is a given. The significance of this finding encapsulates the fact the 40 per cent of countries are involved in some form of countertrade. In many instances, governments provide clear directives to potential sellers what is required – usually covered in the scope of any given requirement commencing at the tendering phase. In line with many other development aims and goals, governments internationally are acting as the key role players in leveraging the 'power of procurement' for a range of purposes, whether defence or civil in nature. The international countertrade phenomenon is a prominent trade mechanism that can be associated with the concept of participatory development (*cf.* Christens and Speer, 2006). As determined by this study, participatory development can occur as a result of leveraged procurement that extracts certain developmental benefits from the seller. It has thus become a rather common practice used by a large number of countries to pursue various forms of countertrade practices either by law, decree, regulation, or as a national policy pertaining to international procurement. This is done in a deliberately structured effort to advance industrial (both civil and defence), economic and socio-economic goals and objectives.

However, the study found that there appears to be no or little synergy between development practices and the practices of countertrade - meaning that the various governments' developmental policies and strategies may not always be deliberately structured to extract optimal benefits from countertrade. The role of the state is particularly relevant to the military industrial complex (encapsulating the DIB), since countertrade principles are used to further the industrialization objectives of those countries applying reciprocal trade practices (*cf.* Verzariu, 2004 and Appendix A).

This study found that the IMF, for example, views the state as the primary interventionist that can intervene in a coherent fashion to stimulate and guide economic and industrial development, market integration and market-driven development strategies. Accordingly the state becomes the central thrust behind the facilitation of markets, rather than an active developmental agent (*cf.* Watermeyer,

2012). However, there is quite a broad body of literature that now recognizes that development is at best episodic and uneven – this observation also applies to countertrade where ‘episodic’ refers to an almost accidental type of linkage to development and ‘uneven’ can even mean ‘erratic’ when referring to another dilemma the DIB faces, namely, the inconsistent, sporadic flow of defence contracts. Furthermore, countertrade is uneven because of its diverse multi-disciplinary application, meaning that countertrade’s developmental impact features at different levels of industrial, economic and socio-economic activity and in a delayed manner – meaning the results are never immediately visible (*cf.* Pieterse, 2000). This was demonstrated through the example of the Philippines econometric construct that was used to demonstrate where elements of countertrade can manifest in practice.

Therefore in the context of development theory, the study underwrote the inception and implementation of countertrade as the play of market forces that in itself is both conditioning and conditioned by development discourses and practices. The study points to the fact that the outcome of countertrade is the collective of a number of complex differing processes, of the struggles and alliances of many dissimilar trade and social (and political) forces happening simultaneously on many disparate fronts (*cf.* Pieterse, 1998, 2001, 2010; Klerck, 2001; Meier and Rauch, 2005).

The study considered the prevalence of neo-liberalism (both as a theory and an ideology) *vis a vis* that of countertrade and particularly, offsets trade practices from the point of view that both are ‘forced’ (through leveraged prescriptive procurement). According to Stiglitz, neo-liberal market fundamentalism was always a political doctrine serving certain interests. It was never supported by economic theory, or historical experience (*cf.* Krugman, 2008). Crouch (2011) describes it as the confrontation of externalities caused between the free-market and the state. However, the study endorses the general observation that despite neo-liberalism’s influences in the international market, markets cannot be self-regulating as there are just too many variables at stake. As gathered from the 2012 WTO Trade Report, more and more governments introduce a variety of policies and procedures to regulate the market. This includes aspects specifically related to international procurement. More and more regional trade agreements have come into being that

suggest that neo-liberalism in its traditional sense has very limited application today and has indeed become 'defunct'.

Having considered the international nature and characteristics of globalisation from a development theory point of view, and how this is relevant to countertrade as a global trade phenomenon, the study found some correlating views on globalisation that are relevant to the international characteristics of countertrade. For example, Pieterse (2000) notes that development trails globalisation trends, and that it remains an asymmetrical process among countries, regions within countries and the various categories of regions that cannot be confined to any specific social discipline or science. However, as globalisation shifts towards integrated markets that merge traditional national markets into one global market (*cf.* Hough and Neuland, 2007), the study found that one can no longer view countertrade as a set of incidental events. Within a similar context, Czinkota (2013) states that world trade has forged global linkages that cause policymakers to realise that it is very difficult to isolate domestic economic activity from international global market events, as domestic markets are more and more influenced from abroad.

The study concurred with general observations that MNEs increasingly play a significant role through their manipulation of periphery economies to optimise their profits (*cf.* UNDP, 2003; Navaretti and Venables, 2004). Based on trade figures from the UN Conference on Trade and Development (UNCTAD), there was enormous multinational enterprise growth activity from 1986 to 2000 (*ibid*). MNEs are progressively redistributing the various stages and levels of production to areas where the most obvious competitive advantages can be realised. This also occurs through international mergers and acquisitions (*cf.* SIPRI, 2013), very much relevant in the case of the DIP (*cf.* chapter 7). For example, Navaretti and Venables (2004) argue that there are divergent views whether MNE involvement in countries can be seen as beneficial or not: an answer is not obvious and the question requires in-depth study taking many variables into consideration. These would range from issues related to a lack of inward investment versus foreign investment, the crowding out of national companies and losing local market share, monopolistic local powers lost or eroded by MNE activities versus increased productivity and efficiency, and the spill-over effects of knowledge through learning (*ibid*). According to Navaretti and

Venables (2004), based on trade figures from UNCTAD, MNE growth was measured by flows of foreign direct investments. They (*ibid*) found that around one-third of world trade is intra-firm bound, that is, between subsidiaries based in different countries, or between the subsidiaries and the headquarters of MNEs. The study noted that defence MNEs do not necessarily have the same freedom of movement as its civil counterparts, primarily due to the restrictive nature of the various arms control and non-proliferation regimes deployed at international (UN), regional (OECD, EU) and country level (e.g. ITAR, USA).

Over the past 14 years, several defence-related MNEs have established themselves in South Africa's DIB - for example, BAE Systems, MTU, Reihnmetall, Thales, Safran, Finmeccanika, Saab and the Airbus Group (including Cassidian). These defence MNEs have entrenched SADI's production into their international supply chain networks as a result of direct investment, technology optimisation, productivity and competitiveness improvement, and skills development and training - primarily as a result of the DIP programme. Consequently there was a direct contribution to the retention of defence industrial capabilities and capacities, which was one of the 1997 DIP policy's developmental (albeit focused on retention rather than growth and expansion) objectives. In the Armscor Annual Report of 2004/5 (Armscor, 2005) it is for example confirmed that the SDP came at a time when industry was looking for other international business opportunities. As a result of the DIP programme, local defence companies secured much needed export contracts and exposed themselves to overseas partners who were able to appreciate SADI's technological capabilities (AMD, 2014). With the general decline in defence budgets internationally, SADI had to rely on forming strategic partnerships with other international defence companies.

Haines (2012), on the other hand, believes that the SADI's relationships with foreign defence conglomerates were essentially asymmetrical. Subsequently, the study found that BAE Systems is apparently busy exiting the South African defence scene by disposing of most of its remaining business interests in the DIB. The latest example was the sale of BAE Land Systems (formerly OMC) to Denel. So the inference made here is that BAE Systems, while discharging its DIP and NIP obligations, extracted the maximum profits and business they could muster over some 12 to 14 years and seemingly are now leaving – a further testimony to the

uneven and episodic approach of MNEs to international business, particularly defence offsets. This type of approach raises concerns over the sustainability aspect of countertrade and offsets. This study found that specifically at individual direct activity level there is a problem with sustainability. The study also noted that both Armscor and the DOD seem to have had 'second thoughts' concerning the sovereign strategic importance of SADI (*cf.* 2014 Defence Review). This finding points to a lack of regulatory policies when considering the strategic importance of certain industrial and technologically advanced capabilities, particularly in the DIB.

When considering technology as an overlapping tenet between development and countertrade, the study found that procurement leverage is consistently being used by all the countries applying countertrade to acquire sought after technologies (*cf.* Hough, *et al.*, 2007, also discussed in detail in chapter 6). The most obvious aim is creating growth enabling factors across a variety of domains. Prahlada and Kumar (2009) make specific reference to India, South Korea and China as successful examples of 'technology exploiters'. They remark that China is the most 'aggressive' in extracting technology through offsets (and not only for defence), which has contributed to making China the fifth largest exporter of defence equipment (SIPRI, 2013). Malaysia on the other hand was much less successful due to limitations in their industry's absorptive assimilation abilities (*cf.* Matthews and Yip, 2013).

The study furthermore considered the relevance of Wright-Mills 1956 observations related to the presence of an 'influencing' phenomenon that manifests through hidden political, socio-economic agendas, particularly when it comes to military business. Wright-Mill's work clearly shows how the American social structure worked within the elaborate hierarchies of the power elitists, giant corporations and military that influenced the lives of others, directly or indirectly (*cf.* Horowitz, 1983). The study therefore concurs with Haines' (2012) observations that since 1994, Wright-Mill's political power elite dimension also became evident in South Africa, but this time in a different form than prevalent in the apartheid era. Meaning there was a fairly sudden increase in the level of particularly Black elites across industry and the economy. These groups were also evident in the 1999 SDP (*ibid*). Notwithstanding, today there are very few 100 per cent Black owned SADI companies. This study found that historically disadvantaged individuals' (HDIs) involvement in the DIB

appears to have happened primarily at a secondary level of involvement, mainly because it was enforced through legislation.

11.2.2 This Research's contribution to Countertrade and Offsets Discourse

Since the 1980s, countertrade has become a much more prominent and popular trade practice, applied by some 80 countries (this figure makes up 40% of the world's independent countries). The term 'countertrade' is interchangeable with the more commonly used 'offsets'. Global supply and demand competition in a contracted market place puts buyer countries in an increasingly stronger position to dictate the terms of buying (*cf.* Brauer and Dunne, 2004; Yülek and Taylor, 2012). In the late 1980s, the most popular forms of countertrade recorded contained elements of barter, blocked funds, switch trading and offsets (*cf.* Hammond, 1990; Brennan, 1998; Verzariu, 2004). The study found that in relation to defence, the composition of countertrade has changed over the past 20 years. Previously offsets accounted for 47 per cent of defence transactions, followed by counter-purchase at 32 per cent and barter at 9 per cent. Today offsets account for 41 per cent (with two primary sub-elements, namely, co-production at 31% and sub-contracting at 10%), transfer of technology accounts for 24 per cent, and the balance is a potpourri of other countertrade activities. According to the 2010 UN Conference on Trade and Development (UNCTAD), unaccounted for barter deals among nations means that the global economy is much larger than what is reported by official government statistics. Bartering of products that takes place outside the official money-based GNP sector of the world's economies, amounts to nearly USD 16 trillion - this amount is not included in the official global GDP figure of approximately USD 48 trillion (UNCTAD, 2010). Consequently, it is not exactly clear what proportion of the reported value can be attributed to defence related bartering transactions.

The study concurs with the conclusions of, for example, Sumer and Chuah (2007) that at best, the magnitude of countertrade-related projections and estimates remains much of a guessing game (as discussed in more detail in chapter 5). Kim (2011) points out that there are no reliable figures on the volume of countertrade, primarily due to the secretive nature of these transactions. Jovovic (2013) indicates that offsets are expected to reach USD 190 billion over the next five years, with an

anticipated peak in 2016 of USD 33 billion per annum. He (*ibid*) also refers to an offsets boom later this decade due to delayed defence investments. According to Avascent's 2012 study, it was estimated that from 2005 to 2011, approximately USD 214 billion in total offsets obligations were generated worldwide. While Avascent acknowledges that exact figures on the scale of discharged obligations are not publicly available, anecdotal evidence suggests a significant portion remained outstanding. The study thus noted that according to SIPRI (2013), since 1988 global arms trade (procurement) amounted to USD 32 trillion. When considering the defence spending of the top 50 countries, it can be calculated that by 2013 there was an accumulative amount of approximately USD 116 billion in countertrade and offsets-related transactions in the process of being discharged. At first glance this appears to be a substantial figure, but if one considers that the world's total merchandise exports for 2012 amounted to USD 17 trillion, then it is not (WTO, 2012). This figure implies that countertrade and offsets stemming from defence deals alone amounted to around 0,1 per cent of estimated world trade figures.

Furthermore, the study noted other predictions that point to an expected growth in the value of offsets, particularly in the GCC (*cf.* Rogan, 2013). This observation is premised on projected defence procurement spending in the Middle East and North African (MENA) region, which is seemingly prompted by and due to heightened levels of geopolitical unrest aggravated by socio and political imbalances, the on-going race for oil and the GCC's endeavour to protect these reserves. Rogan estimates that by 2020, offsets obligation in the GCC region will amount to between USD 100 billion and USD 150 billion. Nations with offsets programmes, like the UAE, Saudi Arabia, Kuwait and Oman, will see the numbers grow at an exponential rate over the next four years (*ibid*). Kimla (2013) concurs with Rogan and states that Saudi will become the most prominent offsets market valued at USD 63 billion by 2021. South Africa is predicted to remain in the top twenty of the offsets market segment (*ibid*). This study supports the latter observation predicated on the anticipated increase in defence spending required to re-equip the SANDF's inventory and support the DIB as a strategic industrial asset.

The study thus notes that when considering the cost of engaging in offsets over the past twenty years, there is no consensus on what this cost is as a percentage of the

equipment's capital layout in real terms. The percentages estimated range from a low of 2,5 per cent to a high of 30 per cent. In South Africa's case, nothing official has been reported on the offsets cost (DIP and NIP) although National Treasury (*cf.* Donaldson, 2014) admitted that they have accepted that foreign suppliers have built non-compliance costs into their prices. It is my personal experience that when costing defence sales, penalty provisions are part of the costing model. It is my view that the costs related to the DIP portion of the SDP were probably between 5 and 10 per cent (but on the NIP side they may very well have been much higher owing to many a botched or aborted NIP project, *cf.* Wellman, 2004,2010).

The study found that the variety of differing countertrade features and the use of divergent legal and terminology jargon, aggravated by the non-transparent nature of this trade practice, make comparative analysis with development theory and practices, and the qualification and quantification of countertrade-related transactions extremely difficult. In many instances the results are tantamount to a guessing game of what the actual magnitude and spread of activities entail, and the cost of engaging in countertrade in real terms (*cf.* Horwitz, *et al.*, 1989; Coetzer, 1995; Martin, 1996; Rowe, 1997; Brauer and Dune, 2004). This study, therefore, propagates a more uniform application of countertrade terminology.

It was earlier postulated that countertrade practices occur as a result of various governments seeking to develop their respective industrial bases. These practices occur through new technologies, through developing and accessing export markets, and by expanding and enhancing the economy and socio-economic human capital bases (*cf.* Watermeyer, 2012; Yülek and Taylor, 2012).

Due to the magnitude of countertrade and offsets transactions used by a large number of countries that apply this reciprocal trade process, a natural question begs to be answered: 'Why do countries resort to this trade practice and not rely on standard free market principles to regulate the market? The study concluded that there is no simple answer. This study's investigation into the reasons for countertrade revealed a general need for countries to protect their indigenous defence industrial base as a result of foreign procurements that have to be made. Foreign procurement considerations are primarily due to economies of scale, or the

need for technologically more advanced equipment the home country cannot manage to produce. Another reason is a need to secure certain technology transfer and be able to maintain and repair foreign equipment in-country. Other reasons relate to the attraction of foreign direct investments and access to markets while stemming the outflow of foreign currency. The issues of job retention and job creation are also major factors. According to, for example, Hammond (1990) and Martin (1996) the continued existence of countertrade has been governed by a lack of confidence in international trade as a result of a lack of market share, surplus capacities, debt, increased protectionist mechanisms, trade deficits and anti-dumping, aggravated by unemployment and market contraction, particularly in defence (cf. Czinkota, 2011; SIPRI, 2013).

This research identified four views opposed to the *raisons d'être* of countertrade and offsets. The first is the World Trade Organisation (WTO). Its Agreement on Government Procurement (the 'GPA'), Article XVI, states, '*Entities shall not, in the qualification and selection of suppliers, products or services, or in the evaluation of tenders and award of contract, impose, seek or consider offsets.*' However, offsets are permitted to satisfy the security and health needs of a country. Article XVI adds, '*Nevertheless, regarding general policy considerations, including those relating to development, a developing country may at the time of agreement negotiate conditions for the use of offsets, such as requirements for the incorporation of domestic content...*' (cf. Treahan, 1999). Although a member state to the WTO, South Africa is not a signatory of the GPA. Otherwise and pursuant to Article V of the revised GPA, special and differential treatment for developing countries in the form of transitional measures such as offsets, price preference programmes, initially higher thresholds and phasing-in of entities can be negotiated by a developing acceding country in the accession process, subject to the agreement of the other parties and the acceding member's development needs.

The second opposing view originates from the US Government. Their inter-agency team in the Department of Commerce (the Bureau of Industry and Security) is reported to consult with foreign nations on limiting the adverse effects of offsets in defence procurement. Despite this purported official opposing view to offsets, US defence companies see offsets as a market opportunity and a 'deal sweetener'. The

double standards dichotomy of this official opposing government view to the use of offsets can be observed in the US' Buy American Act that imposes conditions very similar to those of offsets, although they are not recognised as such.

The third opposing view is the European Union (EU). The DIRECTIVE 2009/81/EC of the European Parliament issued through the European Council (EC) of 13 July 2009, contains the rules for contracting authorities, and/or entities in the fields of defence and security. The EU views the use of offsets as a discriminatory form of trade that distorts the market. EU member states are not permitted to use them. However, despite this official view there remains uncertainty concerning to what extent EU members will fully endorse this offsets ban. For example, this study, noted that Denmark was one of the first member states to run into problems with the EC directive when it commenced with the procurement of fighter aircraft (required by mid-2015). Denmark's initial 2011 request for proposals (tenders) for fighter aircraft contained specific reference to a 100 per cent offsets requirement with a focus on jobs and exports, subsequently replaced by the notion of 'industrial co-operation (2014) in support of Danish industry and its national security interests.'⁸⁴⁰ It is interesting to observe that this was obviously done to circumvent the offsets restrictions imposed by the EC Directive.

The fourth opposing view manifests through economic rent debates around defence spending purportedly diverting scarce resources that could have been put to better alternative use (*cf.* Brauer and Dunne, 2004, 2009; Dunne, *et al.*, 2005; Holden, 2009; Holden and Van Vuuren, 2011; Crawford-Browne, 2012). Offsets and related forms of countertrade are seen as vast, pervasive business practices that have a negative impact on economic development (Brauer and Dunne, 2004, 2009). Brauer and Dunne (2009) state that an unambiguous, economy-wide net benefit has yet to be demonstrated for any offsets deal ever concluded. In contrast, Hartley (2004) notes that defence output must be seen as a form of peace, protection and security that serves as a deterrent against any potential foreign aggression, terrorism or crime.

⁸⁴⁰*cf.* <<http://www.jsfnieuws.nl/?p=1143>> published, April 12, 2014. Also confirmed in an email from the CTO Editor Lindsey Shanson on 9 November 2014

Defence output encapsulates military production and requires capital, technology and labour input to produce outputs. It is also used for peace keeping, war, disaster and humanitarian relief and will always remain a controversial subject. In the latter respect this study points to the fact that in the SDP, the DIP (and to a lesser extent the NIP (*cf.* Haines, 2012)) actually performed an economic rent function (*cf.* Erwin, 2014) with tangible visible benefits.

Many scholars argue that countertrade and offsets are not sustainable (*cf.* Matthews, 2000; also Brauer and Dunne, 2004, 2005, 2009). Although the study found pockets of truth in this statement, particularly at direct offsets activity level, the study, however, questioned the generalisation of the argument on the basis that there are 40 per cent of countries using various forms of leveraged procurement. International sellers have very little choice but to satisfy these obligations in an on-going manner, although it is acknowledged that this process remains uneven, episodic and often asymmetrical. Nevertheless, from a holistic international point of view, countertrade and offsets practices manifest as a definitive business mechanism, although not always possible to either qualify or quantify in great detail. However, it has been ascertained that there is an ever increasing magnitude of countertrade and offsets transactional values on record with indications of anticipated further growth in the years to come.

In chapter nine the issue of sustainability, one of the key objectives of the DIP policy, was discussed in detail. The study established that South Africa received a variety of defence offsets benefits to the value of approximately R 20 billion over the past two and a half decades. The study also noted that there were obligors who stopped doing business in South Africa after their obligations were satisfied (BAE Systems is a particular case in point). Non sustainability was particularly true for direct DIP, and is a direct result of the limited amount of equipment ordered, aggravated by the fact that the same equipment was simultaneously sold to several other countries that also required offsets (earlier explained as the MNEs' practice of distributing - 'parcelling out' - work share as they deem fit). However, the study found various instances where DIP continued to generate business, years after the majority of discharge actions were completed (several examples were provided in chapters 9 and 10). The study attributes this finding to the fact that this kind of sustainability is

primarily as a result of foreign equity ownerships. The study thus found that the 1998 '*visionary approach*' propagated by the late Joe Modise, clearly resulted in a partnering of SADI with various European defence companies (numerous examples are provided in chapter 7).

Furthermore, the study found that as a direct result of their involvement with international defence companies, SADI companies fundamentally restructured the way they traditionally approached defence manufacturing and business. Foreign OEMs invested significantly in process and supply chain improvements to enhance efficiencies in planning, scheduling and associated production activities. Substantial improvements have been implemented in aviation and naval systems design, qualification, test and evaluation, and formal certification processes. Hence, there are indications of both capability and capacity growth, higher levels of various new technologies being assimilated into the industrial base, particularly into the CSIR, and increased productivity and international competitiveness. These all led to greater access to the international defence supply chain (Schür, 2014; Gerber, 2014; Römer-Heitman, 2014; AMD, 2014). This can be further demonstrated by the fact that the SADI presently exports 67 per cent of its production (AMD, 2012). Various witnesses from the SANDF, the DOD and Armscor who testified (during 2013/14) at the Arms Procurement Commission (APC) of inquiry, endorsed the fact that DIP has proven to be very conducive in supporting the SA military complex and its DIB.

The study found that technology is an important component of development (*cf.* Hough, *et al.*, 2007; Kiper, 2012) and in countertrade. In addition, the study found that technology transfer is one of the present day top three offsets related activities and that in the case of the SDP's DIP, it amounted to 28 per cent of the total value of DIP transactions. The country technology comparative analysis reported on in chapter six points to a somewhat diverse range of technology requirements, but all with the common goal of further developing the industrial and human capital base of each prescribing country. In the case of the SDP's DIP technology, the study found, for example, that the transfer of foreign technology into the SADI led to subsequent high-tech developments (the most prominent examples being the Airbus A400M military transport aircraft, the Umkhonto surface-to-air and the A-Darter air-to-air missiles). The study found that the state of technology becomes a variable that

determines a value being added while it also constitutes a means to assess output versus capital spending that considers differential absorption rates and the heterogeneous nature of labour markets (*cf.* Yülek and Taylor, 2012). An example is the case of the Malaysian experience, where their DIB's lack of technology absorptive capacity was a contributing factor to the relative failure of their offsets programme (*cf.* Matthews and Yip, 2013).

Critics of countertrade and offsets and defence spending believe that they are not economically viable and highly unproductive. This research, therefore, endeavoured to gain insight into this question. There are numerous types of econometric models designed to measure, qualify and quantify the economic rent related to defence spending and the associated manifestations of countertrade and offsets transactions (*cf.* Ellingsen, 1991; Gleditsch, *et al.*, 1996; Dunne, *et al.*, 2005). In economic theory, econometric considerations relate to the country's *fiscal sector* – owing to the prospective earnings of the government through taxes and direct trade, its *financial sector* – owing to the vast amounts of financial transactions flowing through various parts of the fiscus and various banks and company accounts, and through loans and export credit agency guarantees, its *external sector* – owing to the levels of imports and exports, which also affect the national trade balance, and finally, its *real sector* primarily through work-sharing, employment (wages), and production that can lead to exports and technology transfers.

In this study, an economic impact assessment (EIA) was performed on the SDP's DIP to determine its economic contribution and impact on the productive manufacturing sector of the economy (the GNP). The South African National Social Accounting Matrix (NSAM) was used for this purpose. (The process and results were discussed in detail in chapter 9.) The results of the EIA showed that SADI entities benefitted directly in the amount of R 14,17 billion, indirectly in the amount of R 11,9 billion and at an induced level in the amount of R 16,9 billion. This amounted to a total production benefit of R 43 billion. The SDP's DIP contribution to Gross National Product (GNP) was calculated as R 6 billion direct, R 4,6 billion indirect and R 7,5 billion induced – a total GNP contribution of R 18,2 billion - implying a total multiplier effect of 1,28 for every Rand spent through DIP projects. This finding has direct

relevance to the research question whether countertrade can perform a development function. In this case there was an industrial and economic benefit visible.

Taking the EIA one step further, its results also showed that there was a visible result in terms of jobs, primarily job retention, as the SADI had been experiencing a major decline in jobs since late 1980s (from 131 750 down to 15 000). During his testimony at the APC, Armscor's acting senior manager for the DIP Division, Pieter Burger (2014), provided evidence that the DIP programme '*created/retained*' at least 11 916 jobs across around 80 per cent of the SADI, against a 1999 anticipated figure of 16 000. The DIP's EIA showed that 7 970 direct jobs, 20 043 indirect jobs and 30 989 induced jobs were created - or **retained** in this instance – thus a total of 59 002 jobs (DTI's IPAP of 2014/15 guestimates a figure of 60 000). Batchelor and Dunne (1999:14) estimated that the DIP obligation of approximately R 14,5 billion would create (or sustain) 40 000 jobs. Based on the DIP's EIA, the total value of income earned by those employed as a result of the DIP was estimated at about R 8,03 billion. This income was used by individuals and households to fund daily consumer goods and services, including education, transport and housing. This study found that in terms of both economic and socio economic considerations there was some developmental correlation between the objectives of development and the objectives of countertrade-related (i.e. the DIP) practices.

11.3 Policy Implications

11.3.1 Policy Developments Internationally

Having studied the countertrade policies of around 80 countries, it was found that several countries (e.g. the UK, most EU member states, South Africa, Israel and Oman) prefer the use of terminologies such as '*industrial co-operation, industrial participation, industrial compensation or partnerships for development*', ostensibly in an effort to circumvent the strict interpretation of WTO rules on the use of '*offsets*'. The study furthermore noted that offsets are featuring more and more in government procurement programmes of a non-defence nature, such as passenger aircraft and huge power generation projects - also in health projects (e.g. Brazil).

When considering the study's findings on the four opposing views to the continued use of countertrade and offsets (*cf.* previous section), one also needs to consider how successful the WTO will be in enforcing the restricted use of offsets in government procurement; to what extent the US government will succeed in influencing other countries not to impose defence offsets, or to prevent their defence industries entertaining offsets requirements; and lastly, to what extent EU members will heed the EC directive banning the use of defence offsets. One possible solution for the EU member states could lie in their adopting inter-industry and inter-government collaborative structures similar to the NORDAC and ANZCERTA framework agreements. However, there is already evidence that EU members (Denmark is a primary example) have started resorting to other means to circumvent offsets restrictions in the national interests of protecting their own industrial bases, or have otherwise just continued its previous approach by 'going underground with it' (Shanson, 2014).

11.3.2 Policy Developments at National Level

This research also tracked and assessed the progress made with redrafting the 1996 Defence Review. From a defence policy point of view, the final 2014 Defence Review, approved by Cabinet, requires much better planning from the DOD to satisfy a variety of defence equipment requirements. In terms of national budget planning, it is furthermore clear that defence spending allocations, as a percentage of GDP, will in all likelihood more than double, given spending trends since 1994, albeit not possible overnight. This is an indication of a change in government's policy that kept defence spending well below the international benchmark of 2,4 per cent. The initial curtailment in defence spending was obviously catering for the variety of socio-economic developmental demands after the ANC took office in 1994.

The 2014 Defence Review reflects positively and in no uncertain terms on the strategic relevance of the SADI to South Africa's defence and security needs. It focuses on the SADI's indirect but considerable importance to economic industrial development, stability and future growth. SADI, through its exports of defence equipment is furthermore seen as a potential tool of foreign policy. A National Defence Industry Council will be established as a significant policy making and

coordination tool for the SADI, coordinating approaches between the SANDF and the defence industry in pursuit of the revised defence strategic trajectory. The Council will oversee the development and implementation of policies and strategies appropriate to the defence industry, and in particular, the National Defence Industrial Strategy within the National Development Plan.

With regard to the DIP policy, the 2014 Defence Review states that future requirements for equipment and systems from abroad will be focused primarily on a balanced and aligned consideration between DIP and NIP obligations. This will require more regular and closer collaboration between the DTI and Armscor's industrial participation processes and approval forums. This study highlights the lack of effective interaction between DIP and NIP: each is pursuing its own objectives while developing different yet overlapping parts of industrial activities, particularly in dual use areas such as aerospace (for example, Denel Aerostructures and Aerosud participating in both DIP and NIP activities under different rules of engagement from the respective obligors' sides). The Defence Review emphasises the need to ensure effective and efficient through-life support of equipment, including its upgrading.

The SADI organisation, AMD, has set wheels in motion to ensure that the Armscor DIP policy be revised according to the statements contained in the 2014 Defence Review. This revision will in all likelihood safeguard that in future foreign OEMs must present viable and binding industrial participation plans as part of the tender submission. Future DIP business plans must incorporate the transfer of knowledge and the cost-effective through-life support of defence matériel, including aspects of human capital and technology development priorities. The DIP business plan approach that was followed in the SDP will have to be subjected to much closer scrutiny to ensure sustainability and economic viability. This will inevitably require that the DOD and SANDF allow much more time for tender responses and awards so that proper business (DIP) planning, structuring and assessment can be performed. The study noted a potential conflict of interest between equipment needs that are budget linked and SADI's industrial needs. The challenge here lies in the fact that government's budgeting and spending plans run in five year cycles in terms of National Treasury's Medium Term Expenditure Framework (MTEF) budgeting and spending approach. This includes strict treasury conditions related to meeting

contracting timelines in terms of the annual procurement plans that need to be submitted by each government department to National Treasury. The latter's rules also only allow payment for goods and services actually delivered in a given financial year; roll over of former years unspent budgets need to be separately motivated or such allocations are forfeited.

The study furthermore found that at national level the DTI (having revised its NIP guidelines in 2013) opted to adopt a similar approach to Armscor by instituting a new requirement for '*direct NIP*'. This means that in future a NIP obligor must discharge its obligation in line with its core competencies. For example, an international company selling IT equipment to government will only be involved in IT related activities – the DTI noted that for Transnet and Eskom the DPE's CSDP will remain in force. However, what now remains rather unclear is how DIP and NIP will be applied in practice, since they have the same overlapping objectives with 'direct activities' - meaning that a defence contractor may have to resort in splitting its core activities proportionally between defence and civil work – a highly problematic scenario as there are but a very few SADI companies with that level of dual purpose output. From my researcher practitioner point of view, the easiest would be to consolidate DIP and NIP on all defence deals and retain only the DIP element, which has proven beyond any doubt to have worked in practice much better than its NIP counterpart. The study found that this aspect seemed to have been overlooked when the DTI requested Parliament to sanction their new (2013) approach. DTI will have to go back to Parliament to request a further change in relation to defence procurement and acquisition as being the legal responsibility of Armscor.

Lastly, the study found a number of key critical issues that were identified in relation to the SDP's DIP. One is that obligors were allowed far too much freedom in what and how they wanted to discharge their obligations and to what extent they wanted - or not - to involve SADI companies. The lack of sustainability in certain categories of DIP, particularly direct DIP, was identified as a shortcoming; a second shortcoming was the lack of proper entrenchment of logistic and maintenance capabilities across SADI. AMD's non-involvement with assisting Armscor in directing the optimal re-allocation of substitution DIP activities across SADI, together with a total lack of transparency and communication related to the SDP DIP process, were strongly

criticised. It was found that the DIP policy seemed to have been created in a vacuum, not taking the broader industrial development needs of the country into consideration with the result that certain parts of the SADI and particularly the smaller companies were marginalised. Foreign ownership in SADI companies was criticised as being primarily asymmetrical. Finally, there was (still is) no proper regulating mechanism to control foreign ownership of SADI entities. Foreign ownerships are perceived as 'being close to disastrous' and as having seriously compromised South Africa's sovereign defence technology base – so now the government is faced with trying to shut the stable door after the horse has bolted.

11.4 Research Limitations

As insider practitioner and reflexive researcher, I have shared my knowledge of the SADI, international countertrade practices, and particularly, the DIP process. However, there were a number of research limitations experienced in this research. The first directly related to the limitations of the respective research approaches used, were, for example, the risk pertaining to a possible loss of objectivity due to the intimate knowledge I have on the research subject's countertrade and offsets (DIP) aspects. I tried to overcome these disadvantages by taking a preventative approach. I realized that I needed more information and thus conducted additional interviews and surveys (*cf.* Unluer, 2012). I used clarifying questions to allow the DIP respondents to reflect on their perspectives. This process helped me to confront my own blind spots. Throughout the data collection process I tried to be aware of prejudice, which I attempted to minimize by considering my research within the current social circumstances and by clarifying the research process and the researcher's role while writing the research report. Therefore and since reflexivity is 'ubiquitous' (Young quoting Hertz 1997: viii), it is 'present everywhere simultaneously' (Young quoting Waite 1998:718). Young points out that this is not necessarily a problem as long as the researcher acknowledges that he has to be reflective in his research, meaning that the researcher always has to take cognisance of opposing and other views related to the research subject. This was mainly achieved through the triangulation of data and information.

The study's findings demonstrate in practice how countertrade (particularly DIP with all its sub-set activities) actually manifested. However, when considering whether countertrade can be viewed as a development tool, the research became somewhat blurred, as the inaccessibility to detailed transactions makes comparative analysis impossible, and as one has to rely on deductive reasoning and assumptions based on the levels of information and data readily available.

Therefore this research endorses the findings and observations of several other researchers that countries are generally not willing to allow researchers access to offsets-related data (*cf.* Martin, 1996; Rowe, 1997; Brauer and Dunne, 2004, 2009; Nassimbi and Sartor, 2009; Balakrishnan, 2007; Wellman, 2010). This aspect remains very difficult to justify, as any country ought to be interested in whether or not policies work and what their costs or benefits are: where public funds are expended, public accounting is paramount. Furthermore, there is a lack of exact content detail on most countertrade transactions, particularly concerning defence offsets – this includes DIP.

The study found that the unavailability of empirical data causes uncertainty as to how countertrade and offsets work in practice and what their exact benefits are - whether expressed in economic, industrial, technological or welfare-related terms (*cf.* Sandler and Hartley, 1995; Rowe, 1997; Balakrishnan, 2007; Nassimbeni and Sartor; 2009; Wellmann, 2010; *The Economist*, 2013). Brauer and Dunne (2009) point out that from 2004 to 2009 literature did not yield new empirical data on arms trade (defence) offsets. The study found that inaccessibility to data is primarily due to the general non-disclosure restrictions for both national military security and commercially competitive concerns. The South African DOD deems such information as sensitive in view of the state's national security concerns governing the details of defence equipment procured for the SANDF. This relates specifically to the direct DIP activities between foreign obligors and the SADI. To put this into context, one must realise that the SANDF will always prohibit public insight into its strategic military capabilities. DIP and NIP activities are otherwise of commercial, confidential concern owing to international competition. This fact was re-iterated, not once but several times, during the 2013/2014 hearings of the APC.

The study thus noted that internationally there remain serious concerns over the non-transparent nature of defence deals that may create opportunities for fraudulent and corrupt practices. In this regard this study focused particularly on the allegations levelled against the SDP of 1999. In the light of the on-going investigations of the APC into the SDP, this study could at best merely take note of its hearing proceedings up to 11 November 2014 (covered in chapter 8). During the course of the APC's hearing - its first phase that commenced on 19 August 2013 – the APC paid particular attention to the government's side of testimonies. The APC made in-depth inquiries with extensive cross examination regarding the entire SDP process from inception, to evaluation, to selection, to final approval, to contracting and subsequent execution. This inquisition included investigating allegations of sub-standard and faulty equipment and its alleged under-utilisation. Some 40 senior government officials testified before the APC during this phase.

In the second phase hearings that commenced on 21 July 2014, the APC heard the testimonies of what the APC referred to as 'the critics'. During this phase specific attention was paid to establish factual personal knowledge and to procure first hand evidence from the respective critics that could substantiate without reasonable doubt the various allegations of malpractice, fraud and corruption. This process turned out to be rather disappointing and a waste of time as all these 'critics' appeared to have relied on hearsay, selective interpretations of the AG's report of 2001 and on assumptions extrapolated from media sources tantamount to hyperbolic expression. The result was that none of the critics could produce any substantive evidence to the satisfaction of the APC. Considering the 'critics' claims of representing the 'public interest', the study made an interesting discovery, namely, that the APC's invitation issued on 9 May 2012 for public submissions to be made on the SDP, resulted in only a few submissions by the closing date in August 2012. All these came from a few 'critics' – incidentally those exact same critics who claimed to represent the interests of the broader public, which turned out to be rather far from the truth.

However, the study found that from day one the APC was plagued with internal controversies. First, some of its commissioners were found guilty of earlier corrupt practices. Later several evidence leaders resigned claiming that the APC

chairperson applied double standards and had a hidden agenda to protect government's alleged wrong doings in the SDP process. Nevertheless, the APC is unabatedly continuing with its investigations and will remain busy analysing all its findings. Indications are that the process will only be completed during 2015.

The study found that non-transparency can often give rise to misperceptions that can in turn lead to speculative assumptions. A typical example is the many cost speculations concerning the SDP base cost of R 30 billion in December 1999 in relation to its anticipated final cost. One projection was R 70 billion (*cf.* Dunne and Haines, 2005), whereas Holden and Van Vuuren (2011) estimated it to be R 70,6 billion. During the APC hearings in 2014, the National Treasury (*cf.* Donaldson, 2014) stated that the 2014 total cost estimate is R 46,66 billion. Donaldson (*ibid*) explained that the difference between the 1999 and 2014 baseline figures is not attributable to an increase in the price of the equipment, but to the cost of the loan, the programme management cost, escalations and exchange rate fluctuations with provisions for possible adverse Rand depreciation. Donaldson (*ibid*) stated that when considering the government's 3 per cent deflator methodology applied over the 14 year period, the net present value of the SDP's 2014 procurement cost (including the loan repayment costs) remains at around the R 30 billion mark. This is without taking the industrial participation results into consideration.

Dunne and Haines (2005) express the opinion that there were many hidden costs associated with the SDP. These include unanticipated capital expenditure required to activate imported equipment and the R&D expenditure required to benefit from technology transfers. This research concurs that anecdotal evidence supports observations that there were contra-investment requirements implied as a result of being a DIP beneficiary. However, some SADI companies like Aerosud (privately owned), grasped the opportunity with great success while others, like Denel (state owned), failed to do so. Alas, a lack of empirical data made it impossible to qualify or quantify 'hidden costs' in any fair detail.

This study found that testimony appears to confirm that spending on health, education and security was substantially more than what was spent on the SDP in the same period (*cf.* Donaldson, 2014). This is rather contrary to the allegations of

misappropriation of scarce funds made by, for example, Crawford-Browne (2008, 2012, 2014), who stated that instead of social upliftment the government opted to spend money on defence, while massive public investment in education and health was essential (*cf.* Dunne and Haines, 2005). In a similar fashion, Holden and van Vuuren (2011) state that the arms deal spending could have been better utilised to improve education, sanitation, land reform, job creation, food security, policing and electrification. The study attributes the various obviously speculative assumptions to poor communication from government on the SDP spending in relation to other social needs.

On a more positive note, what proved helpful in the final stages of this research was the fact the APC's hearings, for the first time, caused a large amount of classified government documentation to become available in the public domain, particularly on the SDP's DIP side. Although the information remained limited in its scope as the government did not provide all the SDP's information. Nevertheless, this study benefited from the DIP related testimonies made by officials from Armscor (de Beer and Burger, in particular). These were extremely valuable for substantiating much of my research work. For the first time the DIP policy and the procedures that applied since 1997, the SDP DIP evaluation guidelines and methodology came into the public domain. Notwithstanding, empirical information related to the exact scope and commercial content matter of DIP remain obscured. Therefore, it is anticipated that owing to the commercial sensitivity of each DIP transaction it may never be possible to actually perform an in-depth commercial analysis of industrial and economic value at the level of each DIP activity's scope of work, its technological, industrial and capability contributions, nor its profitability.

11.5 The Need for Further Research

This study adequately demonstrated that the DIP policy of 1997 underwrote the development aims and objectives of Armscor and the DOD in relation to the SADI in accordance with the respective White Papers of the time and in accordance with Armscor's legal mandate in terms of Act 57 of 1968, as amended. However, in the light of DIP and NIP policy developments since 2012, and the observations of the 2014 Defence Review, it is clear that further research is required. More in-depth

research concerning the SADI and the DIB in relation to the broader national development aims and government support objectives needs to be conducted in a nationally coherent manner. A process the DTI commenced with earlier in 2014.

It is obvious from the Armscor Annual Report of 2012/13 (Armscor, 2013) that since the last SDP DIP commitments, no major new contracts have been signed, which impacts directly on SADI's sustainability. The defence industry's start-stop-start involvement in trying to satisfy the equipment needs of the SANDF is not conducive to maintaining sustainable levels of capacity (as recorded in the 2014 Defence Review). Any business needs a constant transaction flow to remain viable. Without a constant flow of orders from the SANDF, SADI indigenous capabilities and capacities are continuously eroded as it is forced to more and more consider the equipment needs of its export customers. The study notes that to a large extent many SADI companies survived primarily as a result of foreign partnerships. Some, like ATE (South Africa's expert avionics house), almost did not 'make it', and if not bought by the Paramount Group, would have been lost forever. What is alarming is that neither Armscor, nor the DOD, nor the SANDF (particularly the SAAF) seems to have attempted to keep ATE alive – another example of the absence of a coherent national industrial strategic development plan and an absence of identification of crucial technological advance capabilities in the DIB that must at all costs be supported by government – the opposite is a non-guaranteed reliance on foreign support.

The revised 2012 DIP policy contains the same principles of 17 years ago. It requires obligated entities to include the local industry (SADI) in the execution of their activities and to award contracts to SADI for direct work-share (for example, production, assembly, integration, testing). It necessitates receiving and assimilating various levels of technology and providing for jobs, skills development and training. It stipulates establishing JVs and their associated financial considerations (investments and loans) and promoting SMME and BBBEE activities (particularly in relation to the PPPFA). However, the 2012 revision increases the DIP penalty from a low 5 per cent to a high 100 per cent, it furthermore excludes foreign own SADI entities from being DIP beneficiaries. A number of procurement activities, such as spares are now excluded, as these are regarded as non-capex items.

Market reality leads defence OEMs to guard heavily against creating competition in an already seriously contracted defence market, which presents another hurdle in defence offsets. OEMs across the world have over time become centres of final assembly, having aborted the concepts of vertical integration by outsourcing almost all their production into the Tier 1 to 5 supplier network. In this regard, the South African industry (defence and civil) still has the opportunity to entrench itself in the international supply chains of key OEMs. However, productivity, quality and competitiveness (*vis a vis* other emerging economies, particularly in Eastern Europe and within the BRICS constellation), and periphery competition (*vis a vis* those periphery economies in Africa, such as Angola, Botswana and Nigeria to name the most prominent) remain serious stumbling blocks.

11.6 Conclusions

Having reviewed the countertrade (and offsets policies) of 80 countries and compared them with what the South African DIP policy aimed and still aims to achieve, the study concludes that the South African DIP process, its aims, objectives, terms and conditions are well aligned with international best practices (*cf.* Cavalini and Fourie, 2013) and in many instances can be viewed as a trend setting example. The same can unfortunately not be said for the NIP.

This research showed that DIP (and therefore it's overarching 'father', countertrade), can be viewed as a development tool for industry (through work share and technology transfer), the economy (through contribution to the productive sector) and human capital (through the contribution of skills development and training). This observation is primarily premised on the fact that a commercial and industrial benefit of nearly R14,2 billion accrued to the national defence industrial base; of this, almost R 10 billion worth of sales and exports were contracted with SADI companies. SADI capabilities (at least in theory) were furthermore enhanced with some R4,3 billion worth of technologies and investments, including training and skills development, both locally and abroad. In total, the DIP raised the level of economic activity by

R 42,95 billion, or R 3.03 for every DIP Rand, thus creating at least three times its value in production with a positive net effect.

GNP refers to the market value of all final goods and services produced within a country in a given period of time. The DIP's macroeconomic assessment measured the impact of the various DIP projects on the South African economy and concluded that a total multiplying effect of 1,28 for every Rand spent through DIP projects was achieved. One other DIP objective, as it related to SADI job retention was largely achieved, as the EIA showed that 7 970 direct jobs, 20 043 indirect jobs and 30 989 induced jobs were created (in this instance **retained**) – a total of 59 002 jobs. Burger (2014) testified to a number just under the 12 000 mark, while the AMD (2012) review of SADI workforce strength provided a figure of 15 000 directly employed. This is just over 11 per cent of the heyday of the defence industry, which employed some 131 750 people in the mid-1980s.

DIP directly caused a substantial number of mergers that occurred through non-DIP investments in SADI companies (meaning that equity investments were excluded as DIP credits – explained in chapter 9). Several major SADI companies have secured international equity partners with prominent international defence companies. As a result, SADI companies have been entrenched in the international global supply chains of various OEMs. However, questions are frequently posed concerning to what extent these foreign partnerships have 'syphoned' the SADI's technology base (cf. Haines, 2012), that is, compromised it by using it for its own purposes elsewhere. Only an in-depth government analysis could possibly provide an answer to this question. Despite such concerns, it must be noted that since late 1994, South Africa has implemented a range of very strict arms control measures which include the protection of intellectual property, particularly those associated with defence and dual use. Nevertheless, it is not possible to make any definitive pronouncement concerning what specifically of South Africa's DIB's technology has been compromised or lost. However, the study noted that these concerns were addressed in both the Armscor Annual report of 2012/13 (Armscor, 2013) and the 2014 Defence Review (DOD, 2014) – in both instances similar 'sovereign concerns over SADI's

repository of technology' were recorded, ostensibly premised on the sizeable number of foreign defence companies now owning prominent SADI companies.

Considering the initial negative speculations surrounding the cost of the SDP and the diversion of scarce resources, this research found that compared with the period 1988 to 1999, when defence spending averaged 2,54 per cent, it actually decreased to 1,46 per cent for the period 2000 to 2011 (*cf.* SIPRI, 2013). The significance of the latter period lies in the fact that the bulk of the SDP equipment was delivered and paid for in this period (*cf.* Donaldson, 2014). Dunne and Haines (2005) quote the IDASA budgetary group, who argued in 1999 that the procurement package, despite being spread out over several years, would both increase defence's share of the budget and reduce the percentage allocated to infrastructural and public works programmes. This obviously did not happen. However, as discussed in chapter seven, the reality of the South African fiscus is that it is just not possible for government to drastically upscale the SADI in the short- to medium-term. To move defence budget allocations from the present 1,4 per cent of GDP to double that amount would probably take 20 years to achieve (Sendall, 2014).

Over time many questions were raised on how successful the 1997 DIP policy was in achieving its objectives. In responding to this question this study concluded that there is clear evidence that the DIP discharge was completed within the time contracted (with the exception of the corvette's surface-to-surface missile). It was noted that no penalties were levied, although there is a high probability that discharge milestones were re-negotiated, since the DIP process allowed for substitutions (*cf.* chapter 9). The research concurred that certain SADI companies benefitted more than others, although the prime SADI DIP beneficiaries entered into a large number of sub-contracts with smaller companies. The study noted that there are indications that the DIP contract management process was problematic (criticised both by SADI and the Armscor Board), which should not be attributed to a poorly structured DIP policy.

Critics of the DIP commented that the DIP policy should have entrenched logistic support capabilities as one of its primary objectives. However, when one examines this aspect more closely, it becomes clear that logistic support capabilities were in

fact a specific aspect of the DIP policy, and also a part of the DIP evaluation guidelines. Nevertheless, a regrettable fact is that these capabilities were obviously neglected in the final contracting process. On the other hand, the SANDF's User Staff Requirements were explicit concerning the importance of establishing logistics support. The question then is who was responsible for not having properly contracted this objective? Was it a DIP responsibility or a project responsibility? In the internal Armscor audit reports of 1998 and 1999, the absence of closer collaboration between the DIP Division and the project teams was identified as an oversight, a gap that needs to be addressed in the future, particularly when procurements are made from abroad. In chapter eight the rationale for having separate independent evaluation processes in the SDP was explained in fair detail.

The study found that the reality of the SDP process required a massive effort to be undertaken in a very short span of time – some 24 months in total. First information was solicited through the RFI process (1997/8). The first order assessments led to a shortlist of suppliers who were then required to submit formal tenders through the RFO process (1998). The latter was to include technical, price, DIP and NIP, and also financing loan proposals. These tenders then had to be assessed and evaluated with subsequent recommendations through various approval forums up to Cabinet level (1998 and 1999). Subsequent Cabinet approval led to the final negotiation of all the required elements, with official signing on 3 December 1999, for delivery of six types of equipment from five countries. A rough count of the number of people directly involved in this process, just from the South African government's side, point to about 250 – therefore, the probability that all of these official had been simultaneously 'influenced' to corroborate in convoluted mal practices and fraudulent corrupt transactions during the SDP process is highly unlikely.

A time-condensed foreign multi-national government-to-government supported acquisition process like this, aggravated by a fair number of inexperienced people and a lack of transparency, was inevitably going to lead to oversights, which in future should be avoided at all costs. The lack of transparency and proper communication led to many speculative assumptions and criticisms levelled at the entire process from inception to approval to contracting through execution. The AG's joint report (2001) finds that the SDP was unique to South Africa, since it was the first ever

'package approach' that primarily dealt with weapon systems designed and developed abroad. Owing to the sanctions imposed on the country prior to 1994, there was no adequate acquisition policy to accommodate arms procurement from the international market. Despite these shortcomings, the AG was satisfied that the DOD had taken adequate steps to manage the process, which compared favourably with international practice.

The 2014 Defence Review and the criticism from many academic reviews of the SDP, supported by the research DIP surveys that were conducted, clearly underwrites the need for a much better conceived and more transparent process that is better aligned with broader national industrial strategic needs. Furthermore, the rather disastrous NIP result emphasises that foreign suppliers should not be forced to engage in non-core business, particularly defence companies having to engage in non-core civil transactions. All indications are that in future foreign defence contractors will be required to focus on core business and that in such instances DIP and NIP will in all likelihood be consolidated.

Despite the fact that the 1997 DIP policy demonstrably achieved its primary objectives, it remains criticised for having compromised the DIB, as it reportedly failed to diversify and expand the broader industrial economy. However, having considered the content of the 1997 DIP policy it is obvious that this is a perception, since it was never stated as particular policy intent. Cavalini and Fourie (2013) find that South African offsets policy goals are too broad and unfocused. While South African industries were incorporated further into global supply chains, the relationships with foreign defence conglomerates were essentially asymmetrical. Haines (2012), for example, criticises technology transfers from European OEMs as having been modest at best, while a range of South African technology and intellectual property has been acquired relatively cheaply, or merely side lined. This study does not fully concur with Haines' critique, as can be seen from the host of DIP examples provided across chapters nine and ten.

While the retention of a defence industrial base in South Africa can be questioned on ethical grounds, one needs to take cognizance of comparative trends in transitional industrial economies. However, this study endorses Haines' (2012) observation that

the South African case shows that a local defence industry can and does reinforce high tech industrial development, most particularly in the informatics and electronics sectors. In fact, having assessed the composition of DIP (at the face value of the activities reported) it appears that electronics (electro-optical, informatics, sensoric and electrical), followed by mechanical (including electro-mechanical) manufacturing were the most prominent industrial activities.

Lastly, when one considers the net NIP benefit (i.e. without considering the negative impacts of the NIP multiplier credits and many a botched and aborted transaction), it was reported by the DTI that NIP delivered foreign direct investments (FDI) of USD 978 million and Euro 149 million, respectively, plus sales and exports of USD 5,5 billion. At the October 2014 rate of exchange this translates into R 12,6 billion in FDI and R 60,5 billion in sales and exports. Adding DIP and NIP results together, a combined industrial benefit, or an '*un-modelled*' economic benefit value of R 87 billion was achieved – around R 57 billion more than the initial total base cost of the SDP in 2014 terms and still more than the projected final cost of R 70,6 billion (*cf.* Holden and Van Vuuren, 2011). Therefore, it is postulated that the SDP was procured at a net zero cost to the fiscus and that the combined impact of DIP and NIP shows a positive return on investment.

The defence industrial programme, in particular, has demonstrated that, albeit not flawless, it worked well and achieved its major objectives with a positive contribution to production, the GNP and jobs (albeit retained jobs). The combined (DIP and NIP) industrial participation programme in South Africa will continue to be applied, similar to the many other countries in need of reciprocal trade and development imperatives. However, it is evident that this reciprocal trade regime in South Africa will become even stricter in its future application.

Finally, this study noted that since the mid-2000s, there has been a marked interest in understanding international peace-building efforts in relation to normative development factors. These factors include controlling arms and weapons of mass destruction proliferation, resolving regional conflicts, ending civil wars, and struggling against acts of terrorism and crime. To address these challenges collectively, new models of international (and regional) collaboration are developed on a regular basis.

There appears to be an emerging interest in understanding development in the light of a national and social defence (human⁸⁴¹ and health related) and environmental security⁸⁴² agenda. At a recent⁸⁴³ Development Studies Association (DSA) conference, it was pointed out that there is a lack of confidence in mainstream international and national development practices and that [developmental] '*business as usual*' is widely regarded as unacceptable. All the above observations pose serious analytical challenges to understanding the political and practical dilemmas involved in achieving the type of effective state that provides basic services and security to all its people. The science of development theory faces interesting and challenging times attempting to overcome these challenges.

⁸⁴¹ Klingebiel, S. January 2006. *New Interfaces between Security and Development*. German Development Institute. Available at: <http://edoc.vifapol.de/opus/volltexte/2012/3801/pdf/Studies_13.pdf> [Accessed 29 November 2014]

⁸⁴² Tschirgi, N. December 2003. *Peace building as the Link between Security and Development: Is the Window of Opportunity Closing?* International Peace Academy. *Studies in Security and Development*. Available at: <http://www.un.org/esa/peacebuilding/Library/Peacebuilding_as_link_IPA.pdf> [Accessed 29 November 2014]

⁸⁴³ DSA Annual Conference. 1 November 2014. Institute of Education, 20 Bedford Way, London WC1H 0AL. Available at: <http://www.devstud.org.uk/events/conference/about_the_conference-54.html> [Accessed 29 November 2014]

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C. Government and Related Official Sources

Arms Procurement Commission of Inquiry, South Africa (Referred to as 'APC' in this thesis)

- **2011.** Department of Justice and Constitutional Development. Media statement by the Minister of Justice and Constitutional Development. Jeff Radebe, MP. Announcement of the details of the Commission of Inquiry into allegations of fraud, corruption, impropriety or irregularity in the Strategic Defence Procurement Packages, Cape Town, 27 October 2011 - Available at: <http://www.justice.gov.za/m_statements/2011/20111027_armscomms.html#sthash.ftA1pjzs.dpuf> [Accessed 5 November 2011].
- **2011.** On Monday, 24 October 2011 the President announced the Commission chaired by Judge Seriti, a judge of the Supreme Court of Appeal.
- Terms of Reference of the Commission of Inquiry into allegations of fraud, corruption, impropriety or irregularity in the Strategic Defence Procurement Package. GG34731, Notice R926. Available at: <<http://www.armscomm.org.za/docs.html#sthash.rMKXnPPP.dpuf>>
- **2012.** Regulations: (GG 35023, RG 9680, P 4), 8 February 2012. Commissions Act: Commission of inquiry into allegations of fraud, corruption, impropriety or irregularity in Strategic Defence Procurement Package.
- **2012.** Call for Submissions. GG 35325, GoN 361, 09 May 2012.
- Commissions Act: Amendment to the terms of reference of the commission of inquiry into allegations of fraud, corruption, impropriety or irregularity in the strategic defence procurement package, GG 37002 RG 10050 P 49.
- Commission Practice Guidelines – Available at: <<http://www.armscomm.org.za>>

APC Phase 1 hearings:

2013. Hearings commenced on **5 August 2013** in Pretoria. cf. <<http://www.armscomm.org.za/hearings/...>>. All witnesses with a very few exceptions made statements under oath. The Commission in each instance asked witnesses if they were aware of and had any personal knowledge and physical evidence that could substantiate any corrupt or fraudulent activities during the selection and subsequent contracting processes of the SDP. (Because testimonies are done under oath the implications of any false statements will be dealt with as acts of perjury punishable by law.)

Note: Evidence in the form of signed affidavits, official government documents, minutes, presentations, etcetera, in support of the various respective testimonies are also available on the APC's website at: <<http://www.armscomm.org.za/hearings/...>>

- **Ruling - 19 August 2013** - The Commission ruled that some types of documents will not be available in the public domain.
- Crawford-Browne, Terry - **20 August 2013** – (a 'critic') - challenged the APC's decision of 19/8/2013. He stated that offsets are internationally discredited as a scam promoted by the armaments industry with connivance and corrupt politicians to please the taxpayers and to promote and to promote the proliferation of weapons. He observed that the UK Gov. specifically stated that contract were commercially confidential. He stated offsets (no mention of DIP anywhere) did not materialise and was merely used as vehicles to pay bribes. The Commission observed that Crawford-Browne urged them to make immediate decision without the benefit of having duly investigated them. According to the Commission, Crawford-Browne requires the APC to only consider his submissions and matters raised therein to the exclusion of others and solely on his submissions make the requested recommendations – this the Commission viewed as 'both absurd and inconsistent with the appointment of the APC – they referred to 'untested findings'. His submission to the Commission was rejected.

- Green, Alan Graham - **20/8/2013** – Rear Admiral (ret). The SA Navy – recalled for cross examinations 24/11/2014.
- Higgs, Robert William - **20/8/2013 - 21/8/2013 - 22/8/2013** - Rear Adm. SA Navy. Chief of Naval Staff at Naval Headquarters, Pretoria.
- Schoultz, Philip - **23/8/2013 - 26/8/2013** – Admiral. SA Navy. Flag officer fleet of the South African Navy.
- Christian, Derek John - **27/8/2013** – Rear Adm. SA Navy. Director Naval Logistics at Navy Headquarters Pretoria.
- Bayne, John William - **28/8/2013** – Brig Gen. SAAF. Director of Combat Systems.
- Burger, Pieter - **28/8/2013** - Brig Gen. SAAF. Director of Helicopter Systems.
- Malinga, G. - **28/8/2013 - 30/8/2013** - Maj Gen - Deputy Chief of the South African Air Force.
- Bayne, John William - **2/9/2013 - 3/9/2013 - 4/9/2013** - Recall of Brig Gen to further explain the operational applicability of Hawk and Gripen and associated training approach with further in depth historic review of the SAAF's role.
- Viljoen, Frank Kevin Seargent - **4/9/2013 - 5/9/2013** – Col (ret). SAAF – formerly involved in selection of the 109 LUH programme.
- Burger, Pieter - **11/9/2013** - Brig Gen –recalled for questioning in more detail on the utilisation of the LUH.
- Pelser, Johan Daniel - **11/9/2013** - Maj Gen. SA Air Force - Testimony dealing with technical matters pertaining to the SDP. Presently Chief Director Force Development and support - SAAF.
- Jordan, Jakobus De la Rey - **12/9/2013 - 13/9/2013 - 18/9/2013** – Captain, DOD testifying around all the policies and procedures in place pre-, during and post-SDP.
- Hechter, Willem - **19/9/2013** – Lt Gen (ret) former Chief of the SAAF.
- Choke, Solly Zacharia - **20/9/2013** – Gen. Chief of the SANDF. Gave testimony on the mandate of the SANDF and the motivation for the need of equipment.
- Griesel, David - **30/9/2013 - 1/10/2013 - 2/10/2013**. Armscor – Worked closely with Chief Acquisition. Gave testimony of all the policies in Armscor applicable at the time of the SDP. Provided a comprehensive testimony of the whole SDP process from start to finish.
- Vermeulen, Rob - **3/10/2013 – 14/10/2013 - 15/10/2013 – 16/10/2013** - Member of the Integrated Project team for the Submarine – Armscor official. Now Programme Manager for Naval Systems.
- Requests for cross examination - **17/10/2013** – from Fernstein Holden and Van Vuuren of Vermeulen – none of them present – APC adjourned.
- Holden, Paul Edward - **21/10/2013** - cross examining Rob Vermeulen.
- Smith, Byrall - **22/10/2013 – 23/10/2013 – 28/10/2013 – 29/10/2013 – 31/10/2013 – 1/11/2013** -. Armscor. Testifying on the corvette product system, that is Project Sitron – but only in relation to the PLATFORM.
- **Discovery application**, Young, Richard - **6/11/2013** – The APC debating application for discovery as related to his intention to take Frits Nortje under cross examination.
- Ferreira, Cornelius Johannes - **11/11/2013 – 12/11/2013 – 13/11/2013 – 14/11/2013 – 15/11/2013 – 18/11/2013**. Armscor. To give evidence of the evaluation of the LIFT called Project Winchester and project Ukhozi, the ALFA.
- Odendaal, Johan - **20/11/2013 – 21/11/2013 – 25/11/2013** -. Armscor programme manager of the LUH programme.
- Jourdan, Phillip Paul - **20/01/2014** – former DTI DDG at the time of the SDP and part of the IONT structure. (Made only an affirmed witness statement. That is not sworn in). Evidence regarding the NIP process during the SDP.
- Rustomjee, Zavareh - **20/01/2014** - former DGT DTI. “Leveraging public procurement was a central component of our industrial policy.” Transcript page 3967.

- Pillay, Vannan - **21/01/2014** — former DTI Dep. Director IP Secretariat involved in the SDP NIP evaluation process.
- Zimela, Masizakhe - **21/01/2014 – 24 1/2014** - Now Chief Director: IP Secretariat (IPS). Not part of the SDP process. Only giving account of his role in administering the non-defence SDP NIP portfolio in DTI – **recalled on 24/11/2014 for cross examination.**
- Zikode, Sipho - **28/1/2014 – 31/1/2014 – 4/2/2014** – former Director at the IPS. Now DDG at the DTI. Explained NIP methodologies and administration.
- October, Lionel Victor **5/2/2014** — DG DTI testifying in NIP.
- Erwin, Alexander - **17/2/2014** – former Minister of the DTI and part of the Ministers Committee deciding on the SDP recommendations. NIP being used as economic rent. The SDP Affordability Study report remains a classified doc...not supposed to be in the public domain – contrary to the views of Fernstein, Holden and van Vuuren.
- **Ruling - 18/2/2014** – Adv Skinner: drew everybody's attention to the fact that documents which are by law protected from public disclosure will remain protected. Several obligors did not give permission for information to be released. The point was also made that as the SA Government was a direct signatory to these agreements the decision to disclose even if an obligor agrees rest solely with Government not even Armscor...The APC at this session had another long deliberation on Richard Young's discovery application.
- **Discovery application**, Young, Richard - **24/2/2014** – a continuation of dealing with Young's discovery application and the difficulties being faced with him having to also produce docs to Armscor for F Nortje to properly prepare as Young was given permission to cross examine Nortje (and Kammerman). Young appears to be guilty of non-cooperation and as such deliberately delaying the evidence of Nortje. Young was instructed to discover by 16h00 on 3 March 2014.
- **Postponement - 3/3/2014** – the order on Richard Young to discover was postponed to 17 March 2014.
- De Beer, Johannes Bernhardus - **4/3/2014 – 5/3/2014 – 6/3/2014**. Armscor. Part of the original DIP evaluation team. Testified about the DIP objectives and the evaluation process.
- Burger, Pieter Daniel - **12/3/2014** – acting Snr manager DIP Division. Not involved in the initial SDP process only joined the DIP Division in May 2003. Explained the DIP management process. Explained how C1 and C2 and prescribed DIP claim form were used. Confirmed substitutions were allowed. Armscor did not prescribe to an obligor which SADI company to use. DIP is about job retention not creation, a figure of 11 916 jobs was reported through a survey with an 80% response.
- **Deliberation - 17/3/2014** – APC again deliberated the issue of discovery by R Young of all the corvette docs from Armscor and the DoD. Some documents remained classified.
- Nortje, Frits - **17/3/2014 – 18/3/2014 – 19/3/2014 – 20/3/2014** - former Armscor Project manager responsible for the corvette programme. Made a lengthy presentation on the corvette and especially the combat Suite (CS) element.
- **Note - 20/3/2014** the APC was contemplating calling JJ van Dyk as a witness but Armscor said they did not have the mandate to provide him with legal representation.
- **Ruling - 24/3/2014** – wrt to the release of documentation (transcript page 5253) the APC ruled that it is not sufficient for any member of the public to merely allege an interest in the subject matter of the inquiry and wish to investigate matters by way of access to documents. All applications made by Dr Young were formally rejected due to his lack of making his intentions clear wrt requiring docs and cross examining Nortje and Kammerman.

- Grobler, Jacobus Gehardus - **1/4/2014** – Armscor Snr Manager Internal Audit. Gave evidence of two internal audits performed. None of them pointed to any maladministration or misconduct by any of the Armscor staff involved in the SDP evaluation processes - see transcript page 5317.
- Hoffman, Pierre - **3/4/2014** — former GM Finance at Armscor – now retired. He was at the time the Fin evaluation team's chair, but also considering the financial contractual conditions of proposals received (tenders). The financing proposals had to be evaluated. This team had representation from (Department of Finance (DoF) and ABSA.
- Donaldson, Andrew Robert - **9/4/2014 – 11/4/2014** - (transcript pages 5396-5542) Now DDG National treasury. Then a member of the fin evaluation represented by Roland White. Explained how the financing was considered, the budget and the loan agr approach. Affordability study done by Warburg, Dillon and Read obo DoF.
- Esterhuyse, Henderich de Waal - **22/4/2014 – 25/4/2014 – 30/4/2014** - Former GM Armscor. Co-chair of SOFCOM. Gave testimony of his role in the SDP process – primarily one of oversight
- Howell, Anthony Neveille - **5/5/2014** – Rear Adm (ret) SAN. Involved then in the corvette programme. His role as '**moderator**' of the project teams' evaluation was interrogated.
- Reed, Andrew John Cuthbert - **8/5/2014** – Captain – (ret) SAN involved in the subs part of the SDP.
- Esterhuyse, Henderich de Waal - **8/5/2014** – cross examination.
- Steyn, Pierre Derksen - **14/5/2014 –16 /5/2014** - Lt Gen (ret) – former DefSec during the period of the SDP.
- Kammerman, Jonathan Edwin Gold - **26/5/2014 – 27/5/2014**. Rear Adm. Formerly involved from the SAN's side in the corvette programme selection. Now employed by Thyssen Krupp Marine Germany.
- Steyn, Pierre Derksen - **6/6/2014** – cross examination.
- Kasrils, Ronnie - **6/6/2014 - 10/6/2014 – 11/6/2014**. The Deputy Minister of Defence during the time of the SDP process.
- Naidoo, Jayendra - **9/6/2014** – the Chief Negotiator of the SDP's International Offers Negotiation Team (IONT).
- Lekota, Patrick M. – **11/6/2014** – former Minister of Defence, after the SDP process, but during its delivery phase.
- Manual, Trevor - **11/6/2014 – 12/6/2014** - The Minister of Finance at the time of the SDP process.
- Mbeki, Thabo - **17/7/2014 – 18/7/2014 – 19/7/2014** - Former President, including cross examination, especially by Crawford-Browne's legal counsel.

APC Phase 2 hearings commenced on 21 July 2014:

- Young, Richard - **21/7/2014** – (critic and aggrieved businessman, MD of CCII) – made written submission as being unable to attend due to an eye operation subsequently attracted a fungal infection. Standing over indefinitely.
- De Lille, Patricia - **24/7/2014** –. Was a Member (critic) of the PAC at that time that is Sep 1999 wanted a judicial commission of inquiry into the 'arms deal to determine if there was fraud and corruption. The first 'whistle blower' with the 'De Lille dossier.'
- Taljaard, Reinette - **7/8/2014** - (critic). Senior Lecturer in the Department of Political Science at the University of Cape Town and a Commissioner at the Independent Electoral Commission. Appointed a Member of Parliament for the Democratic Party in 1999 and subsequently as a member of the Standing Committee on Public Accounts, during January /February 2001.

- Maynier, David - **11-12/8/2014** – (critic). Member of Parliament and since 2009 been a member of the Joint Standing Committee on Defence, the Portfolio Committee on Defence, the Portfolio Committee on Defence in the Military Veterans and an alternate member of the Standing Committee of Public Accounts.”
- Woods, Gavin - **2-3/9/2014** - (critic) – retired academic from Stellenbosch Univ. – now professor emeritus. Currently a Commissioner at the Public Service Commission. Appointed as the Chairperson of the Standing Committee on Public Accounts, SCOPA, during April 1999 and you served as such, until you resigned on 1 March 2002.
- Crawford-Browne, Terry – **6-9/10/2014** – (critic) - former career in international banking at Nedbank until 1986 since the regional the Regional Treasury Manager. Active member of ECAAR-SA and convenor of the CDA.
- Van Vuuren, Hennie - **20/10/2014** – (critic) – appeared before the APC but refused to take the oath and testify.
- Holden, Paul, was supposed to testify in October 2014 - he moved to London – challenging the APC’s extraterritorial powers to subpoena him.
- Fernstein, Andrew (critic) supposed to testify in October 2014 – he moved to London – challenging the APC’s extraterritorial powers to subpoena him.
- Shaik, Shamin (Chippy) – **10-11/11/2014** – Former Chief of Acquisition, DOD during SDP process.
- Hlongwane, Fana -**11/12/2014** – an Advocate, former advisor to late Joe Modise during his term of office as Minister of Defence during the SDP process.
- Note the following final hearings have been scheduled: R. Young 4-10/3/2015; BAES, Ferrostaal, Augusta, Thyssen-Krupp and Thales 16-20/3/2015; Col Johan du Plooy 23-24/3/2015; Gen George Meiring 25/3/2015; with closing arguments scheduled for 24/4/2015.

Armcor (*Armaments Corporation of South Africa Limited, established ito Act 51 of 2003 that repealed Act 57 of 1968, as amended*).

- **1968** - Act 57 of 1968, as amended.
- **1994** - Ref VB 1000. General Policy for the Management of Category 1 Matériel Acquisition Process. Armcor. 20 April 1994. APC evidence D. Giesel. Page 197.
- **1995** - Ref KB1000. Armcor Policy: Acquisition. Armcor 1 May 1995. APC evidence Giesel, Dawie. Page 91.
- **1996a** - Armcor’s Ministry of Defence report - MODAC 2: Defence Industry Policy (covering also arms control issues). 19 Jan 1996. [Approved by Min Modise on 8 September 1996]. Not published.
- **1996b** - Armcor’s Ministry of Defence report - MODAC 3: The Organizational Structure of the Defence Acquisition Programme management organization, 29 July 1996, followed by the last report. [Approved by Min Modise on 8 September 1996] (Not published).
- **1996c** - Armcor’s Ministry of Defence report - MODAC 4: Marketing Support Management in the Ministry of Defence. (Not published).
- **1996d** - Armcor’s Ministry of Defence report - MODAC1: The MODAC investigation of Technology and Armament acquisition in the Department of Defence. 8 Aug 1996. [Approved by Min Modise on 8 September 1996] (Not published).
- **1996e** - Armcor Internal Countertrade procedural manual. Ref JUL(&-28/1 JJVD/PROCEDURE-OKT’98).
- **1996f** - Armcor. The Leading Edge. Defence Industrial Participation. Guidelines of 19 May 1997.
- **1996g** - Armcor. The Leading Edge. Defence Related Countertrade. Guidelines of 16 September 1996.

- **1997a** - DOD Policy Directive 4/147 of 1997 and Appendix A. Ref CPP/R/302/6/B. DOD Policy Directive: MOD Policy for dealing with International Defence Equipment Offers in the MOD. Defence Secretariat.
- **1997b** - Approved by Minister of Defence in the CoD meeting of 5 August 1997. APC evidence D. Giesel. Page 46.
- **1997c** - A-POL-6100. DIP policy of 1/4/1997, approved 28 July 1997 – this replaced the original Countertrade policy KP008 (*cf.* De Beer, 2014 p4; APC p5 – evidence pack p53).
- **1997d** - A-PROC-008. DIP Procedures. 1/4/1997. Replaced by A-PROC-6031 and A-PRAC-6030.
- **1997e** - Ref A-PROC-097. Practice Note for the Selection of Contractual Sources. Armscor. 1 November 1997. APC evidence D. Giesel. Page 104.
- **1998a** - Ref ACQ/D WPN S/R/302/6/B. International Offers: Management Committee (SOFCOM constitution and rules). Defence Secretariat. 7 April 1998. APC evidence D. Giesel. Page 53.
- **1998b** - Ref C ACQ/S/521/3/1/2/15/4. Minutes of the Special AASB (International Offers) Held at 09h30 on 8 July 1998 held in the Auditorium DHQ. APC evidence D. Giesel. Page 172.
- **1998c** - Ref C ACQ/S/521/3/1/2/15/4. Minutes of the Armament Acquisition Steering Board (AASB) meeting no 2/98 held in the Auditorium DHQ. APC evidence D. Giesel. Page 187.
- **1998d** - Ref AG 390 DK. Audit Report: Foreign Package Proposals. Armscor. 6-30 November 1998, in the Auditorium DHQ. APC evidence D. Giesel. Page 111.
- **1998e** - Ref C ACQ/S/302/6/B. Confirmation notes of the International Offers work session held in the Umfolozi room of the Apollo Centre, Infoplan, on 1 and 2 July. Defence Secretariat. 21 October 1998. APC evidence D. Giesel. Page 138.
- **1998f** - Ref Appendix A to C ACQ/S/302/6/B dated 21 October 1998. Availability of funding for procurement of Defence equipment. Director General: Finance and T Manuel, Minister of finance. APC evidence D. Giesel. Page 163.
- **1998g** - Countertrade Practical Workshop. Presentations by J.J. van Dyk, Armscor, Dr C. Kamm, ABB-Switzerland and S. Rothschild of Barex, USA. St Georges Hotel, Pretoria. 16 Nov 1998. (Not published).
- **1998h** - Armscor Newsletter. Market Leads. No 24. Jul 1998. SDP Conference at CSIR in February 1998;
- **1998i** - Armscor Newsletter. Market Leads. No 25. September 1998, What is Industrial Participation. Armscor Countertrade Division.
- **1998j** - Defence Industrial Participation Guidelines. Issue 0 dated 27/01/1998. Ref DIPCON10.1 and DIPCO.Zc (A set of guidelines was issued for each product type of the SDP – ref pages 210-226 of the evidence pack of De Beer's testimony to the APC).
- **1998k** - DIP Evaluation Instruction Applicable to the DIP Evaluation Team Assessments of all the DIP Proposals Received into the Package Deal Request for Best and Final Offer (RFO) for the Supply/delivery of: Corvettes, Submarines, Light Fighter Aircraft, Maritime and Light Utility Helicopters, Main Battle Tanks and a Lead in Fighter Trainer Aircraft. Issue 1 dated 5/5/1998. Signed by JJ van Dyk: Head of Armscor's Countertrade Department; H de W. Esterhuyse: GM: Aeronautics and Maritime, Armscor SOFCOM Chairperson and C. Shaik: Chief of Acquisition of the Department of Defence SOFCOM C-Chairperson. (ref pages 227-259 of the evidence pack of De Beer's testimony to the APC).
- **1999a** - Ref DS/CACQ/C?521/3/16/2 and DS/CACQ/302/6.. Constitution of the Project Control Board. Defence Secretariat. 21 October 1999. APC evidence D. Giesel. Page 43.
- **1999b** - Ref SDPM0001108. Terms of the International Offers Negotiation Team. Office of the Deputy President, Pretoria. 25 January 1999. APC evidence D. Giesel. Page 68.
- **1999c** - Ref SDPM0000795. Interim Audit Report on GG Packages. Armscor. 21 July 1999. in the Auditorium DHQ. APC evidence D. Giesel. Page 138.

- 2000a** - A-PROC-6030: Procedure for the Evaluation of the Value of Technologies involved in Technology Transfer Deals and Management of Technology Transfer Activities of 2/10/2000. (Not published).
- **2001**. Annual Report 2000/01.
 - **2002a**. Annual Report 2001/02.
 - **2003a**. Annual Report 2002/3.
 - **2004**. Annual Report 2003/4.
 - **2005**. Annual Report 2004/05.
 - **2006**. Annual Report 2005/06.
 - **2007**. Annual Report 2006/07.
 - **2008**. Annual Report 2007/08.
 - **2009a**. Annual Report 2008/09.
 - **2010**. Annual Report 2009/10.
 - **2011**. Annual Report 2010/11.
 - **2012a**. Annual Report 2011/12.
 - **2013**. Annual Report 2012/13.
 - **2014**. Annual Report 2013/14.
 - **2002b** - A-POL-6000: DIP Policy replacing A-POL-6100, approved 11 Feb 2002, primarily aimed at correcting terminology and adding the new A-PROC-6031 and A-PRAC-6030. (cf. De Beer, 2014 page APC 10) – evidence pack p93.
 - **2002c** - A-PRAC-6030: DIP practice of 11/11/2002 cf. De Beer, 2014.
 - **2002d** - A-PROC-6031: DIP procedures of 11/11/2002. (replaced A-PROC-008) - cf. De Beer, 2014 evidence pack p110.
 - **2003b** - A-POL-1000. Acquisition Management Policy. 23 June 2003 (cf. Griesel, 2013 evidence pack).
 - **2003c** - New Armscor Act (Act No 51 of 2003).
 - **2003d** - Armscor tender 05522-300-011 for a new generations infantry combat vehicle - product system (NGICV-PS: Project Hoefyster (Badger)).
 - **2009b** - Armscor tender 06016-800-015. Mobile power plant systems (Project Package)
 - **2012b** - 'What is DIP?' Available at: <<http://www.armscor.co.za/DIP/WhatIsDIP.asp>> [Accessed 18 Aug 2012].
 - **2012c** - Completely revised DIP-POL-6000 – issue 5 dated 26 September 2012.
 - **2014** - Revised DIP Guidelines (available from the DIP Division).
 - Non-published information accessed and selectively used by the author, with due caution as to non-disclosure and other information security concerns being observed:
 - Various DIP claims as related to the DIP business done at Denel (Pty) Ltd – not used owing to commercial confidentiality concerns.
 - 2001 to 2009, Various Armscor and Denel communications during the period – not used owing to commercial confidentiality concerns.
 - 2005 - Armscor DIP Division Report on Problems experienced with the local defence industry involved in the strategic defence package deal. Not published.
 - 2009 to 2014 – various Armscor tenders (e.g. Package, Teamster, Blesbok, HF Comms) dealing with DIP and NIP conditions, as consultant to SADI companies – subject to NDA signed and observed.

*Auditor General's (AG) Office of South Africa. 14 November 2001. Joint Report on the Defence Package Deal. This report was done by the AG, the NPA and the Public Protector of South Africa. [In the body text this will be **referenced as *AG, 2001**]. Available at: <<http://www.agsa.gov.za>> [Accessed 5 October 2008].

Bromund, T.R., 14 January 2014. After U.S. Signature of U.N. Arms Treaty Begin to Surface. The Heritage Foundation. Issue Brief #4126 on Arms Control and Nonproliferation. Available at: <<http://www.heritage.org/research/exports/2014/01/dangers-....>> [Accessed 14 June 2014].

Burger, P., 2011. Acting Senior Manager: DIP Division Armscor, supported by his two DIP Managers Messrs Wouter Klomp and Andre Botha. An in-depth SDP DIP interview covering the period 2000 – 2010/11. Interview date was 18 October 2011. Right of use of info invoked on 16 November 2011.

Carson, M., 2010. Guiding structural change: The role of government in development. Working paper No. 40. International Labour Office, Geneva. Available at: <http://www.ilo.org/wcmsp5/groups/public/---ed_emp/---emp_elm/---analysis/documents/publication/wcms_124919.pdf> [Accessed 7 December 2012].

Crawford-Browne, T., 19 November 2008. ECAAR-SA. Submission on the Arms Deal to the Standing Committee on Public Accounts (SCOPA), Parliament, Cape Town. Available at: <<http://www.pmg.org.za/report/20081021-draft-resolutions-approval-access-confidential-strategic-defence-pack>> [Accessed 20 September 2012].

Defence Review Committee of South Africa, 2011. Chairperson, Roelf Meyer. Available at: <<http://www.defencereview2012.org.za>> [Accessed 3 November 2011].

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- **2001.** Strategic Countertrade Plan. Countertrade Department. 11 October 2011. Ref CTD4.12.1B. Drafted by J.J. van Dyk. Internal Company Document.
- **2002.** Correspondence with Foreign Affairs regarding possible assistance to Poland on their countertrade policies. Ref CTD7.4.10. 21 May 2002.
- **2005.** Correspondence with Armscor DIP Division regarding allegations against Denel Divisions related to DIP problems. Ref CTD4.14.4. 9 November 2005. Company Confidential.
- **2006.** Internal Company Confidential report: 'Denel's experience with DIP in the Strategic Defence Packages (SDP).' 20 February 2006.
- **2007.** Annual Report for 2006/7.
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<<http://www.QFinance.com>>

<<http://www.legaldictionary.lawin.com>>

<<http://www.economywatch.com>>

<<http://www.barternews.com>>

<<http://www.dictionary.reference.com>>

<<http://www.webopedia.com>>

<<http://www.answers.com>>

<<http://www.investopedia.com>>

<<http://www.bbaknol.com>> and <<http://www.businessdictionary.com>>

H. Internet Based Searches - website URL <http(s)://www...> are as follows. To note – several websites do not use the ‘www.’ prefix – several ‘secure’ sites appear as ‘https’:

1c.gc.ca	ate-southafrica.com
abdi.com.br	auburn.edu
academia.edu	avascent.com
adminnews.uct.ac.za	aviationcentral.co.za
adolphus.me.uk	baesystems.com
ads.co.za	baternews.com
af.mil.za	bbc.co.uk
agsa.gov.za	bbc.com
agustawestland.com	bdlive.co.za
aidc.co.za	bellhelicopter.com
aijcrnet.com	berkshire.co.uk
airbusgroup.com	beyondintractability.org
airbusmilitary.com	bi.edu
airforce-technology.com	bicc.de
ajol.info	bis.doc.gov
amd.org.za	blenheincapital.net
amnesty.org	bloomberg.com
ancient.eu.com	BMW.com
apca.net	brcs.co.za
aqr.org.uk	bschool.nus.edu.sg
archive.lib.msu.edu	businessdictionary.com
archive.ti-defence.org	businessinsider.com
archive.transparency.org	CAAT.org.uk
armscomm.org.za	carecon.org.uk
armscontrol.org	centrotrade.net
armscor.co.za	cepr.org
army-guide.com	cer.org.uk
arts.cornell.edu	chicagofed.org
asecu.gr	cid.harvard.edu
asiatoday.com.au	citelighter.com
astrotech.co.za	citeman.com

citeseerx.ist.psu.edu	digital.library.adelaide.edu.au
citypress.co.za	dod.mil.za
codesria.org	dpe.gov.za
conomistsview.typepad.com	eads.com
consensuseconomics.com	ec.europa.eu
controlarms.org	ec.europa.eu
corruptionwatch.org.za	ecaar.org
coursesa.matrix.msu.edu	ecaar.org.za
crs.gov	ecco.com
crs.gov	econ.utah.edu
crweb.ccr.uct.ac.za	econlib.org
csir.co.za	economicsbulletin.com
csis.org	economichelp.org
ctcd.edu	economist.com
cto-offset.com	economywatch.com
d.umn.edu	editor@cto-offset.com
da.org.za	efinancialnews.com
dailymail.co.uk	elibrary.worldbank.org
data.worldbank.org	elsevier.com
dataweek.co.za	emeraldinsights.com
defence.gov.au	engineeringnews.co.za
defenceagainstcorruption.org	english.peopledaily.com
defenceandsecurity.ca	environment.gov.za
defencereviewasia.com	eolss.net
defencesynergia.co.uk	epsjournal.org.uk
defenceWeb.co.za	epsusa.org
defenseindustrydaily.com	etu.org.za
defensenews.com	eur-lex.europa.eu
defeseindustrydaily.com	eurofighter.com
defpro.com	fas.org
denel.co.za	feasta.org
deneldynamics.co.za	ferrostaal.com
dhet.gov.za	fff.org
dictionary.reference.com	Fin24.com

findarticles.com
flightglobal.com
forbes.com
foreignpolicyjournal.com
freepatentsonline.com
frost.com
fzt.haw-Hamburg.de
gew.co.za
globaloffset.org
globalresearch.ca
globalsecurity.org
globalsociology.pbworks.com
goodreads.com
google.co.ca
google.com
gov.pl
gpn.org
guardian.co.uk
heritage.org
history-world.org
historytoday.org
hrw.org
iafrica.com
ibsa-trilateral.org
idsa.in
iie.com
ilo.org
imf.org
indiandefencereview.com
info.gov.za
infoplease.com
investopedia.com
iol.co.za
ipac.kacst.edu.sa

ipocafrika.org
ippa.org
IRTI.org
irtipms.org
iseg.utl.pt
isi-web.org
iso.org
iss.org.za
iss.uw.edu.pl
issafrica.org.za
itweb.co.za
iun.ch/iun
jcs.w.no
jiscjournalarchives.ac.uk
josephstiglitz.com
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journals.elsevier.com
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kkozak.wz.cz
kuwaitnoc.com
latienda.ie.edu
legal-dictionary.thefreedictionary.com
libweb.anglia.ac.uk
lin.msu.edu
londoncountertrade.org
marketing.univie.ac.at
merriam-webster.com
mg.co.za
mi.government.bg
militaryfactory.com
militaryphotos.net
militaryterms.net
mmr.sagepub.com
mod.uk

moneyweb.co.za
mtholyoke.edu
multinationalmonitor.org
muse.jhu.edu
nafta-sec-alena.org
nap.edu
nationsonline.org
navy.mil.za
nbn-resolving.de
News24.com
nlm.nih.gov
nmmu.ac.za
npa.gov.za
nytimes.com
nytimes.com
offest.ae
oreignaffairs.com
oup.com
oxfam.org.uk
oxfordbusinessgroup.com
palgrave.com
pglobal.com
photius.com
physics.nau.edu
pitc.gov.ph
pmddtc.state.gov
pmg.gov.za
politico.com
polity.org.za
popularsocialscience.com
privatemilitary.org
project-syndicate.org
pulitzercenter.org
quaker.org

raf.mod.uk
redaccion.nexos.com.mx
reference.sabinet.co.za
referenceforbusiness.com
renk-maag.ch
researchchannel.co.ca
riskvue.com
rrs.co.za
rusi.org
saabgrintek.com
saabgroup.com
saairforce.co.za
sacc.org.za
sadefencereview2012.org
saflii.org
safpi.org
sagepub.com
sahistory.org.za
saiia.org.za
scholar.google.co.ca
scielo.br
sciencedirect.com
securitysa.com
seis.ucla.edu
sfu.ca
sipri.org
slate.com
slideshare.net
socialresearchmethods.net
sociology.org.uk
sociology.yale.edu
sofiaecho.com
southafrica.info
spahp.creighton.edu

spiegel.de	ukti.gov.uk
springer.com	un.org
ssrn.com	unc.edu
stats.wto.org	unctad.org
statssa.gov.za	unictral.org
stemcor.com	unisa.ac.za
strategicoffsets.com	urbandictionary.com
sydney.edu.au	usnwc.edu
tandfonline.com	utdallas.edu
tax.mpg.de	warwick.ac.uk
thalesgroup.com	washingtonpost.com
theatlantic.com	wassenaar.org
thedti.gov.za	wassenaar.org
thefinancier.com	web.worldbank.org
thefreedictionary.com	whoswho.co.za
theguardian.com.uk	wikipedia.com
thehindu.com	witiger.com
thelocal.de	worlatlas.com
thelockeinstitute.org	worldeconomics.org
thethalesgroup.com	world-economics.org
thetimes.co.za	worldtradelaw.net
thunderbird.edu	wto.org
thyssenkrupp.com	www1.tau.ac.il
timeslive.co.za	www2.southeastern.edu
touchthesoil.com	yahoo.co.za
tradingeconomics.com	yahoo.com

I. Media reports around the Strategic Defence Package (SDP) of 1999

<<http://armsdeal-vpo.co.za>>

A virtual press office database containing all the SDP's media news (just over 12 000 articles/reports - about the 'arms deal') of Dec. 1999 – established c. 2004 and maintained by Dr Richard Young MD of CCIL.

APPENDICES TO THE THESIS:

COUNTERTRADE AS A DEVELOPMENT TOOL – A COMPARATIVE ANALYTICAL APPROACH

J. J. van Dyk

5 December 2014

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Appendix A

Country Comparative Countertrade Table

The Editor⁸⁴⁴ of CTO, wrt the correctness and credibility of this publication's information, states as follows (QB, 2012, p1): **Quote:** 'Every care has been taken to provide an accurate representation of the current offset and/or countertrade guidelines or practises of the countries covered in this publication. Some countries provide English translations that we could not properly rely on. For these we have sought advice from translators, law firms, and the civil servants responsible for implementing these policies. Many countries present texts so complex that they confuse rather than clarify, and others don't publish their guidelines at all. We have tried to identify the policies of countries that don't issue guidelines, and explain the practices of those that do. As stated, we have made every reasonable effort to ensure the accuracy and currency of the contents of this publication, but readers should seek further clarification from the implementing authorities of the countries concerned before relying on the information contained herein, and we cannot accept responsibility for any consequences that may arise if you fail to do this'. **Note:** All the listed countries, unless stated otherwise, apply countertrade either by means of a decree, a law, as national policy and/or as standard procurement regulations or practices.

Country Comparative Countertrade Table						
Country	Is Order accumulation Applicable?	Multipliers used to determine credit vales	Offset percentage on the purchase value	Penalty Information	Discharge period	Type of reciprocal programme preferences
Algeria No official policy	Information not available	Information not available	Information not available Civil and defence related	Information not available, although there are some tenders with a 20% penalty	Information not available	Insisting on various industrial participation type projects, both defence and civil – investment and equity requirements
Argentina No official policy	Information not available	Information not available	Reportedly 100% of contract value Civil and defence	Information not available	Information not available	Sub-contracting with Argentinean companies is a contingent requirement, as well as selling

⁸⁴⁴ Lindsey Shanson, Editor of CTO

Country Comparative Countertrade Table						
Country	Is Order accumulation Applicable?	Multipliers used to determine credit vales	Offset percentage on the purchase value	Penalty Information	Discharge period	Type of reciprocal programme preferences
			related			Argentinean goods abroad.
Australia No official policy, but a policy called 'A Smarter and More Agile Defence Industry Base.'	Not stated	No	% negotiable on A\$20m (US\$21.4m) or more	Information not available – although names of companies not performing on obligations are published	In terms of Main Supply contract	Australian Industry Capability Programme (AIC) – also using 'Global Supply Chain' deeds. Identified priority sectors
Austria	Not stated – looks like per contract	3-10	100% on Euro 726,000 and higher	5-10% - of unfulfilled obligation	5 – 15 years	Direct & indirect defence
Azerbaijan – latest entrant	Not stated	Not stated	Not stated	Not stated	Not stated	Requires local industry involvement in defence – has established a military complex to reduce dependencies
Belgium* Changes are anticipated due to EC Directives. For the time being the existing	Not stated – looks like per contract	Up to 2 – does use negative multipliers as well	100% on Starts at Euro1,1m and more – there are 4 different categories of offset thresholds in	10%	Negotiable	Direct, semi-direct and indirect defence and civil. Pre-offsets not considered.

Country Comparative Countertrade Table						
Country	Is Order accumulation Applicable?	Multipliers used to determine credit vales	Offset percentage on the purchase value	Penalty Information	Discharge period	Type of reciprocal programme preferences
process covers as stated			use			
Bolivia No official policy	Information not available	Information not available	Information not available	Information not available	Information not available	Does practice offsets and barter on an ad hoc basis
Brazil (managed separately by the three Arms of Services)	Not stated – looks like per contract	1-10	100% on US\$5m and more	5%	Linked to main agreement	Defence preferred (10% as direct and 60% as indirect) and civil – it contains a full mix of most recognised forms of countertrade
Brunei (still pending implementation)	Not stated – looks like per contract	Negotiable	80% on B\$6m (US\$3.7m).	10%, with 20% in event of NO performance	8 years	Partnerships and investments - general objective is for new knowledge-based industries that will provide employment.
Bulgaria* Changes are anticipated due to EC Directives. For the time being the existing process covers as stated	Not stated – looks like per contract	No multipliers	100% from Euro2,5m and more	Between 5% and 20%	Up to 10 years	30% direct and 70% indirect defence

Country Comparative Countertrade Table						
Country	Is Order accumulation Applicable?	Multipliers used to determine credit vales	Offset percentage on the purchase value	Penalty Information	Discharge period	Type of reciprocal programme preferences
Burma No official policy	No information available	No information available	No information available	No information available	No information available	Evidence of industrial participation activities – otherwise they practice barter
Canada	Not stated – looks like per contract	Up to 10	100% on selected procurements that are valued at greater than C\$2m (US\$1.98m) and for all deals over C\$100m.	10% and more	Negotiable	Industrial and regional benefits – direct and indirect – as well as investments
Chile	Not stated – looks like per contract	Negotiable	100% on US\$1m and more	Negotiable	At least 30% of the obligation must be fulfilled by the middle of the contractual period.	Co-production, technology transfer, production licenses, and new export markets – other forms of countertrade may be considered as well
China No official policy – a prolific user of offset	No information available	No information available	No information available	No information available	No information available	Offset principles are applied to both civil and military contracts – countertrade may be applied
Colombia (entered offsets)	Not stated –	From 0.2 to	100% on all contracts	Between	Up to 10	Various direct and

Country Comparative Countertrade Table						
Country	Is Order accumulation Applicable?	Multipliers used to determine credit vales	Offset percentage on the purchase value	Penalty Information	Discharge period	Type of reciprocal programme preferences
only in 2007 – Gov. policy)	looks like per contract	5	of US\$1m+	4,5% and 5%	years	indirect - In general defence contractor are asked to provide a mix of 60% aircraft-orientated projects and 40% social-oriented programmes – focus is on self-sufficiency.
Costa Rica No official policy	No information available	No information available	No information available	No information available	No information available	Barter in coffee bean deals has been reported
Croatia	Not stated – looks like per contract	Between 0.5 and 2	100% on Euro2m and more	10%	Up to 10 years	Direct and indirect defence
Cuba No official policy	No information available	No information available	No information available	No information available	No information available	Various countertrade and barter deals recorded over time – used 'creative' fiancé techniques for imports
Czech Rep* Changes are anticipated due to EC Directives. For the time being the existing	Not stated – looks like per contract	Negotiable, especially with R&D	100% on Kc1 billion (€40m) or more. When foreign sub-contractors supply Czech primes the threshold	Between 5% and 10%	Between 5 and 10 years	Defence and high tech non-defence – with at least 20% as direct offsets

Country Comparative Countertrade Table						
Country	Is Order accumulation Applicable?	Multipliers used to determine credit vales	Offset percentage on the purchase value	Penalty Information	Discharge period	Type of reciprocal programme preferences
process covers as stated			is Kc500m.			
Denmark Changes are anticipated due to EC Directives. For their new fighter programme (2014) they adopted an industrial cooperation stance ⁸⁴⁵	New & additional apply	Up to 10 in rare cases	From 30% from DKK 5m and more	Up to 30%	As per main agreement	Defence and high tech other industries – also technology transfers
Ecuador No official policy	No information available	No information available	No information available	No information available	No information available	There appears to be some interest related to technical support required in their gas, electrical and petro-chemical industries
Egypt	Unknown	NA	Quota negotiable from US\$1m and more	Negotiable	Negotiable (barter portion forces a quicker discharge)	Combination of co-production and barter, using Escrow account for Egyptian Pound transactions
Estonia	Not stated – looks like per	Up to 5	100% on Kroon 150m	0.1% per day to a	Equal to supply	Mainly indirect promotion of

⁸⁴⁵ Confirmed by Lindsey Shanson – editor of CTO – November 2014

Country Comparative Countertrade Table						
Country	Is Order accumulation Applicable?	Multipliers used to determine credit vales	Offset percentage on the purchase value	Penalty Information	Discharge period	Type of reciprocal programme preferences
	contract		(€9.6m)	max of 120%	contract, negotiable	exports and a focus on counter-purchase transactions
Ethiopia No official policy	No information available	No information available	No information available	No information available	No information available	There appears to be a keen interest in barter
Finland Changes are anticipated due to EC Directives. For the time being the existing process covers as stated	Not stated – looks like per contract	Between 0.3 and 5	100% on Euro10m and more	Between 3% and 5%	Main agreement plus up to 2 years	Direct defence, indirect and high tech other – with SMME exports
France No official policy	No information available	No information available	No information available	No information available	No information available	Does practice defence offsets on a case by case basis
Germany No official policy	NA	NA	NA	NA	NA	The MoD regards offset is an obstacle to fair competition and believes it may result in higher procurement costs.
Greece Changes are anticipated due	Possibly	Up to 10%	100% on Euro10m and	Up to 10%	Equal to supply	Greek Industry participation and

Country Comparative Countertrade Table						
Country	Is Order accumulation Applicable?	Multipliers used to determine credit vales	Offset percentage on the purchase value	Penalty Information	Discharge period	Type of reciprocal programme preferences
to EC Directives.			more		contract, plus 12 months	Greek value add transactions of at least 35%
Hungary Changes are anticipated due to EC Directives. For the time being the existing process covers as stated	Not stated – looks like per contract	Between 5 and 15	100% exceeding 1b HUF (c.US\$5m) of imported content – linked to multipliers	6%	Negotiable, but with 50% half way through the main contract delivery period	Offsets to develop a knowledge-based economy, with at least 30% in the form of investments and with 20% in the direct offset category
India (offset player since 2005)	Not stated – looks like per contract	Up to 3	30% on Rs 300 crore (c.US\$66m)	Starts at 5% with roll over condition that may end up close to 30% over time	Follows the main contract – plus 2 years	Both defence and civil offsets are required, although civil offset cannot be used to satisfy defence obligations
Indonesia No official policy	Not stated – looks like per contract	None	100% on Rp500m (US\$550,000) and more	50%	Negotiable	Counter purchases with industrial participation proposals taking more prominence in winning deals
Iran No official	No information available	No information available	No information available	No information available	No information available	Reportedly resorts to buy-back and barter deals – related to oil

Country Comparative Countertrade Table						
Country	Is Order accumulation Applicable?	Multipliers used to determine credit vales	Offset percentage on the purchase value	Penalty Information	Discharge period	Type of reciprocal programme preferences
policy						transactions
Ireland	No information available	No information available	No information available	No information available	No information available	There is a reported interest to pursue defence offsets, but not as part of the bidding process
Israel	Accumulative over 5 yrs	Up to 1.5	50% on US\$5m and more (Civil contracts have a 30%-35% quota depending on WTO allegiance of seller country)	None, although non-performers will be blacklisted	Negotiable	Long term Industrial co-operation, with a focus on R&D projects – a minimum of 20% local sub-contracting
Italy Changes are anticipated due to EC Directives. For the time being the existing process covers as stated	Not stated – looks like per contract	Up to 3	100% on Euro 5m and more	Up to 10%	Follows the main contract plus 2-3 years	Work share and technology – defence only
Japan No official policy or	NA	NA	NA	NA	NA	Licenses and co-design programs leading to indigenous

Country Comparative Countertrade Table						
Country	Is Order accumulation Applicable?	Multipliers used to determine credit vales	Offset percentage on the purchase value	Penalty Information	Discharge period	Type of reciprocal programme preferences
guidelines						systems under industrial participation programs are the preferred method of purchase.
Jordan No official policy or guidelines	NA	NA	NA	NA	NA	There is a reported interest to pursue offsets
Kazakhstan	NA	NA	NA	NA	NA	Busy establishing a military complex with domestic manufacturing capabilities. This is however no limited to defence only.
Korea (North) No official policy	No information available	No information available	No information available	No information available	No information available	Due to debts they do resort to various types of barter deals
Korea (South)	Not stated – looks like per contract	Calculated through a formula – up to 3	50% plus on US\$10m and more – with 30% as direct and 20% as indirect	10%	Follows the main contract – but negotiable	Korean industry participation, development, technology transfer and training
Kuwait	Accumulative in one fiscal year	Up to 5.5	35% for def. contracts of KD3m (US\$10,4m) and more and	6% on the supply Contract value	5 years	Defence related and civil – focus on ToT and training with economic

Country Comparative Countertrade Table						
Country	Is Order accumulation Applicable?	Multipliers used to determine credit vales	Offset percentage on the purchase value	Penalty Information	Discharge period	Type of reciprocal programme preferences
			on civil contracts of KD10m (US\$35m) and more			development plans and on the civil side BOT projects
Libya	No information available	No information available	No information available	No information available	No information available	There are indications that an informal countertrade policy is emerging, particularly for the energy sector. Multinational oil and gas companies have signed agreements with the Transitional National Council to exchange crude oil for refined fuel cargoes.
Lithuania	Not stated – looks like per contract	Up to 5	100% on 5 million Litas (c. US\$2m).	'Blacklisting'	Up to 10 years max – with 50% in 5 years	Compensation and industrial co-operation
Luxembourg	No information available	Up to 10	Up to a 100%	Negotiable	Negotiable	Case by case offset transactions were reported
Malaysia	Not stated – looks like per contract	Up to 5, but not generally encouraged	100% M\$50m (c. US\$16m)	5% of main contract	Follows the Main Contract	Defence offsets and counter-purchase combination - to enhance the

Country Comparative Countertrade Table						
Country	Is Order accumulation Applicable?	Multipliers used to determine credit vales	Offset percentage on the purchase value	Penalty Information	Discharge period	Type of reciprocal programme preferences
						nation's industrial, technological and overall economic capability
Mauritius No official policy	No information available	No information available	No information available	No information available	No information available	Reportedly wants industrial participation type projects in aerospace
Mexico No official policy	No information available	No information available	The focus will be on the capacity for large projects, probably not less than the threshold value, which is expected to be US\$25m.	No information available	No information available	Reportedly considering the implementation of offsets
Morocco (new)	NA	NA	NA	NA	NA	Increasingly inserting industrial participation clauses into international tenders for both military and civil purchases.
Netherlands Changes are anticipated due to EC Directives.	Not stated – looks like per contract	Up to 30	100% on Euro5m and more	Non-performance leads to a stepped increase of	Between 5 to 7 years or up to max 10 years	Direct and indirect – with a strong focus on R&D – 20% contracted to SMEs – 20% in

Country Comparative Countertrade Table						
Country	Is Order accumulation Applicable?	Multipliers used to determine credit vales	Offset percentage on the purchase value	Penalty Information	Discharge period	Type of reciprocal programme preferences
				obligations		defence
New Zealand	Possibly – refer to ‘projects’	Up to 3	30% on US\$5m and more	Negotiable	Follows the Main Contract or up to 5 years	Industry involvement programme – defence technology driven
Nigeria No official policy	No information available	No information available	No information available	No information available	No information available	Reported irregular requests for direct offset. Countertrade and buy-back used to conserve FOREC earnings
Norway Changes are anticipated due to EC Directives. For the time being the existing process covers as stated	Not stated – looks like per contract	Up to 6	100% on NOK 50m US(\$9.3m) or more – with at least 50% as direct	10% or more - negotiable	Negotiable – even for periods beyond 10 years	To leverage long-term def co-operation and export contracts in the form of industrial cooperation
Oman (Anticipating changes to the Partnerships for Development programme)	Not stated – looks like per contract	Up to 5	50% on OMR 5m (c. US\$13m) or more	10%	5 years negotiable	Partnership for development – defence and non-defence – investments and JVs
Pakistan No formal	Voluntary process	None	None	None	None	‘Informal’ industry co-operation – voluntary - buy-

Country Comparative Countertrade Table						
Country	Is Order accumulation Applicable?	Multipliers used to determine credit vales	Offset percentage on the purchase value	Penalty Information	Discharge period	Type of reciprocal programme preferences
guidelines						back offset - conventional commodity trading, but it now also has adopted commodity exchanges
Peru Joined the offset regimes in 2010	Not stated – looks like per contract	Up to 5	100% of 5,600 UIT (c. US\$7m) or more	Negotiable – with blacklisting for non-performance	Not stated	Technology and offsets – both defence and civil – 40% direct and 60% indirect
Philippines	Not stated – looks like per contract	Up to 6	From 80% to 100% on US\$1m and more – sliding scale commitment approach	5% to 100%	Between 2 and 3 years	Countertrade: counter-purchase, offsets, debt swaps and BOT types of activities
Poland Changes are anticipated due to EC Directives.	All contracts over 3 years	Up to 2 – to be aborted	100% on Euro5m and more – TBC – all contracts with 80%	Negotiable	Negotiable up to 10 years maximum	Only Defence offsets (and R&D – TBN)
Portugal Aborted the use of offsets in 2010	NA	NA	NA	NA	NA	NA
Qatar No official policy	No information available	No information available	No information available	No information available	No information available	Reportedly do apply offset principles – educations and

Country Comparative Countertrade Table						
Country	Is Order accumulation Applicable?	Multipliers used to determine credit vales	Offset percentage on the purchase value	Penalty Information	Discharge period	Type of reciprocal programme preferences
						BOT type activities
Romania Changes are anticipated due to EC Directives.	All contracts over Euro3m collectively	Up to 5	80% on Euro3m and more	Up to 10% for missing a milestone plus 10% for liquidated damages at the end	Duration of the Main Contract plus 2 years	Direct defence and aerospace and indirect high tech other – minimum of 25% direct offset
Russia A process was implemented in 2011, but no official policy	No information available	No information available	No information available	No information available	No information available	Although there are no prescribed offset or countertrade policies Russia is receptive to industrial participation for major defence procurements. The procurement of foreign military equipment may therefore result in a requirement for domestic-build programs with technology transfer.
Saudi Arabia	Case-by-case	Up to 4	40% on SR 400m (US\$107m).	None	Negotiable up to 10 years	Various forms of offset and training and industrial development to expand its industrial base – 50% as direct

Country Comparative Countertrade Table						
Country	Is Order accumulation Applicable?	Multipliers used to determine credit vales	Offset percentage on the purchase value	Penalty Information	Discharge period	Type of reciprocal programme preferences
Serbia and Macedonia and Bosnia No official policy	No information available	No information available	No information available	No information available	No information available	Ad hoc countertrade requirements have been reported
Singapore	NA	NA	Case by case	NA	NA	The Singapore government will tell the foreign defence contractor clearly what is wanted by way of industrial participation and will identify that in the tender documents.
Slovakia	NA	NA	NA	NA	NA	Apparently decided not to implement its planned offset policy of 2007
Slovenia Changes are anticipated due to EC Directives. For the time being the existing process covers as stated	Possibly	Up to 7 – revised to 10	100% on €400,000 – to increase to €500,000.	10%	Up to 5 years	Mixture of offsets and countertrade – will request FDI of 20%
South Africa	Accumulative over 2-5	Armscor – none;	On Defence 50% on	100% on DIP (from	Up to 10 years, but in	For DIP – a combination of

Country Comparative Countertrade Table						
Country	Is Order accumulation Applicable?	Multipliers used to determine credit vales	Offset percentage on the purchase value	Penalty Information	Discharge period	Type of reciprocal programme preferences
	years, same project	The DTI – up to 25	US\$2m and more, plus 30% on US\$10m or more. The 30% is also applicable to all other government purchases abroad	2012) and 5% on NIP	most cases up to 7 years only	<p>direct and indirect defence offsets. On NIP a combination of foreign investments, sales and exports of downstream value adding nature.</p> <p>In 2013 DTI added 'DIRECT NIP'.</p> <p>For fleet procurements (e.g. SAA) there will be a separate arrangement. There is also a CSDP for Transnet and Eskom projects <i>in lieu</i> of NIP.</p>
Spain Changes are anticipated due to EC Directives.	Case-by-case	2 to 5	100% on Euro 1m and more	5% to 10%	Follows the Main Contract	Industrial co-operation and offsets
Sri Lanka No official policy	No information available	No information available	No information available	No information available	No information available	Reported interests in offsets and bilateral barter
Sweden Changes are anticipated due	Not stated – looks like per	Up to 3	100% of contract	5%	Follows the Main	Industrial participation –

Country Comparative Countertrade Table						
Country	Is Order accumulation Applicable?	Multipliers used to determine credit vales	Offset percentage on the purchase value	Penalty Information	Discharge period	Type of reciprocal programme preferences
to EC Directives.	contract		value.		Contract	mainly defence
Switzerland Changes are anticipated due to EC Directives.	Not stated – looks like per contract	Possibly negotiable	100% of supply contract	5%	No later than 3 years after completion of Main Contract	Combination of direct and indirect offsets and buy-backs
Syria No official policy	NA	NA	NA	NA	NA	Reportedly using oil barter to keep the economy afloat
Taiwan	Not stated – looks like per contract	0.25 to 10	40% to 70% on US\$5m and more	3% - 5%	5 – 10 years	Industrial co-operation programme.
Thailand	NA	NA	NA	NA	NA	In 2006 scrapped its barter policy, but is now reportedly re-implementing the practice due to the economic recession's effects on its economy
Tunisia No official policy	NA	NA	NA	NA	NA	Reportedly pursuing offsets and buy-back, as well as BOT transactions
Turkey	Not stated – looks like per contract, could be	Up to 8	At least 70% of supply contract value - US\$5m or	6%	Follows the Main Contract	Mainly defence and aerospace related – a combination of

Country Comparative Countertrade Table						
Country	Is Order accumulation Applicable?	Multipliers used to determine credit vales	Offset percentage on the purchase value	Penalty Information	Discharge period	Type of reciprocal programme preferences
	accumulative, as well		more		plus 2 years	industrial participation and offsets
UAE	Once over threshold, thereafter forever 60%	Up to 5	60% on US\$10m and more	8,5%, as well as the withholding of payment and publishing the names of non-performing companies	7 years – rolling (minimum discharge percentages are set per year)	Offset JV business Ventures – major focus on establishing an industrial capability in ammunition, auto, aerospace and metals/technology.
Ukraine	NA	NA	NA	NA	NA	Reportedly considering implementation of offsets. There is a barter law in place since 2009.
United Kingdom Changes are anticipated due to EC Directives.	Per contract	None	100% on £10m (c. US\$20m) or more	None, although non-performing companies will be blacklisted	In line with the main contract	Defence related industrial participation and exports.
Uruguay No official policy	NA	NA	NA	NA	NA	Several barter deals were, however, reported.
USA No official	NA	NA	NA	NA	NA	Uses its 'Buy American Act' to protect its

Country Comparative Countertrade Table						
Country	Is Order accumulation Applicable?	Multipliers used to determine credit vales	Offset percentage on the purchase value	Penalty Information	Discharge period	Type of reciprocal programme preferences
policy						industries.
Uzbekistan	NA	NA	NA	NA	NA	Primarily uses bartering.
Venezuela	NA	NA	NA	NA	NA	Enforcing industrial participation onto seller, other forms of countertrade are also being applied.
Vietnam	NA	NA	NA	NA	NA	Reportedly uses clearing accounts and BOT projects.
Zimbabwe	NA	NA	NA	NA	NA	Reportedly using compensation type structures.
Note 1: Information extracted from the various and respective policy narratives as contained in the Country Quarterly Bulletin –update of July 2012 – courtesy of Lindsey Shanson, Editor. CTO Data Service Co. (CTO).						
Note 2: This quick reference table only focuses on the primary elements of each country's countertrade-related policy/guidelines/practice. For more details please consult the CTO QB directly.						
Note 3 – it is generally anticipated that all the EU members will have to introduce new policies or legislations to comply with the EC directive that requires member states to ban the use of defence offsets						

Note: Above table was developed by the author, based on CTO, QB July 2012. The Editor of CTO confirmed in an email dd 19 April 2014 that except for the DIP penalty and anticipated EU member policy changes related to defence offset requirements in future, that there are no other major changes, except for Denmark now opting for industrial cooperation, with the rest of the EU members operating 'underground – as per Lindsey Shanson editor CTO – Nov.'14

Armcor Defence Industrial Participation Policy

A-POL-6100

1 April 1997

**(Copied from the evidence pack of Armcor's Barry de Beer making testimony
to the APC between 3 and 6 March 2014 – cf.
<<http://www.armscomm.org.za/hearings/...>>)**



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TITLE PAGE

TITLE : POLICY IN RESPECT OF DEFENCE
INDUSTRIAL PARTICIPATION (DIP)

DOCUMENT NUMBER : A-POL-6100

DIP

SUMMARY : THIS DOCUMENT OUTLINES THE POLICY IN
RESPECT OF DEFENCE INDUSTRIAL
PARTICIPATION APPLICABLE TO DEFENCE
PURCHASES ABROAD VALUING USD 2
MILLION AND MORE

KEYWORDS : INDUSTRIAL PARTICIPATION, OBJECTIVES,
DEFENCE PURCHASES, RESPONSIBILITIES,
COUNTERTRADE, TERMS AND CON-
DITIONS

IMPLEMENTATION DATE : 01 APRIL 1997

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JJ VAN DYK


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Date

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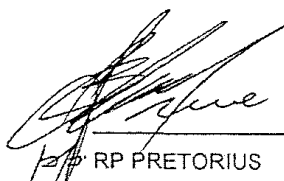
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DIP

SCOPE**1.1 Introduction**

- 1.1.1 This policy on Defence Industrial Participation is issued and described in accordance with those policy statements contained in the Department of Trade and Industry's National Policy on Industrial Participation (hereinafter referred to as NIP) and that of the Department of Defence (DoD) on Defence Industrial Participation (hereinafter referred to as DIP) as accepted by the Management Board on 28 February 1997 and the Board of Directors on 2 April 1997 respectively.
- 1.1.2 NIP became mandatory on 1 September 1996 upon approval by the Cabinet of the Government of South Africa, to utilize the instrument of government procurement to leverage, through the NIP programme, economic and industrial benefits and support for the further development of South Africa.
- 1.1.3 NIP refers to the process as prescribed in the National Industrial Participation Policy which is administered separately by the Department of Trade and Industry, in accordance with their own rules and procedures, which concentrate on civilian (non-defence) projects only.
- 1.1.4 The NIP programme becomes applicable when government departments and parastatals are involved with foreign procurement, purchase or lease contracts to the value of USD 10 million or more and in which case a reciprocal obligation will be attracted by the foreign vendor. The percentage of such obligation will be determined by the Department of Trade and Industry (DTI) which at present is 30%.
- 1.1.5 The NIP Policy also makes provision for the purchaser (in this case Armscor) to require a reciprocal obligation on purchases below USD 10 million and to increase such obligation to above the DTI prescribed percentage obligation for purchases of USD 10 million or more as mandated by Cabinet. In this

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respect it is the policy of the DoD, fully underwritten by Armscor, that all defence purchases abroad with a contract value of USD 10 million or more will be subject to an 80% obligation, which is to be split proportionally between national (30%) and defence (50%) industrial participation programmes. Furthermore all defence contracts, placed abroad, valued USD 2 million and more are subject to a DIP obligation of up to 50%.

1.1.6 Wherever reference is made in this document to any USD amount, it will automatically mean and refer to any other monetary equivalent thereof.

1.1.7 Any contract amendments, extensions or variations that result in either an increase or decrease of the original contract amount will by agreement impact on the seller's DIP obligation.

1.1.8 References, contained in this document, to "MoD" refer to all the accountable line functions of the Secretary for Defence as Head of the Department of Defence (DoD), located in the Ministry of Defence (MoD). Armscor is committed to a process of close relation and co-operation with the DoD/MoD in all the areas of defence acquisition and procurement where this industrial participation process may manifest.

1.1.9 This policy regarding the application of NIP and DIP will be applicable to all acquisition/procurement projects (with a value of USD 10 million and more) deemed necessary for satisfying the collective security needs of South Africa. On defence contracts with a value of between USD 2 million and USD 10 million, only the DIP portion will be applicable.

1.2 Scope and purpose

1.2.1 Objectives of NIP

1.2.1.1 The objectives of this programme are to leverage economic benefits and support the development of the South African industry by effectively utilising the instrument of government procurement, to promote the following:

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- a) Sustainable economic growth;
- b) Establishment of new trading partners;
- c) Minimise the outflow of foreign reserves;
- d) Filling the void created in South Africa by the overseas purchase;
- e) Foreign investment into South Africa;
- f) Exports of South African "value added" goods & services;
- g) R&D (research and development) collaboration in South Africa;
- h) Job creation and retention;
- i) Human Resource development;
- j) Technology transfer;
- k) Economic advantages for disadvantaged communities and
- l) SMME (small, micro and medium enterprises) development.

DIP

1.2.2 Objectives of DIP

1.2.2.1 DIP shall be applied in such a manner that it contributes to independence, as far as it is practically possible, as regards the maintenance and advancement of South Africa's defence industrial capabilities. The objective is furthermore to manage such programmes proactively to ensure that sellers meet their contractual obligations timeously.

1.2.2.2 The main objectives of all DIP programmes are thus, and in addition to the NIP objectives, also addressing specific defence industry objectives, such as the:

- a) retention, and where possible, creation of jobs, abilities and capabilities;
- b) establishment of a sustainable defence industrial and economic basis, with strategic logistic support capabilities;
- c) promotion of defence exports of value-added goods;
- d) promotion of like-for-like technology transfer and joint ventures;
- e) maintenance of skilled indigenous manufacturing capabilities; and
- d) provision for a sustainable local defence industry capacity.

1.2.3 Revision

This document will be revised annually or as otherwise deemed necessary by the Countertrade Division.

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2. **APPLICABLE LITERATURE**

2.1 Reference documents

2.1.1 Secretary for Defence (MoD) Policy on Defence Industrial Participation Issue 6 dd 22/02/97, replaced by Revision 1 of 07/05/97.

2.1.2 National Policy on Industrial Participation of the Department of Trade and Industry, dated 18/02/97.

2.2 Applicable documents

2.2.1 A-PROC-008 - Defence Industrial Participation Procedures.

DIP

3. **CONTENTS**

3.1 Responsibility for countertrade (DIP & NIP) functions

3.1.2 Department of Trade and Industry

It is hereby acknowledged that the non-defence portion (NIP) shall, when and where applicable, be the full responsibility of the IP Secretariat (of the Department of Trade and Industry - DTI) in accordance with the provisions of the NIP Policy and that neither Armscor nor the DoD/MoD shall be involved in the aforementioned process.

3.1.1 Armscor's Countertrade Division

All defence related industrial participation projects (DIP) emanating from acquisition and procurement programmes, shall be the full responsibility of the Countertrade Division. The Countertrade Division shall be fully responsible and accountable for the total process of managing and controlling all aspects related to DIP, from contracting to completion. The latter shall, inter alia, also include the process of interaction, co-operation, communication and liaison with all the various role players.

3.1.3 Armscor's Countertrade Manager

The Countertrade Manager or his appointed proxy (the official in charge of the Countertrade Division) shall be responsible and accountable for managing the Countertrade Division and its resources, for maximizing DIP opportunities and attending to the full process of DIP negotiations and subsequent DIP contract management processes. The aforementioned will also be expected to provide the Armscor Programme Manager at his request with suitable DIP provisions/documents for inclusion in the RFI/RFP, as and when applicable.

3.1.4 Armscor's Programme Manager

The Armscor Programme Manager is to ensure that all RFI and RFP (or RTP or RFT or RFQ) documentation, with a potential foreign content value of USD 2 million and more, include specific instructions to prospective sellers regarding NIP (where applicable) and DIP prescriptions and to assist the Countertrade Division with guidelines on direct and indirect DIP preferences, insofar as the latter might relate to defence industrial strategic considerations. Up and until a tender/contract is awarded the Programme Manager and Countertrade Manager will co-operate as a team. Once, however, the respective contracts (technical, DIP and NIP) have been signed, each of these Managers will take full and independent responsibility and be subsequently responsible for the performance of such seller in terms of the respective contracts.

3.1.5 DIP Committee

The DIP Committee must be established by the Countertrade Division and will be responsible for, inter alia, assessing all DIP proposals in accordance with the procedures and prescriptions governing the evaluation and approval of RFPs. The DIP Committee will furthermore be responsible for approving all DIP proposals, as well as all DIP credit claims. This Committee will consist of Armscor Countertrade (the Chair), Armscor countertrade, financial and legal experts and the Chief Acquisition of the Defence Secretariat (DoD/MoD - acting as co-chair). Organized defence industry, other

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members of the MoD and the Programme Manager may be co-opted to make presentations in selected cases. Decisions and rulings of the DIP Committee will be on a majority vote of the permanent members and will take into consideration the inputs of the relevant Programme Managers in cases where aspects concerning specific acquisition/procurement programmes/projects are at stake. In the case of an equal vote the chairman will have the casting vote.

3.2 Principles

The following principles, as laid down in the Government's National Industrial Participation Policy, will also govern the process of defence industrial participation negotiation and contracting.

DIP

3.2.1 Price

The DIP obligation must not result in an increase in price of the purchase.

3.2.2 Mutual Benefit situation

DIP activities must make good business sense for the seller and be beneficial for the SA economy and the defence industry at large.

3.2.3 Additionality

In the case of all DIP programmes, all DIP plans must reflect incremental or new business to be considered for credits. (Existing business, completed projects or any activity done prior to the effective date of the DIP agreement, must not be considered for DIP credits.)

3.2.4 Sustainability

DIP activities must be economically and operationally sustainable and must support the main objectives of the MoD and DIP programmes in general.

3.2.5 Causality

In the case of DIP programmes, causality means that the seller must demonstrate to the satisfaction of Armscor that DIP activities are/were

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caused by the seller as a direct result of a DIP agreement (this also applies to a proactive DIP agreement).

3.2.6 Responsibility

The responsibility for the fulfilment of any DIP obligation lies solely with the seller (although the Countertrade Division is expected to ensure the timeously completion of such DIP commitments).

Note

The words "additionality" and "causality" are specifically used in the countertrade environment as standard terminology for contracting.

3.3 Terms and conditions

The following terms and conditions shall in all cases apply as a guideline (refer par 3.3.17) for all DIP agreements to be negotiated by the Countertrade Division:-

3.3.1 Defence Industrial Participation (DIP)

DIP programmes may consist of the following two elements:

- a) Direct DIP - shall mean specific DIP programmes, covering those activities which are directly (by specification) related to the products, services, matériel and/or equipment which are the subject of the Main Agreement (Purchase Contract).
- b) Indirect DIP - shall mean those programme activities related to products manufactured by or purchased from, or services rendered by Armscor or South African manufacturers (mainly in the defence industry) in accordance with international industrial standards and/or military specifications at least equivalent or similar to those covered by the Main Agreement (Purchase Contract).

3.3.2 Value threshold

- a) The DIP obligation (refer 3.3.3) becomes obligatory when the value

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of the defence purchase contract (placed abroad) is equal to or greater than USD 10 million (or the equivalent thereof).

- b) The DoD/MoD also underwrites an inhouse programme, managed by the Countertrade Division, on all defence purchases between USD 2 million and USD 10 million.

3.3.3 Obligation

- a) For all defence purchases of USD 10 million or more, the NIP and DIP obligations, shall be split proportionally between national (30%) and defence (50%) industrial priorities and managed separately by the IP Secretariat of DTI and the Countertrade Division of Armscor.
- b) The DIP obligation for defence contracts between USD 2 million and USD 10 million will be up to 50%, managed by the Countertrade Division of Armscor.
- c) DIP must at all times be a firm commitment and not a best effort or intention, supported and underwritten by firm business plans.
- d) The DIP portion percentage of the obligation may possibly, however, differ from project to project depending on the specific nature of and circumstances prevailing to such a project, although the Countertrade Division is expected to negotiate such obligation to 50% or more.

3.3.4 Discharge Period/Fulfilment Period

A maximum of 7 years (with agreed milestones within this period) is allowed for the seller to discharge his DIP obligations. However, should the completion period of the Main Agreement (Purchase Contract) extend beyond 7 years, the discharge period may be extended. The discharge period could furthermore differ from project to project.

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3.3.5 Penalty

- a) A penalty of 5% must be levied by the Countertrade Division, with the approval of the DIP Committee, on any unfulfilled portion of the DIP obligation for projects valuing USD 10 million or more.
- b) A penalty of between 5% and 15% (sliding scale principle) must be levied by the Countertrade Division, with the approval of the DIP Committee, on any unfulfilled portion of the DIP obligation for defence contracts between USD 2 million and USD 10 million.
- c) The format and type of guarantee must be specified in the RFP, and could either be a bank, corporate or government type of guarantee. Such guarantee must be obtained by the Countertrade Division when the DIP agreement is signed, or prior to such signature.

DIP

3.3.6 Banking

Excess credits or credits earned through proactive DIP agreements may be banked and trading will be allowed. DIP and NIP credits will, however, not be interchangeable.

3.3.7 Investments

Investment can manifest in the following manner:

- a) It can be the amount of equity capital and/or value of capital equipment that the foreign seller invests, for purposes of performing its DIP obligation, by physical transfer from the seller's country to South Africa, for the relevant industries' benefit. Investments should be for a period of at least five years in order to qualify for credit. No multipliers must be allowed for determining any DIP commitment or subsequent credit. Should the investment be for less than 5 (five) years, the Countertrade Division may decide to cancel and reverse any credit granted, unless the seller can prove to Armscor that the return on such investment for any shorter period, has resulted in a tangible advantage/gain for the relevant industry in South Africa. In

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the latter case only that portion of the advantage/gain for the industry in South Africa will be considered for DIP credit and not the amount of the investment.

- b) Investments can also mean the accrued interest differential advantage gained by the local supplier/entity for foreign loan capital granted by the seller as part of its DIP obligation. Such loan repayments must be for a period of at least five years to be considered for granting of credits on the interest advantage portion gained or benefitted from.



3.3.8 Technology transfers

Technology and know-how transfers, which increase the efficiency of defence related companies in South Africa or helps to develop goods not previously manufactured in South Africa, must have an inherent value to South Africa. The DIP Committee must determine the value of such transfer in collaboration with Armscor's Technology Management Analysis (TMA) Division for the purpose of considering credits. No multipliers must be considered for the purpose of granting credits for technology transfers.

3.3.9 Strategic considerations

Facilities, products and skills which are regarded by the MoD as being of strategic value to South Africa, are very costly to establish and maintain. Local industry and security requirements cannot always provide for profitable sustainability in these areas. Foreign entities should therefore be encouraged to consider these areas for inclusion into their business plans. Specific emphasis is in this respect placed on strategic facilities (for eg CSIR, OTR, Gerotek, Alkantpan, etc) and must be taken into consideration when evaluating DIP proposals.

3.3.10 DIP Credit

DIP credits are to be granted by the DIP Committee for the seller's

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agreed performance, which results in the subsequent reduction in the seller's DIP obligations.

3.3.11 Imported Content

Imported content must be taken into consideration when assessing the actual value of a DIP order or contract for the purposes of granting DIP credits.

3.3.12 Joint Ventures

Joint ventures shall refer to an agreement between the seller or industries in the seller's country and Armscor, or defence related industries in South Africa, in terms whereof each party contributes for the purpose of achieving a common and mainly defence industrial interest. For the purposes of the aforementioned the Countertrade Division, in collaboration with the DIP Committee, may consider credits for investments, technology transfers, marketing assistance and the nett gain for Armscor or defence related industries in South Africa.

DIP

3.3.13 Cancellation

In the event that a DIP contract is cancelled, in whole or in part, due to the sole fault of the local supplier (in SA), no amount shall be deducted from the credit originally granted to the seller. In the event, however, of such contract being cancelled in whole or in part, for any other reason, the credit must be adjusted by the Countertrade Division pro rata to the price paid for the goods delivered and/or services performed.

3.3.14 Proactive DIP Agreements

The Countertrade Division is authorised and encouraged to promote and engage in *proactive DIP* agreements with third parties.

3.3.15 Liaison

The Countertrade Division in co-operation with the DoD and at the request of the Programme Manager will be responsible for arranging the

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necessary liaison meetings with DTI as and when required.

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3.3.16 Deviations

Deviations from the guidelines as contained in this par 3 can be approved by the Head of the Countertrade Division in consultation with the Legal Department and/or DIP Committee.

3.4 Evaluation

3.4.1 A comprehensive evaluation model/value system as devised by Armscor and used for the total evaluation of the RFP, also forms the basis for DIP evaluation in which process the DIP (and IP) portion(s) form(s) only one of the factors/elements to be taken into consideration. The Senior Manager Countertrade, in collaboration with the Programme Manager and with the approval of the DIP Committee will decide on the weight DIP will carry in the final evaluation model.

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3.4.2 DIP proposals on defence projects must be evaluated on the basis of the contents of a prescribed business plan, clearly stating the seller's proposed activities and milestones for accomplishing his DIP obligation.

3.4.3 The assessment of DIP proposals will be based on the extent to which such proposals support DIP objectives and provide for those capabilities required in the defence industry to in turn provide for a strategic, logistical support and upgrade capacity for a technologically advanced and modern defence force, its doctrine and posture.

Armcor Defence Industrial Participation Procedure

A-PROC-008

1 April 1997

(Copied from the evidence pack of Armcor's Barry de Beer making testimony

to the APC between 3 and 6 March 2014– cf.

<<http://www.armscomm.org.za/hearings/...>>



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TITLE PAGE

TITLE : DEFENCE INDUSTRIAL PARTICIPATION
(DIP) PROCEDURES

DOCUMENT NUMBER : A-PROC-008

SUMMARY : THIS DOCUMENT OUTLINES THE
PROCEDURES AND REQUIREMENTS IN
RESPECT OF DIP AGREEMENTS APPLICABLE
TO DEFENCE PURCHASES ABROAD
VALUING USD 2 MILLION AND MORE

KEYWORDS : DIP & NIP PROCESS, PURPOSE, STRATEGIC
VALUE, ELEMENTS, DEFINITIONS,
APPLICATION, RESPONSIBILITIES, CREDITS,
DIP COMMITTEE, RFI, RFP, RFT, RTP, RFQ,
EVALUATION

IMPLEMENTATION DATE : 01 APRIL 1997

DIP

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APPROVAL PAGE

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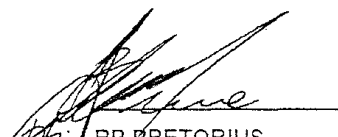


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1. SCOPE

1.1 Policy

1.1.1 These procedures on defence industrial participation are issued and described in accordance with statements contained in the Department of Trade and Industry's national policy on industrial participation (hereinafter referred to as NIP) and that of the Department of Defence (DoD) on defence industrial participation (hereinafter referred to as DIP).

1.1.2 NIP became mandatory on 1 September 1996 upon approval of the Cabinet of the Government of South Africa, to utilize the instrument of government procurement to leverage, through the NIP programme, economic and industrial benefits and support for the further development of South Africa. Cabinet on 30 April 1997 subsequently approved the NIP policy and the guidelines governing this process.

1.1.3 NIP becomes applicable when government departments and parastatals are involved with foreign procurement, purchase or lease contracts to the value of USD 10 million or more and in which case a 30% obligation will be attracted by the foreign vendor. Defence policy on DIP on the other hand, prescribes that all defence purchases abroad with a contract value of USD 2 million or more are subject to a DIP obligation of 50%. (Defence contracts of USD 10 million and more will therefore be subject to an 80% obligation.)

1.2 Purpose

1.2.1 NIP refers to the process as prescribed in the national industrial participation policy; administered separately by the Department of Trade and Industry, in accordance with their own rules and procedures. Defence industrial participation, on the other hand, refers to the process described in the DoD policy regarding DIP, subsequently underwritten by Armscor in its DIP policy document A-POL-6100.

1.2.2 Wherever reference is made in this document A-PROC-008 to any USD (United States Dollar) amount, it automatically means and refers to any other monetary equivalent thereof.

1.2.3 References to "MoD" in this document relate to all the accountable line functions of the Secretary for Defence as Head of the Department of Defence (DoD), located in the Ministry of Defence (MoD).

1.2.4 DIP shall be applied in such a manner that it contributes to independence, as far as it is practically possible, as regards the maintenance and advancement of South Africa's defence industrial capabilities. The objective is to manage DIP programmes proactively so as to ensure that sellers meet their contractual DIP obligations. DIP programmes will provide for a planned, organized and controlled approach and are to support the DoD/MoD goals regarding, inter alia, the promotion and co-ordination of the development, manufacture, standardisation, maintenance, acquisition or supply of armaments and related products and services.

1.2.5 The assessment of DIP proposals will be based on the extent to which such proposals support the objectives contained in A-POL-6100 and provide for those capabilities required in the defence industry to in turn provide for a strategic, logistical support and upgrade capacity for a technologically advanced and modern defence force, its doctrine and posture. Strategic aspects relating to defence, industry, skills(ability), products/services and DIP imperatives play a vital role in the aforementioned process and the structuring of the DIP value system.

1.3 Definitions

1.3.1 Defence industrial participation (DIP) programmes:

- a) Direct DIP shall mean specific DIP programmes, covering those activities which are directly (by specification) related to the

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products, services, matériel and/or equipment which are the subject of the Main Agreement (Purchase Contract). This portion is to be expressed as a percentage of the seller's total DIP obligation.

- b) Indirect DIP shall mean those programme activities related to products manufactured by or purchased from, or services rendered by Armscor or South African manufacturers in the defence industry in accordance with international industrial standards and/or military specifications at least equivalent or similar to those covered by the Main Agreement (Purchase Contract). This portion is to be expressed as the balance percentage of the seller's total DIP obligation.

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1.3.2 **Main Agreement (Purchase Contract)**

Main Agreement shall mean the main agreement or purchase contract concluded between Armscor and the seller for the supply of goods/services and which places the seller under a DIP obligation, and where applicable a NIP obligation.

1.3.3 **Agreement**

Could mean two separate Agreements for separate NIP and DIP projects (for defence contracts of USD 10 million or more), that contain the seller's defence and non-defence industrial participation obligations (DIP and NIP), resulting from the Main Agreement (Purchase Contract), and signed prior or concurrently with the latter, by all parties concerned.

These Agreements set out the scope, definitions, commitments, terms and conditions regarding the respective industrial participation obligations, and contain details of project proposals, all of which shall be in accordance with the DIP policy and the NIP policy.

(For defence contracts between USD 2 million and USD 10 million only one DIP Agreement will be applicable.)

1.3.4 DIP Contract(s)

DIP contracts mean orders or contracts placed with Armscor and/or defence related industries in South Africa by the seller, and/or industries in the seller's country and/or other overseas industries/entities on behalf of the seller, for which the seller qualifies for credit in terms of the provisions of the respective DIP, and where applicable, NIP Agreements.

1.3.5 Buyer/Purchaser

Buyer/Purchaser shall mean that party defined as Buyer/Purchaser in the Main Agreement (Purchase Contract), who signs the latter and is responsible for the foreign or local acquisition/procurement project. In the case of all defence acquisition programmes/projects the Buyer will refer to Armscor.

1.3.6 Seller

Seller shall mean that party defined as seller in the Main Agreement (Purchase Contract) and subsequent DIP Agreement who becomes liable to supply the product/service via Armscor and to perform DIP (and NIP).

1.3.7 Supplier

Supplier shall mean any local entity (in SA) obliged under an order or contract to deliver goods or to render services as detailed in such order or contract for which the seller subsequently can claim DIP credit.

1.3.8 Participant

Participant shall mean that party defined as Participant in the

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proactive DIP agreement, through which it has voluntarily undertaken to do business on a voluntary basis in South Africa and for which activities credits could be accumulated and subsequently banked on approval by Armscor Countertrade Division (DIP Committee).

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1.3.9 DIP Credit

DIP CREDIT shall mean the value granted by the DIP Committee for the seller's agreed performance, which results in the subsequent reduction in the seller's obligations, and shall normally consist of and be subject to those elements and conditions specifically or otherwise agreed to in terms of the DIP agreement. (Credits relating to the NIP agreement are dealt with separately by the IP Secretariat of DTI.)

1.3.10 Imported Content

This means the costs of services, components, parts or materials which have been or are still to be imported (whether by a seller or its supplier or subcontractors) based on free-on-board (FOB)/free carrier (FCA) or cost-insurance-freight (CIF) calculation, plus any other foreign direct importation cost and cost relating to royalty or licensing fees.

1.3.11 Joint Ventures

For the purpose of the Main Agreement (Purchase Contract) and subsequent DIP Agreement, joint venture shall mean an agreement between a seller or industries in a seller's country or other foreign entities of such seller and Armscor, or defence related industries in South Africa, in terms whereof each party contributes for the purpose of achieving a common and mainly defence industrial interest.

1.3.12 Proactive DIP Agreements

Proactive DIP agreements are agreements signed with third parties (referred to as Participants), through which the objectives of defence industrial participation are proactively advanced; simultaneously

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providing the opportunity for such third party to accumulate and bank credits it might use in future defence acquisition programmes, where such a third party ends up the successful seller. (The main purpose of a proactive agreement is to attract business now and to create long-term defence industrial relationships on an international basis.)

1.4 Revision

This procedural document covering the defence industrial participation process will be revised on an annual basis or as otherwise deemed necessary by the Countertrade Division.

2. APPLICABLE LITERATURE

2.1 Reference documents

2.1.1 Secretary for Defence (of the MoD) Policy on Defence Industrial Participation (Issue 6 dd 22/02/97 replaced by Revision 1 of 7/5/97).

2.1.2 National Policy on Industrial Participation (of DTI) dated 18/2/97 as approved by Cabinet on 30 April 1997.

2.2 Applicable documents

Other relevant Armscor Practices/Policies

- a) KP019 (A-PROC-019 as revised*)
- b) KP021 (A-PROC-021 as revised*)
- c) KP097 (A-PROC-097 as revised*)
- d) KB1000 (and VB1000) (A-POL-1000 as revised*)
- e) KB8600 (A-POL-8600 as revised*)
- f) A-POL-6100
- g) DIP Committee Statute dated 19 June 1997.

* These documents are in varying stages of being revised throughout Armscor.

3 CONTENTS**3.1 Responsibilities for defence industrial participation****3.1.1 General**

All defence related industrial participation programmes (DIP) shall be managed and administered by Armscor's Countertrade Division. The non-defence portion of the industrial participation programme (NIP) will, however and where applicable, be the full responsibility of the IP Secretariat (of the Department of Trade and Industry - DTI) in accordance with the provisions of the NIP policy. Neither the DoD/MoD nor Armscor will be involved in the latter process of DTI.

3.1.2 General Management Responsibilities and Authority**3.1.2.1 Armscor's Countertrade Division**

The abovementioned division shall be responsible to:

- a) liaise and meet with representatives of the Department of Trade and Industry and the DoD/MoD (and when applicable the Industry's Association - AMD) to discuss and co-ordinate requirements for industrial participation (as prescribed by the NIP policy).
- b) assist programme managers in ensuring that all RFIs and RFPs (or RFT, RTP, RFQ) with an overseas content of USD 2 million and more, contain the appropriate DIP and where applicable, NIP prescriptions;
- c) assist programme managers in providing specific value inputs in respect of DIP proposals for the overall ranking of technical proposals received;
- d) discuss DIP details and requirements with prospective sellers;
- e) administer and control the execution of all DIP obligations in accordance with such signed DIP agreements;
- f) be responsible in certain cases for assisting sellers if and when so requested in the placing and following up of orders and for which services the Countertrade Division may invoice such with all expenses incurred in such an event;

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- g) advise and make presentations to interested parties on DIP requirements, practices and prescriptions;
- h) arrange and conduct review meetings as provided in the respective DIP agreements;
- i) set up and maintain a data bank, for keeping record and track of all DIP agreements and to monitor and report on the progress made by the seller against his specific DIP obligations;
- j) manage the activities of the DIP Committee (act also as Chair) and the keeping of minutes on all decisions of the Committee;
- k) liaise and interact with the various parties concerned to ensure optimal results;
- l) advance and promote proactive DIP agreements;
- m) use an accountable evaluation system through which all DIP proposals can be rated;
- n) establish an international network and knowledge base on the countertrade policies and practices of other countries in order to advise local industry on contra-offset situations it might face when exporting;
- o) keep record of all DIP credits and excess credits banked;
- p) promote defence industrial imperatives essential for maintaining a defence industrial capacity for satisfying the needs of the SANDF and to advance DIP objectives;
- q) concentrate mainly on direct and indirect defence related industrial participation;
- r) render an effective and professional countertrade service when and where required;
- s) provide for a DIP programme plan which coincides with the master acquisition plan and to be available as a member of the programme/project team as and when required;
- t) give timeous feedback and guidance to all parties concerned;
- u) solve problems; and
- v) negotiate the terms, definitions and conditions of and signing (in accordance with the stipulations of A-PROC-019) of all DIP

agreements.

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3.1.2.2 Armscor Programme Manager

The Armscor Programme Manager is to ensure that all RFI/RFP/RTP/RFT/RFQ documentation, with a potential foreign content value of USD 2 million and more, includes specific instructions to prospective bidders regarding industrial participation prescriptions and to liaise with and assist the Countertrade Division with guidelines on direct and indirect DIP preferences, insofar as the latter relate to defence industrial strategic considerations. (The latter is to take effect in close collaboration with the DoD/MoD - refer par 3.1.2.4.)

DIP

3.1.2.3 Defence Industry

The Defence Industry shall be requested by the Countertrade Division to make the following available as and when required:

- a) marketing brochures/videos;
- b) company/person profiles; and
- c) assistance to foreign companies with information on products, capabilities and spare capacities in order to provide a sound basis for drafting of successful and executable business plans.

3.1.2.4 Chief: Acquisition (DoD)

The DoD (Chief: Acquisition) is obliged in terms of the latter's policy directives regarding the management of the DIP programme, to provide assistance and guidance to Armscor Countertrade as to the strategic importance and maintenance of certain defence industrial capabilities and capacity, to afford Armscor Countertrade and the DIP Committee the necessary opportunity to direct the DIP programme accordingly and to subsequently evaluate any DIP proposals received.

3.1.2.5 Department of Trade and Industry

To provide information, at the request of the Countertrade Division, to

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sellers on any non-defence industrial participation NIP requirements of the SA Government and to provide timeous feedback to Armscor Countertrade on such responses to those defence RFPs of USD 10 million or more for inclusion into the overall value system.

Although the latter response constitutes only one element of the overall evaluation process, it will be regarded as a "killer criteria", *which means a tender cannot be adjudicated unless the seller has fully complied with both the NIP (when applicable) and DIP requirements respectively.*

3.1.2.6 DIP Committee

- DIP
- a) Meetings must be held at least once a month (except for December) at such time that still permits decisions of the Committee to be taken up in month-end reporting.
 - b) Ad hoc meetings will be arranged to discuss urgent acquisition or procurement requirements subject to DIP (and NIP when applicable) or evaluation of DIP proposals, as and when necessary.
 - c) The DIP Committee is collectively responsible for the following:
 - i) to ratify RFI/RFP/RTP/RFT/RFQ *conditions* as compiled by the Countertrade Manager for inclusion in such aforementioned documentation, or whether or not a project must be subject to DIP; this includes the *determining* of the percentage DIP and its components (direct and indirect);
 - ii) to discuss and approve the *evaluation* as compiled by the Countertrade Manager of DIP proposals (business plans) received;
 - iii) to approve that a DIP agreement can be *concluded*;

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- iv) to discuss, consider and approve any contractual *amendments* after the DIP agreement has been signed;
 - v) to evaluate, discuss, consider and approve *credit claims*;
 - vi) to discuss, consider and approve the *cancellation* of DIP agreements;
 - vii) to discuss, consider and approve the application of a DIP contractual *penalty* clause in respect of a seller's non-performance;
 - viii) to discuss, consider and approve the utilisation of a seller's *banked credits* for discharging partially or in full his indirect DIP obligation;
 - ix) to discuss, consider and accept *revised business plans* after the DIP agreement has been signed;
 - x) to approve that a seller be notified that he has fully *discharged* his DIP obligation and
 - xi) to approve that an *audit* be carried out at the seller's or local supplier's premises in respect of any DIP claim received from the seller.
- d) The constitution of the DIP Committee is described in A-POL-6100 and Statute of 19 June 1997.

3.2 Process

- 3.2.1 This procedure applies to all defence industrial participation (DIP) projects for defence purchases abroad, with a value of USD 10 million or more. [In the case of defence contracts of between USD 2 million and USD 10 million, only the defence process applies!] Refer figure 1.

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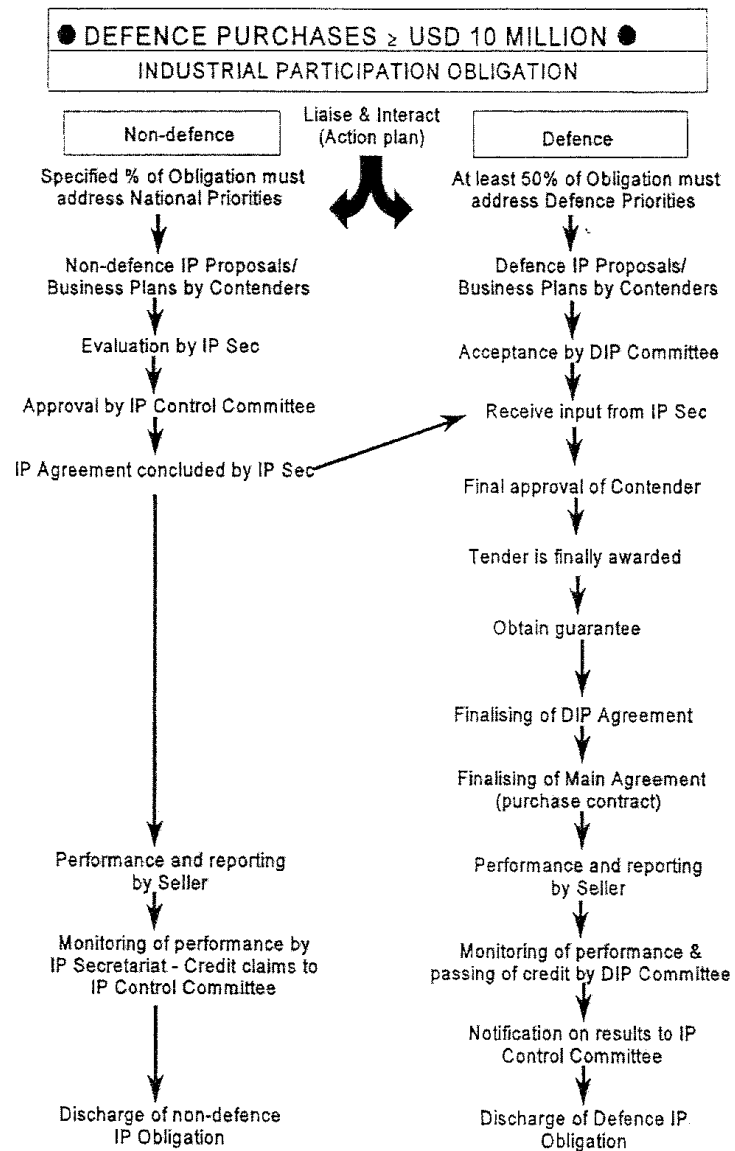


FIGURE 1

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2.2 The following *generic* procedures will apply:

- 3.2.2.1 For all defence purchases, the defence related portion of the industrial participation obligation (DIP) will be administered by the Armscor Countertrade Division and evaluated in accordance with the general guidelines governing the evaluation and the adjudication of tenders, whereas the non-defence industrial participation obligation (NIP) portion will be administered and evaluated by the IP Secretariat (of DTI) in accordance with their procedures for those defence projects where the purchase value is USD 10 million or more.
- 3.2.2.2 Armscor's Countertrade Division, at the request of the Armscor Programme Manager, in due consultation with the DoD/MoD (Chief:Acquisition), will arrange a meeting with the IP Secretariat (of DTI) in order to facilitate discussion of interactive action plans, to be drawn up by the Programme Manager, mapping out the process and timescales regarding the specific acquisition programme, before a Request for Information (RFI) or Request for Proposal (RFP) [also referred to as Request for Tender(RFT)/Quotation(RFQ) or Request to Participate (RTP)] is released.
- 3.2.2.3 The RFI (when applicable) will at all times include the NIP and DIP (when relevant) guidelines to be provided by Armscor's Countertrade Division and the IP Secretariat. This is to enable prospective sellers to make the required and respective industrial participation proposals as prescribed by the respective NIP and DIP Guidelines.
- 3.2.2.4 Each prospective seller will be required to confirm, at as early as possible stage already, that it will comply and adhere to the NIP and DIP requirements, by completing the prescribed "Defence Industrial Participation by Bidder" form furnished by the Countertrade Division with such RFI (or later RFP - refer par 3.2.2.7).

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2.2.2.5 DIP responses to a RFI will be evaluated by the DIP Committee. (The NIP portion will be evaluated independently by the IP Secretariat, as and when applicable or required).

3.2.2.6 Given the results of the RFI evaluation, the Armscor Programme Manager, incorporating the input from the DIP Committee and, where applicable, the IP Secretariat, will draw up a list of potential contenders (short list).

3.2.2.7 A formal RFP is subsequently drawn up by the Armscor Programme Manager after approval of the programme/project by the DoD/MoD and dispatched to all potential contenders. Each contender will have to respond within a specified period of time. Comprehensive detail of the defence and non-defence industrial participation (DIP & NIP) requirements will be included in the RFP. The Countertrade Division will be required to provide the Programme Manager with the applicable clauses and requirements and all relevant documentation regarding NIP and DIP as and when required.

3.2.2.8 Bidders conferences (which are not necessarily applicable to *all* defence projects) will be organised, as and when deemed necessary by the Armscor Programme Manager and all prospective sellers will be able to ask questions related to the RFP at these opportunities. The Armscor Programme Manager will be responsible to invite the relevant line and technical functionaries to these conferences. The IP Secretariat (of DTI) must also be invited in order to answer questions regarding NIP. In certain cases a *separate* industrial participation conference may be arranged by the Countertrade Division in due consultation with the Programme Manager and Chief: Acquisition of the DoD/MoD to explain and discuss NIP and DIP requirements, due to the latter's somewhat complex requirements.

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3.2.2.9 Discussions surrounding NIP and DIP proposals, will be held between the prospective sellers, Armscor Countertrade (the Chair), the DoD/MoD (Chief:Acquisition) and the Programme Manager. The IP Secretariat and the prospective seller, where applicable and when so required, will conduct their own discussions separately.

3.2.2.10 In response to the RFP submission by the prospective seller of detailed business plans, in accordance with the respective NIP and DIP guidelines, are mandatory.

3.2.2.11 Evaluation of the final respective NIP and DIP business plans will be done by the DIP Committee and the IP Secretariat (of DTI), prior to the overall RFP evaluation process attended to by the Programme Manager.

3.2.2.12 The Industrial Participation (IP) Control Committee within DTI will make a decision regarding NIP business plans only. After the decision by the I P Control Committee, the IP Secretariat will inform Armscor Countertrade Division. The latter response will be in the form of a "yes/no" confirmation by the IP Secretariat that the prospective contender(s) has (have) fully complied with the norms and conditions as laid down for non-defence Industrial Participation (NIP).

In cases where there is inconsistency with such feedback or delay of more than two weeks after the due date specified in the acquisition programme plan (refer par 3.2.2.2), Armscor Countertrade Division will report such to the DIP Committee. The Programme Manager will also be entitled to report such to the relevant Armscor acquisition authority, the Armscor Management Board and/or the Armscor Board of Directors and/or the Chief: Acquisition (DoD) to obtain a ruling for further action if no further progress can be made with such acquisition programme/project's tender adjudication.

3.2.2.13 The NIP agreement will be concluded between the IP Secretariat (DTI)

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and the seller, stipulating the terms and conditions of performance to discharge the seller's NIP obligation. Neither Armscor nor the DoD/MoD will be involved in this latter activity.

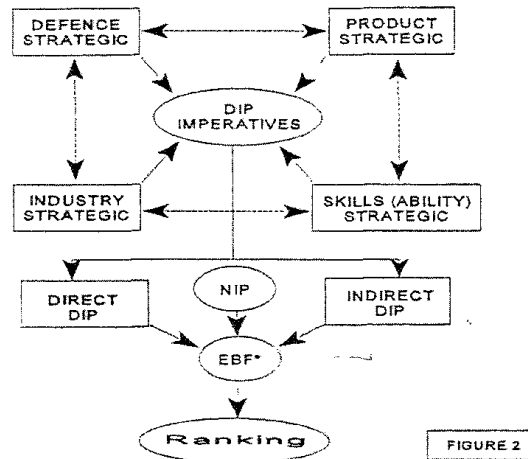
3.2.2.14 The Main Agreement (defence purchase contract) will not be concluded by Armscor, unless the seller has fully complied with the respective requirements for DIP (and NIP, when applicable) participation and subject to the condition that the IP Secretariat has timeously given its inputs to Armscor for inclusion in the overall RFP evaluation model.

3.2.2.15 The seller is expected to furnish Armscor with quarterly reports on progress with the DIP obligations. Armscor may also arrange DIP review meetings and demand or initiate audits, as and when deemed fit.

3.2.2.16 Armscor Countertrade will submit annual status reports to the DIP Committee and from there to the IP Control Committee, through the IP Secretariat, regarding DIP Agreements signed, subsequent obligations, performance, allocation of credits and/or penalties for non-performance where applicable. These reports will eventually be submitted by DTI to Cabinet.

3.3 Evaluation

A comprehensive evaluation model/value system as devised and used for the total evaluation of the RFP also forms the basis for DIP evaluation, in which process the DIP (and NIP) portion(s) form(s) only one of the factors/elements taken into consideration. The evaluation model prescribed will address such aspects as contained in the specific seller's business plan and to what extent it supports defence, industry, skills(ability), products/services and DIP strategic imperatives. *Refer figure 2.*



* EBF = Economic Benefit Factor

3.4 Technology transfers

3.4.1 Technology transfers for other defence purposes, and other than that covered by the Main Agreement (Purchase Contract), which increase the efficiency of defence related companies in South Africa or help to develop goods not previously manufactured, or services not previously rendered from or in South Africa, must have an inherent value to South Africa. No multipliers must be considered for the purpose of granting credits for technology transfers.

3.4.2 All technology transfer proposals must be discussed by the DIP Committee with Armscor's Technology Management and Analysis Division which bears the responsibility for technology management on behalf of Armscor and the DoD/MoD. In cases of DIP programmes such determinations will be made in accordance with defence strategic considerations.

3.4.3 Technology transfer agreements should ideally be negotiated on a case-

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Africa or services not previously rendered by South African companies.

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3.6.1.1 Format of Business Plans

- a) Executive Summary
- b) Description of Business Proposals
 - i) legal structure*
 - ii) ownership structure*
 - iii) mission and objectives
 - iv) description of products and services to be produced
 - v) description of industrial sector, markets and customers
 - vi) processes, systems, technologies and equipment*
 - vii) investment cost analysis*
 - viii) cash flow*
 - ix) budget projections*
 - x) detailed employment projections: local (including subcontractors)
 - xi) technology transfer*
 - xii) training*
 - xiii) exit mechanisms

DIP

3.6.1.2 References of Recent Successes/Track Record*

3.6.1.3 Marketing*

- a) marketing research and analysis*
- b) marketing strategy*
- c) marketing plan*

3.6.1.4 Financial*

Pro-forma balance sheet and income statement*

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3.7 GENERAL

- 3.7.1 Companies which have already been accredited or registered through a prescribed Accreditation Programme (refer KB8500/A-POL-8500) need not furnish or duplicate information in the prescribed business plan that has already been covered by the accreditation questionnaire. In such cases proof of accreditation or registration must however be furnished by the prospective bidder. Companies not yet accredited/registered must furnish the required information as well as complete the prescribed Accreditation Application in accordance with the stipulations of KB8600/A-POL-8600.
- 3.7.2 Prospective sellers should be encouraged and advised to consult in advance with South Africa's Aerospace, Maritime and Defence Industry Association (AMD), the DoD/MoD and Armscor, to provide them with assistance on information on defence industrial capabilities in order to draft the required and prescribed business plans.
- 3.7.3 Prospective sellers to South Africa should furthermore be advised to discuss the South African Government's requirements and expectations regarding NIP projects in advance with the Department of Trade and Industry's IP Secretariat.
- 3.7.4 Draft (proforma) DIP agreements (active and proactive) should be available on request from Armscor's Countertrade Division. Prospective sellers should be strongly advised to carefully study the contents of these aforementioned agreements and to discuss any uncertainties well in advance with Armscor's Countertrade Division. A copy of the proforma active DIP agreement should ideally be furnished with the RFI and RFP and should provide the basis for negotiations and eventual contracting for defence industrial participation (DIP).

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by-case basis and should as a norm not form part of any DIP agreement, unless specifically required by the circumstances prevailing in any specific transaction.

3.5 Key Mission Success Factors (KMSF) for application of the DIP process:

- a) DIP agreements shall be negotiated in such a manner that:
- i) as big as possible a portion of the obligation is directed towards the defence industry at large;
 - ii) it clearly defines the rules of conduct and the seller's obligation;
 - iii) as big as possible a portion of the obligation is fulfilled in the shortest period possible;
 - iii) it addresses those strategic defence imperatives as determined by the DoD/MoD; and
 - iv) long-term defence industrial participation and exports are advanced.
- b) Countertrade management excellence is to be provided to all stakeholders to ensure that:
- i) acquisition or procurement projects are not unduly delayed;
 - ii) all DIP agreements are constantly monitored for performance;
 - iii) regular liaison and interaction are effected;
 - iv) communication carries consistent messages in respect of general DIP requirements and guidelines; and
 - v) the annual DIP target as set, is timeously reached.

3.6 Business Plans

- 3.6.1 The format of all DIP proposals for defence purchases must be in the form of detailed business plans that are to provide for the aspects as set out hereunder. Information marked with an asterisk(*) is not necessarily required in cases where business plans entail *existing* business practices and products already in production, and will usually only apply to *new business* ventures and products not previously manufactured in South

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- 3.5 *It must be noted that the responsibility for negotiations in respect of and the eventual contracting for defence industrial participation (DIP) is ultimately that of the Armscor Countertrade Division, as directed by the DoD/MoD.*

4. LIST OF ABBREVIATIONS

DIP	-	Defence Industrial Participation
NIP	-	Non-defence Industrial Participation
DoD	-	Department of Defence
MoD	-	Ministry of Defence
RFI	-	Request for Information
RFP	-	Request for Proposal
RFT	-	Request for Tender
RTP	-	Request to Participate
RFQ	-	Request for Quotation
DTI	-	Department of Trade and Industry
USD	-	United States Dollar
IP	-	Industrial Participation
AMD	-	Aeronautical, Maritime and Defence Industry Association (of South Africa)
EBF	-	Economic Benefit Factor
KMSF	-	Key Mission Success Factors

DIP

**Armcor Defence Industrial Participation Evaluation guidelines
as were valid for the SDP.**

27 January 1998

**(Copied from the evidence pack of Armcor's Barry de Beer making testimony
to the APC between 3 and 6 March 2014 – cf.
<<http://www.armscomm.org.za/hearings/...>>**

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Appendix 6



DEFENCE INDUSTRIAL
PARTICIPATION

- EVALUATION GUIDELINES •
- AS WILL BE APPLIED
- IN RESPECT OF THE
- CORVETTES

Issue : 0
1998-01-27

DIPCON10.1
DIPCO-ZC

27 JANUARY 1998

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1. SCOPE

This document describes the environment and provides the background concerning military strategic and defence industrial strategic considerations in order to provide an educated evaluation of proposals regarding defence industrial participation as contained in a tenderer's RFO response.

DIPCON10.1
DIPCO-ZC

27 JANUARY 1998
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2. INTRODUCTION

- 2.1. The Constitution of the Republic of South Africa states that the primary object of the South African Defence Force (SANDF) is to defend and protect the Republic, its territorial integrity and its people, in accordance with the Constitution and the principles of international law regarding the use of force. In terms of the Defence White Paper, the SANDF shall maintain a modern technologically advanced core force.
- 2.2. Defence related acquisition and procurement programmes, are specifically focused to provide suitable armament to the SANDF. Retaining, maintaining and developing appropriate skills, abilities and capabilities in our own industry are of utmost importance in order to be able to maintain, upgrade and optimize technologically advanced defence equipment. Major defence procurement projects require an appropriate industrial capacity needed for sustainable support of the SANDF and in some cases the South African Police Services (SAPS).
- 2.3. This approach recognises that life cycle equipment support is integral to all stages of planning and decision making and is as such considered when developing an acquisition strategy and project programme, for each major project. The Department of Defence is thus responsible for timing of such projects to improve continuity and to encourage the sustained ability of high priority skills in an effort to maintain the readiness and capability of the SANDF and an internal security capacity for the SAPS.
- 2.4. The Department of Defence (DoD) is an extremely important client of the defence industry. Most of the products produced by the industry are also developed to the specific requirements of specifically the SANDF. The DoD funds a large portion of research and development spending in the defence industry and owns much of the immaterial rights of the products locally manufactured. The DoD also contracts a large portion of its logistic and operational support of its equipment to the local defence industry. The technology and know-how and capacity for the maintenance

of the weapon systems and supply of services such as informatics, command and control, etc., resides within the industry.

- 2.5. Defence Industrial Participation (DIP) is the process where purchases of the Department of Defence, are used as a leverage to oblige a foreign seller of defence commodities/services to do defence related business in South Africa on a reciprocal basis in order to advance military strategic and defence related industrial imperatives.

3. OBJECTIVES

- 3.1. The objectives of all DIP programmes are, in addition to the National Industrial Participation (NIP) objectives, also addressing specific defence industry objectives such as the:

- ▶ retention, and where possible, creation of jobs, abilities and capabilities;
- ▶ establishment of a sustainable defence industrial and economic basis, with strategic logistic support capabilities;
- ▶ promotion of defence exports of value-added goods;
- ▶ promotion of like-for-like technology transfer and joint ventures;
- ▶ maintenance of skilled indigenous manufacturing capabilities; and
- ▶ provision for a sustainable local defence industry capacity.

- 3.2. The assessment of DIP proposals (attended to by Armscor Countertrade in collaboration with the DoD) will be based on the extent to which it supports the capabilities required in the defence industry to provide for a strategic, logistical support and upgrade capacity for a technologically advanced and modern defence force, its doctrine and posture. Credits are granted on a 1:1 basis based on mainly the input model, although consideration might be given in some cases to the output model as well.

- 3.3. The assessment of NIP proposals on the other hand, is attended to by the Department of Trade and Industry. Assessment is based on financial and economic projections contained in the business plan. Credits will normally be passed by DTI on the output principle.

4. DEPARTMENT OF DEFENCE STRATEGIC NEEDS

4.1. Core Defence Capabilities

- 4.1.1. Defence contingencies, posture and finally the characteristics required in the core defence capability of the SANDF, eventually lead to those specific capabilities which should be provided for in such a force. These capabilities are:

4.1.1.1. Intelligence is an overarching capability required by the SANDF (both strategic and tactical).

4.1.1.2. Landward defence capabilities to counter attacks from over land. These forces should be mobile and largely self-contained.

4.1.1.3. Air defence capabilities to counter air attacks, including both fighter-based capabilities, as well as localised anti-aircraft defence capabilities.

4.1.1.4. Maritime defence capabilities to counter attack from seaward and attacks on seaward trade, including mine clearance capabilities and capabilities to act against air, surface and submarine attacks.

4.1.1.5. Defence against Chemical and Biological Warfare (CBW) with the emphasis on detection of CBW agents and the protection and decontamination of forces and equipment.

4.1.1.6. Once operations have begun, the SANDF should have an interdict capability for interdiction on the battlefield.

4.1.1.7. On halting enemy aggression, the SANDF must have a counter attack capability to drive the enemy from own or friendly territory.

4.1.2. Command and Control (C & C) are critical to the effective execution of the self-defence function at all levels. This is required at individual Arms of Service as well as joint C & C. Emphasis is placed on electronic warfare and command information (intelligence) systems.

4.2. Categories of local Support Required from the Local Industry

4.2.1. A local defence industry capability required in support of the SANDF, can be divided into three categories.

4.2.1.1. **Strategically Essential.** Technological capabilities can be classified strategically essential if they potentially satisfy unique environment-dependent needs which cannot be satisfied through procurement of standard equipment, provide an operational winning edge, or ensure self-sufficiency in technologies for which high-priority operational requirements exist, but which are effectively unavailable to the RSA due to political, economic and other considerations.

4.2.1.2. **Cost-Effective Local Sourcing and Export.** Due to already established local capability and capacity, where the RSA has a global competitive edge, certain niche systems are more cost-effective, over the life cycle of the system, to source locally than to buy from foreign suppliers. These capabilities can ensure faster turn-around times for the servicing or upgrading of systems, battle damage repair and lead to import replacement (i.e. foreign exchange savings and local employment) and to export opportunities.

4.2.1.3. **Non-Strategic Capabilities.** Some components, sub-systems and systems are neither strategically essential nor economically viable to source locally. In these cases, the local capability should be to understand and support these systems in order to enable informed specification and selection, and to maintain and upgrade them locally with support from the overseas supplier.

5. LOCAL DEFENCE INDUSTRY REQUIREMENTS.

5.1. Strategically Essential Capabilities

5.1.1. Capabilities that will provide the SANDF with a distinct **combat advantage**. - The latest generation equipment are often not fully available from foreign suppliers without some constraints, or where available, its combat effectiveness may be reduced through the common knowledge of its performance characteristics and counter-measure susceptibility. Examples of strategic systems requiring partial or complete self-sufficiency in local design, development and production capabilities are as mentioned hereunder; this does however not exclude foreign partnerships and joint ventures sometimes required to obtain the expected solution.

5.1.1.1. Command and Control systems.

5.1.1.2. Secure Communications systems.

5.1.1.3. Electronic Warfare systems.

5.1.1.4. Fusing systems for missiles, bombs, projectiles.

5.1.1.5. Sea Mines.

5.1.2. Capabilities to ensure the **survivability** of combat platforms. - Battle tanks, fighter aircraft, attack helicopters, combat vessels, etc. need a self protection capability to survive enemy attack. Examples of such requirements are:

- 5.1.2.1. Surveillance and threat detection systems.
- 5.1.2.2. Short-range air-to-air missiles.
- 5.1.2.3. Point defence surface-to-air missiles for naval vessels.
- 5.1.2.4. Ground-based air-defence systems.
- 5.1.2.5. Minor calibre guns.
- 5.1.2.6. Armour protection capabilities.
- 5.1.2.7. Camouflage and other signature control capabilities to reduce platform observability.
- 5.1.2.8. Electronic counter-measures (ECM).
- 5.1.2.9. IFF (Identification of Friend or Foe) systems.

5.1.3. Capabilities to satisfy unique, environment-dependent needs. - Equipment available from foreign suppliers is often not optimized for local use due to our climatic conditions (hot, dry, dusty), terrain features, existing equipment, human factors or operational doctrines. The ability to develop equipment or to adapt foreign equipment, to suit the SANDF's requirements locally, is therefore essential. Such capabilities include:

- 5.1.3.1. Ergonomic design, i.e. the design of man-machine interfaces (MMI) such as driver cabins, cockpits, gun control mechanisms, etc.
- 5.1.3.2. Engine performance enhancement, i.e. the ability to develop or adapt engine sub-systems, such as cooling systems, dust filters and air conditioning to fit local climatic conditions.
- 5.1.3.3. Vehicle mobility upgrades - local terrain characteristics demand the use of wheeled (rather than tracked) combat vehicles, requiring specific attention to tyres, suspension and drive train performance.

- 5.1.3.4. The integration of new or improved weapons, sensors or other systems on aircraft for example requires specialised aerodynamic, electromagnetic interference and structural dynamics expertise in order to qualify the combined systems and release them to service. Similar expertise is required for the integration of any new systems on vessels, tanks, various command and control platforms, etc.
- 5.1.3.5. The development or adaptation of medical equipment to suit local conditions and operational requirements as well as for support of peacekeeping or peace support operations or disaster relief.
- 5.1.4. Capabilities to detect and counter rapidly emerging threats require a flexible engineering capability to develop a variety of systems and counter-measures to fit an evolving force design and threat assessment. Systems with such capabilities include:
- 5.1.4.1. Reconnaissance and surveillance systems, including unmanned aircraft (UAV/RPV).
 - 5.1.4.2. Air space control systems which include advanced radar systems and sensor fusion technologies.
 - 5.1.4.3. Multi-purpose stand-off weapons.
 - 5.1.4.4. Chemical and biological defence, including the ability to detect and identify hazardous agents, to protect soldiers against, and to decontaminate equipment of such agents.
- 5.1.5. Capabilities to maintain and upgrade equipment currently in service with the SANDF. The maintenance of existing equipment in a serviceable state, or the upgrading of equipment in order to extend its useable lifetime, requires specialised technological capabilities in industry. - Major systems for which long-term maintenance support capabilities are required include the following:

- 5.1.5.1. All aircraft and helicopters.
 - 5.1.5.2. All combat vehicles.
 - 5.1.5.3. 155mm Gun systems and Multiple Rocket launchers (MRL), including upgrades to their ballistic characteristics.
 - 5.1.5.4. Tanks and armoured cars.
 - 5.1.5.5. All Command, Control and Communications (CCC) systems, including radars, computers, etc.
 - 5.1.5.6. All guided weapons systems.
 - 5.1.5.7. Combat vessels.
 - 5.1.5.8. The ability to upgrade or alter specific sub-systems and components in selected areas (e.g. the implementation of repairs to jet engines outside the original engine manufacturer's (OEM) specifications).
 - 5.1.5.9. The ability to repair battle damage to a wide variety of weapon systems.
- 5.1.6. Requirement for a technology / knowledge base in Industry. - The cost and complexity of most modern military equipment demand a sound technology base in industry to support the SANDF to operate and deploy such equipment in the most effective way. Capabilities required include:
- 5.1.6.1. Systems Engineering capability for a broad range of weapon systems (i.e. a thorough scientific understanding of the functional characteristics of all the sub-systems and their complex interactions, which make up the characteristics of the overall system.).
 - 5.1.6.2. Modelling and simulation capabilities, which are indispensable tools for the analysis and design of complex systems.
 - 5.1.6.3. The capability to test and evaluate at various levels of systems complexity is essential for all new or improved equipment in order to verify performance to specification, irrespective of whether such equipment originated from local or foreign sources. This requires specialist expertise and test facilities.

5.1.6.4. The capability to specify equipment requirements. In order to ensure that the DoD will remain an intelligent buyer of military equipment from foreign and local sources, the aforementioned capabilities - to analyse the needs, to specify the right equipment and to verify conformance to requirements - are all essential. The purchase of systems as complex and as expensive as modern combat vessels, fighter aircraft or battle tanks cannot be done solely on the basis of marketing information.

5.2. Cost-Effective Local Sourcing of Non-Strategic Equipment

5.2.1. System requirements for which local capabilities exist and for which local sourcing will be considered on a life cycle cost basis, and will be identified by the Department of Defence and Armscor as part of a routine defence industrial revision process.

5.3. Non-Strategic Capabilities

5.3.1. Some systems are neither strategically critical or economically viable to source locally. In these cases, the local capability should be to understand and support these systems in order to enable informed specification and selection, and to maintain and upgrade them locally with the support of an overseas supplier. Such systems will be identified from time to time by the Department of Defence and Armscor as part of a routine defence industrial revision process.

6. THE EVALUATION PHILOSOPHY

6.1. The DIP element forms one of the evaluation factors (namely the industrial value [economic benefit factor (EBF)] as devised for the RFO). In some instances the DIP element and the IP element (of DTI) might form a combined factor.

6.2. The DIP evaluation process involves two major components, namely a **critical** and **discriminating** element. (The NIP evaluation process on the other hand involves a financial and industrial economic analysis.)

6.2.1. **Critical element**

The tenderer **must** comply with **all** the following critical elements to go through to the next level of evaluation (refer par 6.2.2.). The critical elements are

- the prescribed DIP percentage to be offered,
- the prescribed business plan as a firm commitment,
- a bank guarantee to the value of the liquidated damages, as contained in the "Confirmation by Bidder" form, and
- a duly signed "Confirmation by Bidder" form.

6.2.2. **Discriminating elements**

The next level of evaluation involves two sub-elements, namely an **activity** element and a **conformance/compliance** element.

6.2.2.1. **Activities**

Activities offered can be any one or a collection/combination of the following which are in **support of the strategic requirements** as stated in paras 4 and 5. (Each activity is individually assessed.)

- ° products
- ° technology
- ° investment
- ° loans
- ° joint venture
- ° marketing assistance
- ° etc.

6.2.2.2. Conformance/compliance

This refers to those issues that have a generic impact on the overall extent of the proposals contained in the tender response (business plan) and inter alia include the following:

- % direct offered - establish in accordance with RFO
- % indirect offered - establish in accordance with RFO
- Discharge period - establish in accordance with RFO
- Sustainability - continuance after discharge period
- Resources adjudicated for executing the DIP project
- Track record in respect of timeous completion (other countries)
- Co-operation (JV) in existence or in process of being signed
- MOUs signed (Firm commitments; signed with 1 or with most/all)
- Investments/loans in strategic areas
- Promotion and marketing support for SA defence industry
- Economic empowerment (affirmative procurement)
(Measure against disadvantaged owned, versus involved, versus the proposed type of activity)
- Growth and job creation in relation to existing workforce
(# 1% of 50,000 = 500; 10% of 50,000 = 5,000, and plus)
- Contractual acceptance - with reference to DIP requirements
(Measure against major, minor and slight deviations)
- Overall satisfaction with solutions provided.

6.3. Risk assessment

- 6.3.1. This applies to both the activity element and the conformance/compliance element.

- 6.3.2. Each of the aspects are weighed in accordance to the extent it supports strategic considerations, also taking into consideration the levels of activities, i.e. products, services, technologies and areas of involvement. Each is subjected to scrutiny, weighing certain risk factors against the overall prospect of such proposal eventually being successful. Graphically the risk element manifest in practice as depicted in diagram 3.

Some risk elements might be known, others will have to be researched. Risk elements which might have to be considered are for e.g.:

- Indigenous capacity - can the industry handle the extent of the activities proposed?
- Indigenous ability - has the local industry the ability to perform activities proposed?
- Sustainability - risk of long-term projections or production runs not materialising;
- Dependence on foreign supplier to activate and perform in time for local reaction;
- Maintainability of contractual deliverables to third parties - track records;
- Status of MOU/agreements - signed vs draft or in process (intentions);
- Accreditation status - have all parties involved been accredited by Armscor?
- Tenderer infrastructure - has he the ability and resources to see the DIP through?
- Normative deviations - to what extent has the Tenderer accepted our DIP contract and has the Tenderer tried to introduce loopholes?
- Areas of investment (high tech; existing business, new business; Small, Micro and Medium businesses (SMME), etc);
- Portion investment in relation to DIP - and for what purpose is it to be used; and
- Portion of loans in relation DIP obligation - and for what purpose is it to be used.

7. THE EVALUATION METHODOLOGY

7.1. Critical elements

The weight attached to each of the critical elements is either a zero or a one. The tenderer has to score full points to go through to the next level.

7.2. Discriminating elements

7.2.1. The weight attached to each of the sub-elements can vary between 1 and 10, depending on the importance of such activity offered.

7.2.2. Prospective Bidders must please note that an additional assessment factor of between 1.5 and 2 will be used for any of the activities involving previously disadvantaged companies, organisations, entities and entrepreneurs. Over and above the respective assessments of the critical and discriminating elements, a financial benefit model will also be considered to determine the exact monetary Value of activities insofar as it relates to the aforementioned.

7.2.3. This approach provides that each element can be weighed individually in accordance to levels such element support strategic considerations or conform/comply with stated objectives.

7.2.4. Armscor Countertrade in collaboration with the various other disciplines in Armscor and in cooperation with the DoD will establish priorities and priority ratings on a project-to-project basis.

SOURCE REFERENCE

1. White paper on Defence (May 1996)
2. Defence Review - First Report 1996/7 as approved by Cabinet/Parliament Aug 1997
3. Draft Chapter to the Second Defence Review Report on "The Acquisition Management Process" (Draft 9 dated 1997-08-29)
4. Draft White Paper on the South African Defence Industry (Draft 9 dated 1997-10-17)
5. MoD Defence Industrial Participation Policy (Revision 1 dated 1997-05-07)

IMPORTANT NOTE

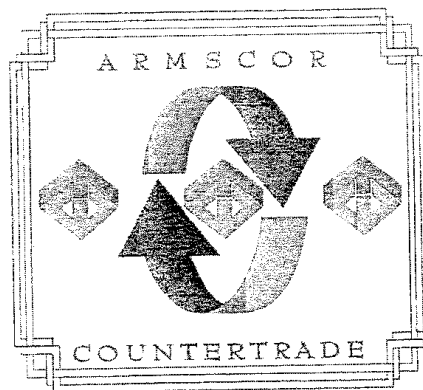
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**DIP EVALUATION INSTRUCTION APPLICABLE
TO THE DIP EVALUATION TEAM
ASSESSMENTS OF ALL
DIP PROPOSALS RECEIVED
ITO THE PACKAGE DEAL
REQUEST FOR BEST AND FINAL OFFER (RFO)
FOR THE SUPPLY/DELIVERY OF:
CORVETTES, SUBMARINES, LIGHT FIGHTER
AIRCRAFT, MARITIME AND LIGHT UTILITY
HELICOPTERS, MAIN BATTLE TANKS AND A
LEAD-IN-FIGHTER TRAINER AIRCRAFT.**

**NOT FOR DISTRIBUTION TO ANY PERSON OUTSIDE OF THE MoD,
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Countertrade or the Chief: Acquisition, DoD.**

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ANNEXURES

Annexure A:	THE DIP SCORE SHEET REGARDING ACTIVITIES
Annexure B:	THE DIP COMPUTERISED SCORE SHEET REGARDING CONFORMANCE/COMPLIANCE
Annexure C:	THE SUMMARY SCORE SHEET
Annexure D:	FINAL RECOMMENDATION SCHEDULE

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QUEST16 9b

Issue: 1
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1. **SCOPE:**

- 1.1. This document is for use by the evaluators (ref par 4) to assess DIP proposals received in order for the "STRATEGIC OFFERS COMMITTEE" (SOFCOM) to formulate recommendations to the Minister of Defence to adjudicate the tenders for the respective package deal elements.
- 1.2. Each evaluator receives a copy of this document and is obliged to follow its instructions to the letter as and where applicable. The data from all evaluators will be collated by the Countertrade Division and a final report issued to the Chief of Acquisition, DoD who acts as Moderator for the DIP process and Consolidator of the NIP responses to be generated by the Department of Trade and Industry.
- 1.3. This document is issued by the Countertrade Division of Armscor and approved by the Chairmen of SOFCOM (General Manager: Aeronautics & Maritime, Armscor and the Chief of Acquisition of the Department of Defence).
- 1.4. The applicable DIP section of each individual RFO, must be used as basis by evaluators and as guideline, together with the appropriate countertrade policy and procedural manuals and all relevant documentation as detailed in par 12 in order to effect a proper scrutiny and extraction of information from the submitted business plans.
- 1.5. The assessment of all business plans are to be carried out on the **face value** of such proposals contained therein. Members of the respective evaluation teams will not be held responsible for the correctness of proposals contained in the DIP section of each of the bidder's respective offers. Such responsibility remains solely with the respective bidders (the latter being fully acknowledged in the respective "Confirmation by Bidder" forms duly completed and signed by each bidder).

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2. BACKGROUND:

The respective RFOs for each of the package deal elements were issued on 16/2/1998 and responses were to be received on the respective closing dates from the following international suppliers:

1.	CORVETTES	11/5/98	GFC; GEC; DCN; BAZAN
2.	SUBMARINES	12/5/98	GSC; GEC*; DCN; FINCANTIERI; KOCKUMS
3.	LUH	13/5/98	EUROCOPTER; BELL; AGUSTA
4.	MH	13/5/98	EUROCOPTER; GKN
5.	ALFA	14/5/98	BAE/SAAB; DASSAULT; DASA
6.	MBT	15/5/98	VICKERS; GIAT
7.	LIFT	15/6/98	BAe, AERMACCHI, AERO VODOCHODY

* Notice has been received that GEC (UK) has sold the Upholders to Canada.

(By order of SOFCOM no unsolicited proposals will be accepted.)

3. ORGANISATION:

The size of the contract warrants a two tier management process in terms whereof Mr Johan J van Dyk, Head of Armscor's Countertrade Division will be the DIP Team Leader, with Mr Chippy Shaikh, Chief of Acquisition acting as auditor and moderator for the DIP process. Three evaluation teams as per par 4 are appointed and will operate in a parallel fashion. Mr C Shaikh (DoD) and Mr A Hirsch (DTI) will discuss and agree on the respective evaluations done by Armscor Countertrade and the IP Secretariat of DTI, before it is collated by Armscor Countertrade into a combined input.

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QUESTION 9b

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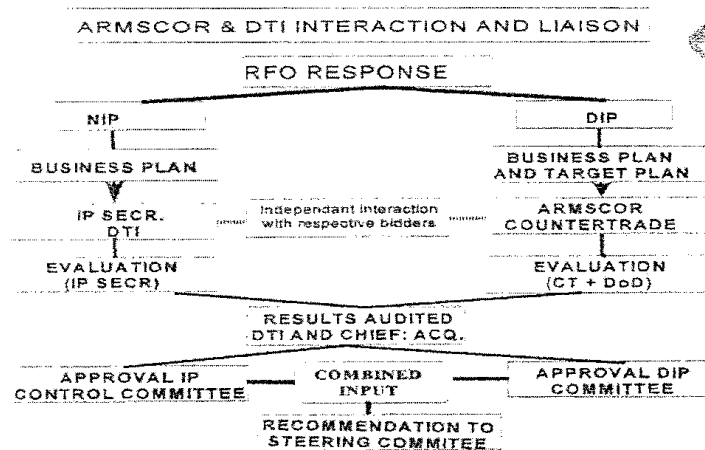
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The flow process is as per the following flow diagram.



4. THE DIP EVALUATION TEAM:

- 4.1. As the MoD requires a speedy result (end of June 98) of the DIP assessment, it is deemed necessary to create three evaluation teams. The three teams will each have two projects to evaluate as per the "Schedule of Events" as per par 5.
- 4.2. Mr J J van Dyk, Head of Armscor's Countertrade Division will act as overall team leader, co-ordinator and mentor for all three teams.
- 4.3. Each evaluation team will have a chairperson who will be responsible for such team's output. The chairperson will also be an evaluator.

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4.4. The three evaluation teams will comprise the following members:

4.4.1. Team 1:

- (a) Mr J B de Beer - Armscor Countertrade (Chairperson)
- (b) Lt-Col C Skinner - Chief of Acquisition representative
- (c) Mr D Sole - TMA, Armscor
- * (d) Secretary

Projects:

LUH - Light Utility Helicopter
MH - Maritime Helicopter

4.4.2. Team 2:

- (a) Mr D H Glatthaar - Armscor Countertrade (Chairperson)
- (b) Col M B Delport - Chief of Acquisition representative
- (c) Mr L Butler - Armscor Foreign Trade
- * (d) Secretary

Projects

Submarines
MBT - Main Battle Tank

4.4.3. Team 3:

- (a) Mr J J van Dyk - Armscor Countertrade (Chairperson)
- (b) Capt(N) O v/d Schyff - Chief of Acquisition representative
- (c) Mr T B R Du Toit - Armscor Foreign Trade
- * (d) Secretary

Projects

Corvettes
ALFA - Advanced Light Fighter
LIFT - Lead-in-fighter-Trainer (for this assessment exercise Messrs Glatthaar and De Beer will join Team 3)

Note:

A Secretary for each team will be provided. A Secretary will not be an evaluator.

4.5. For the duration of the evaluation all members of the respective evaluation teams will be subject to the supervision (for the purpose of the DIP assessment process for the periods as stated in the Schedule of Events - par 5) of the Head of Armscor's Countertrade Division, Mr J J van Dyk.

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4.6. In the event that any member of the evaluation teams is unable to participate in such a team's activities the Head of Armscor's Countertrade Division may, decide whether to appoint a replacement evaluator and who such a person will be.

4.7. **Responsibilities:**

4.7.1. The responsibilities of the respective evaluation teams (collectively and individually) are as follows:

- to listen to each bidder's individual presentation explaining the contents of his business plan, as submitted with the formal RFO response (bidders will be obliged to submit a hard copy of their presentation material to the respective evaluation teams); Proceedings must be recorded.
- to ask clarification information of a Bidder during the official presentation in order to understand his business plan;
- no additional information, ie additional to what is already contained in a business plan, may be accepted from any bidder or any other party;
- to scrutinize each business plan and to extract the information required to complete the "activity worksheet" as per Annexure A;
- to identify possible risk factors (refer par 13) which might have an impact on the activity(ies) offered;
- evaluation teams are to work as a team and its findings are to be consolidated in a combined input (as per the referred Annexure A) on the basis of a consensus decision.

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- to ensure that the necessary secrecy and commercial confidentiality are maintained throughout the evaluation period and until such time a formal decision has been taken by the MoD, regarding the successful bidders and the publication of the evaluation results/findings;
- to duly complete and sign Annexure B (as individuals);
- to return to Armscor Countertrade, once finished, all the documentation related to this evaluation process.

4.7.2. The responsibilities of each of the evaluation teams' chairman are as follows:

- to ensure that the evaluation process is attended to in accordance with the instructions as contained herein;
- to ensure that each evaluation team member conducts himself/herself strictly in accordance with the prescriptions of this instructions;
- to ensure that findings and recommendations of each team have been properly recorded;
- to ensure that consolidated reports and findings (as per Annexure A) are submitted timeously (as per par 5) to the Head of Armscor's Countertrade Division;
- to bring to the attention of the Head of Armscor's Countertrade Division any discrepancies or irregularities regarding this process.

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4.7.3. The responsibilities of the Head of Armscor's Countertrade Division are as follows:

- to act as mentor, leader and coordinator of the evaluation teams and their activities;
- to ensure that the prescriptions of this instructions are duly followed and applied;
- to ensure that all findings and results are properly recorded and consolidated in the formats of Annexures C and D;
- to discuss the respective results and findings of the evaluation teams with the Chief of Acquisition, DoD before preparing the final recommendation to SOFCOM;
- to liaise with the IP Secretariat of DTI, as and when required, and if so required draft inputs regarding the DIP recommendation for the purposes of possible inclusion into the Cabinet Memorandum.

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5. SCHEDULE OF EVENTS:

ACTIVITY	CUT OFF															
	APRIL '98				MAY '98				JUNE '98				JULY '98			
	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4
5.1. 1st EVALUATION BRIEFING - C SHAIKH																
5.2. 2nd EVALUATION BRIEFING - LEGAL																
5.3. 3rd EVALUATION BRIEFING - H DE W E																
5.4. FINALISE EVALUATION MODEL - C SHAIKH																
5.5. SUBMIT EVALUATION MODEL																
5.6. EVALUATION TEAM BRIEFING																
5.7. RECEIVE RFO RESPONSES																
5.8. PROVIDE DTI WITH THEIR PORTION																
5.9. PROVIDE EVALUATION TEAMS WITH COPIES																
5.10. TEAM 3 STARTS WITH CORVETTES:																
5.11. PRESENTATION BY SPAIN																
5.12. PRESENTATION BY GERMANY																
5.13. PRESENTATION BY FRANCE																
5.14. PRESENTATION BY THE UK																
5.15. EVALUATION OF BUSINESS PROPOSALS																
5.16. REVIEW MEETING AND FINALISATION																
5.17. TEAM 3 CONTINUES WITH THE ALFA:																
5.18. PRESENTATION BY BAE/SAAB																
5.19. PRESENTATION BY DASA																
5.20. PRESENTATION BY DASSAULT																
5.21. EVALUATION OF BUSINESS PROPOSALS																
5.22. REVIEW MEETING AND FINALISATION																
5.23. TEAM 2 STARTS WITH SUBS:																
5.24. PRESENTATION BY THE UK																
5.25. PRESENTATION BY GERMANY																
5.26. PRESENTATION BY FRANCE																
5.27. PRESENTATION BY SWEDEN																
5.28. PRESENTATION BY ITALY																
5.29. EVALUATION OF BUSINESS PROPOSALS																
5.30. REVIEW MEETING AND FINALISATION																
5.31. TEAM 2 CONTINUES WITH THE MBT:																
5.32. PRESENTATION BY VICKERS																
5.33. PRESENTATION BY GIAT																
5.34. FINALISE EVALUATION OF BUSINESS PROPOSALS																
5.35. REVIEW MEETING AND FINALISATION																
5.36. TEAM 1 STARTS WITH THE LUH:																
5.37. PRESENTATION BY EUROCOPTER																
5.38. PRESENTATION BY AGUSTA																
5.39. PRESENTATION BY BELL																
5.40. FINALISE EVALUATION OF BUSINESS PROPOSALS																
5.41. REVIEW MEETING AND FINALISATION																
5.42. TEAM 1 CONTINUES WITH THE MH:																
5.43. PRESENTATION BY GKN																
5.44. PRESENTATION BY EUROCOPTER																
5.45. FINALISE EVALUATION OF BUSINESS PROPOSALS																
5.46. REVIEW MEETING AND FINALISATION																
5.47. TEAM 3 PROCEEDS WITH LIET:																
5.48. PRESENTATION BY BIDDERS (3)																
5.49. FINALISE EVALUATION OF BUSINESS PROPOSALS																
5.50. CONSOLIDATE FINDINGS OF TEAMS 1, 2 AND 3																
5.51. CONSOLIDATE WITH NIP - FINALISE																
5.51. SUBMISSION TO STEERING COMMITTEE																

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6. ASSESSMENT INSTRUCTIONS:

- 6.1. All entries to Annexure A to be completed in ink. Annexure A being the only official worksheet to be used by each Team.
- 6.2. Except where otherwise indicated, each individual activity must be assessed and recorded on a separate form (as per Annexure A).
- 6.3. All assessment fields of Annexure A must be completed. Any of the assessment fields that are not completed will be ignored for purposes of calculation. Teams must please indicate **not applicable** ("N.A.") where and when relevant.
- 6.4. All alterations shall be initialed and each page signed by the specific Team's evaluators.
- 6.5. Every page shall be clearly marked, numbered and signed by the specific team's evaluators. Each Team shall submit one consolidated report per activity per bidder.
- 6.6. All evaluators must strictly adhere to the timescales as contained in the Schedule of Events (refer par 5).
- 6.7. **THE VALUE SYSTEM**

The value system is a collection of aspects and factors which are taken into consideration when assessing the value of DIP proposals received. This process is based on the following:

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- 6.7.1. **Evaluation guidelines** containing the framework used to direct all DIP proposals to satisfy defence strategic needs vested in the collective capability and capacity of the local defence industry. The DIP Guidelines are as per Issue 0 of 27/1/98 applicable to each of the package deal elements;
- 6.7.2. Details as contained in the **proforma business plan** (concept as attached to the RFO) to be used as basis to determine what exactly has been offered;
- 6.7.3. The information contained in the signed form "**Confirmation by Bidder**";
- 6.7.4. **DIP policy and procedural issues** as contained in the two Armscor documents (as derived from the MoD DIP Policy of 20/5/97), namely
A-POL-6100 : DIP Policy dated 1/4/97
A-PRAC-008: DIP PROCEDURE dated 1/4/97;
- 6.7.5. **Proforma DIP Agreement** as attached to the RFO;
- 6.7.6. **Target planning schedule** (as attached to the RFO);
- 6.7.7. **a weighting methodology** comprising of the following scores:-
- | | | |
|---------|---|--|
| 0 | : | for non-compliance/non-conformance |
| 1 - 4 | : | falls short of expectations |
| 5 | : | is the norm (proposals just meet expectations) |
| 6 - 10* | : | exceeds expectations, or conforms to highly critical norms*; |

(* Certain elements of **critical value** have been awarded a specific weight in accordance with its importance - refer par 7 for details. This is done in order to acknowledge those bidders who came the closest to what has been

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required and to distinguish between real value added proposals and elementary type projects.)

6.7.8. **criteria** used to discriminate between offers on the following basis:

6.7.8.1. **critical criteria:**

Each bidder **must** comply with the following in order to go through to the second round (ie the evaluation of each activity offered):

- must have signed "Confirmation by Bidder" form;
 - must have furnished a detailed firm business plan (preferably in the format as prescribed in the DIP Evaluation Guidelines);
 - bidder's preparedness/undertaking to provide a bank or sovereign guarantee to the value of 5% of his DIP commitment; and
- Note
- although not regarded as critical element (for disqualification purposes) each bidder must have furnished the prescribed target planning schedule as well.
 - each evaluator must record responses wrt this paragraph in Annexure B.

6.7.8.2. **discriminating criteria** consist of two elements, namely an **activity** element and a **compliance/conformance** element. These two elements form collectively the contribution to DIP objectives and strategic considerations. The aspects and weightings to be taken into consideration for each of these two elements, are described fully in par 7 hereunder; and

6.7.9. lastly an **evaluation instruction** as per this document.

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7. EVALUATION ASPECTS AND WEIGHTS

For assessment purposes the following evaluation methodology will be applied in the manner as described hereunder:

7.1. CONFORMANCE AND COMPLIANCE

This evaluation is eventually done through a computerized model (as contained in Annexure C) which adds up and calculates each individual weight in accordance with the parameters as set out hereunder. **Evaluation teams are not responsible for this portion (par 7.1) of the evaluation process, as it will be attended to by Armscor's Countertrade Division.**

7.1.1.	TOTAL VALUE OF CONTRACT		USD VALUE
7.1.2.	VALUE OF COMMITMENT	50%	USD VALUE
	<p>(a) Statement:</p> <p>A commitment of 50% is expected in order to support defence industrial strategic requirements.</p> <p>(b) Criteria:</p> <p>(i) The total value of all the proposals are as stated and it is then established whether at least 50% was offered.</p> <p>(ii) If between 45% and 55% is offered the bidder scores a 5.</p> <p>(iii) For any percentage offered more than 55% the bidder scores a 10.</p> <p>(iv) For any percentage offered less than 45% the bidder scores a 1.</p> <p>If, however, the Department of Defence and the Department of Trade and Industry are of the opinion that the re-apportioned NIP/DIP shares are of compensating value, then the decision to penalise (to par 7.1.2(b)(iv)) the bidder can be waived.</p>		

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7.1.3.	VALUE OF DIRECT DIP	*.....%	USD VALUE
	<p>(a) Statement: A specific % of direct DIP is expected in order to support specific defence equipment strategic requirements.</p> <p>(b) Criteria:</p> <p>(i) The required percentage direct DIP should have been offered as follows:</p> <ul style="list-style-type: none"> - Corvette <ul style="list-style-type: none"> · platform value = 10% · combat suite value = 60% of R1 470m (as specified in the RFO) - LUH, MH, MBT and ALFA = 30% - Submarines = 20% <p>(ii) If the full percentage requested or more is offered the bidder scores outrightly a 10.</p> <p>(iii) If the full percentage is not offered the bidder scores as follows:</p> <ul style="list-style-type: none"> - for 1 - 10% less than required - a 7 only - for 11 - 25% less than required - a 3 only - for 25% and more less than required - a 0. 		
7.1.4.	TOTAL VALUE OF LOCAL PARTICIPATION	45%	USD VALUE
	<p>(a) Statement: Local participation involves a variety of specific activities through which specific participation of our defence industry is established. The detail list of such possibilities are contained under par 8.</p> <p>(b) Criteria:</p> <p>(i) Because of the importance of local defence industry involvement in order to satisfy defence strategic needs, it is expected that such activities should account for at least 45% of the total DIP commitment (as per par 7.1.2.).</p> <p>(ii) If a percentage of between 40% and 50% is offered, the bidder scores a 10.</p> <p>(iii) For any percentage offered less than expected, the bidder scores as follows:</p> <ul style="list-style-type: none"> - for 20 - 40% - a 5 - for less than 20% - a 0. 		

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7.1.5.	TOTAL VALUE OF TECHNOLOGY TRANSFER	8%	USD VALUE
	<p>(a) Statement:</p> <p>(i) Technology transfer forms an important and integral part of mainly the DIRECT portion of DIP participation. It is however an aspect that can be manipulated by bidders through the application of so-called multipliers. This increases the "value" of such a technology transfer to such an extent that it reduces the bidders actual monetary obligation.</p> <p>(ii) As all technology transfer proposals can only be assessed on its face-value, the bidders must be limited in their resourcefulness in using this aspect to obtain an above average "commitment".</p> <p>(iii) Technology transfer could cover a wide range of activities at various levels of the product hierarchy. It also covers aspects related to know-how, technical aid and R & D.</p> <p>(b) Criteria:</p> <p>(i) Technology transfers can thus only count for a maximum of 8% of the total DIP commitment (as per par 7.1.2.)</p> <p>(ii) If a percentage of between 6% and 10% is offered, the bidder scores 10.</p> <p>(iii) For any percentages offered more than 10% or less than 6% the bidder scores a 0.</p>		

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7.1.6.	TOTAL VALUE OF GLOBAL INTEGRATION (EXPORTS)	10%	USD VALUE						
	<p>(a) Statement:</p> <p>(i) Global integration refers to the export of value added goods (typically manufactured goods).</p> <p>(ii) The defence industry in SA has already established over a period of 18 years a presence in the international export market. Exports these past two years amounted to some R2,1bn. Although still minuscule in terms of international export standards, the SA defence industry has proven that they can indeed be competitive in the international market.</p> <p>(iii) It is thus expected that bidders should offer value added exports that could contribute to sustaining manufacturing and skills capacities and capabilities in our defence industry at large.</p> <p>(iv) End users are however to be carefully considered because of arms control (NCACC) sentiments.</p> <p>(v) All export proposals are to be scrutinized very carefully in order to distinguish between intentions and real export commitments. Risks wrt intentions are to be identified and recorded.</p> <p>(b) Criteria:</p> <p>(i) Because of the importance of exports, the bidder scores 10 if he offers between 8% and 12% or more.</p> <p>(ii) For any percentage offered less than expected, the bidder scores as follows:</p> <table><tr><td>- for 5 - 7%</td><td>-</td><td>a 5</td></tr><tr><td>- for less than 5%</td><td>-</td><td>a 0</td></tr></table>			- for 5 - 7%	-	a 5	- for less than 5%	-	a 0
- for 5 - 7%	-	a 5							
- for less than 5%	-	a 0							

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7.1.7.	TOTAL VALUE OF EMPOWERMENT	20%	USD VALUE
	<p>(a) Statement:</p> <p>(i) To correct discriminating disparities of the past, the DoD and Armscor have committed itself to ensure that previously disadvantaged individuals (PDI) should also benefit from defence acquisition and procurement projects.</p> <p>(ii) The Department of Defence and Armscor fully support the SA Government's GEAR programme and have as such advised all foreign bidders of the importance to deliberately involve PDIs for the purposes of empowerment and capacity building, specifically within the defence industry - a sector previously denied to all PDIs.</p> <p>(b) Criteria:</p> <p>(i) It is expected that bidders should be able to offer activities involving PDIs (this include also Women) that would amount to at least 20% of the total DIP commitment (as per 7.1.2).</p> <p>(ii) If the bidder should then offer activities amounting in monetary value of between 18 - 23% of the total DIP commitment, he scores a 10, provided the following have been substantiated:</p> <ul style="list-style-type: none"> - it must not be a "window dress" company, where only 1 or 2 directors are Black with the rest of the company consisting of a traditional white composition. - a score of 10 implies a factor of 2 has been used to acknowledge participation/involvement of PDIs whom are not JSE listed companies - this could typically be SMME type companies with up to 50 employees and a projected turnover of up to R5m per annum. - for the involvement of PDIs listed on the JSE (for eg Nail, Johnnic, Kunene, etc) a factor of 1.5 applies which means that a score of only 8 will be applicable. <p>(iii) For any percentage offered less than 18%, the bidder scores a 0.</p> <p>(iv) Apply the 80/20 principle here.</p>		

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7.1.8.	TOTAL VALUE OF INVESTMENTS	12%	USD VALUE
	<p>(a) Statement:</p> <p>(i) Investments, in the form of equity capital or capital equipment, into the defence industry will directly contribute to the sustainability of the defence industry capacity and capabilities required for defence strategic reasons.</p> <p>(ii) Investments should furthermore contribute to the furthering of R & D projects needed for industrial innovations which could have spin-ons onto other areas of the industry.</p> <p>(b) Criteria:</p> <p>(i) Investments must be for a period at least 5 years in order to qualify for scoring.</p> <p>(ii) If the investment is committed for a period of 5 years (or more) and it makes out between 10% and 14% of the total DIP commitment (as per par 7.1.2) then the bidder scores a 10.</p> <p>(iii) If the investment is for periods shorter than 5 years but at least 3 years and/or for a percentage less than 10% but more than 8% the bidder scores a 5.</p> <p>(iv) For any period less than 3 years and a percentage less than 8% the bidder scores a 0.</p>		

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7.1.9.	TOTAL VALUE OF LOAN INTEREST BENEFIT	2.5%	USD VALUE
	<p>(a) Statement:</p> <p>(i) One of the elements of DIP is the allowance for providing loan capital to the local defence industry at a beneficial interest rate.</p> <p>(ii) The interest rate for such loan repayments should ideally be at least 5% less than the prime lending rate of a local banking group such as ABSA.</p> <p>(iii) Loans must furthermore be for a period of at least 5 years.</p> <p>(b) Criteria:</p> <p>(i) As loans are regarded as a "soft issue" it only counts for 2,5% of the total DIP commitment (as per par 7.1.2).</p> <p>(ii) If the bidder should thus offer loans between 2% and 3% (subject to 7.1.9(a)(ii)), he scores a 5 only.</p> <p>(iii) For any other percentages offered or for periods shorter than 5 years or any other proposal or if the interest rate is not more than 5% less than ABSA's prime lending rate, he scores a 0.</p>		
7.1.10.	TOTAL VALUE OF MARKETING/ PROMOTION	2.5%	USD VALUE
	<p>(a) Statement:</p> <p>(i) The assistance of foreign companies with the marketing and promotion of SA defence equipment abroad is an accepted element of the DIP process, as it creates export opportunities because of market access, economy of scale and commercial longterm opportunities.</p> <p>(ii) However, the issue of such assistance is regarded as a "soft issue", furthermore complicated by the possibility of manipulation, it is only valued at 2,5% of the total DIP commitment (as per par 7.1.2).</p> <p>(iii) A typical example of such assistance is Eurocopter's intentions to "assist" Denel Aviation with the marketing of Rooivalk and Oryx for which they have indicated that they would expect credits to the value of 30% and 50% respectively on each Rooivalk and Oryx exported.</p> <p>(iv) Prospective clientele must be carefully scrutinized because of arms control (NCACC) sentiments.</p> <p>(b) Criteria:</p> <p>(i) If any bidder should thus offer marketing and promotion between 2% and 3%, he can only score a maximum of 5.</p> <p>(ii) For any other percentage, proposals or intentions he scores a 0.</p>		

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7.1.11.	BIDDER'S CONTRIBUTION TO JOB CREATION	NUMBER STATED FOR STATISTICAL AND COMPARISON PURPOSES:
	<p>(a) Statement:</p> <p>(i) Job creation is an integral element to the success of the SA Government's GEAR programme.</p> <p>(ii) According to the research done by Dr Peter Bachelor (UCT) for the Defence Green Paper on the Defence Industry (p11-1998) the defence industry employs now less than 76 000 people (the latest figure quoted by AMD (Feb 11, 1998) however reflects 70 000.) This figure of employment represents 1% of total employment in the non-agricultural sector and 5% of total manufacturing employment. (This figure is down from an estimated 150 000 - 160 000 employed by the defence industry during the early eighties.)</p> <p>(iii) Because of the continuing pressure on resources it is deemed necessary to concentrate on job retention in the defence industry rather than job creation, which will be a bonus of course.</p> <p>(iv) According to the research of Dr Peter Bachelor (UCT) on the Green Paper for the Defence Industry, the latter's total sales for 1996 amounts to approximately R7 bn (the latter figure represents only those sales known to the researcher and could thus be somewhat more).</p> <p>(b) Criteria:</p> <p>As it is not possible to establish at this stage what the extent of job retention/creation really means in relation to existing employment levels and total defence industry turn over figures, it was decided, in collaboration with DTI to merely state the numbers of jobs as quoted by the respective bidders as a statistic.</p> <p>Although job creation is one of the main objectives of DIP (and NIP) no specific weights can be adjudicated as each type of activity involves specific skills at different levels in the various sectoral areas of the industry. To therefore generalise and score bidders against a fictitious/arbitrary baseline figure is not regarded a fair practice.</p>	

Note:

This concludes this element of the evaluation model. This is done by **bidder collectively** and not per activity. The activity score sheet (as per Annexure A) forms however the basis and source from where most of the elements are drawn from for calculation purposes as described here-above.

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The activity assessments (Annexure A) must therefore be dully completed by the respective evaluation teams **before** this portion (par 7.1) can be finalised.

- b) **The computerized score sheet is as per the specimen of Annexure C.**

7.2. **ACTIVITY ELEMENT**

- 7.2.1. Each type of activity offered must be assessed **individually** taking the following into account in order to determine to what extent have solutions been provided to support the Department of Defence's defence strategic requirements. (This issue refers to "**SECTORAL DEVELOPMENT**" insofar as it relates to the defence industry.)

- a) **any participation**

- i) **in the key defence strategic areas of**

- combat advantage (as specified)*
- combat survivability (as specified)*
- environmental needs (as specified)*
- technology/know-how in the respective areas indicated namely
 - systems engineering (as specified)*
 - modelling and simulation (as specified)*
 - test and evaluate (as specified)*
 - identify and specify system requirements (as specified)*
- detect and counter (as specified)*
- maintain and upgrade (as specified)*

will attract a top score of 10. (* "as specified" is per the relevant sections of the DIP Evaluation Guidelines, which contain verbatim quotations on the subject from the DoD's latest "Acquisition Policy")

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ii) any other area of DIP participation will attract a score of between 1 and 5 but no higher than 5.

b) the other area of extreme importance is the level of involvement of our industry. Based on the importance to establish as high up as possible in the equipment hierarchy a capability, the following scoring principle will apply:

- at systems level = score 10
- at product level = score 9
- at sub-system level = score 8
- at component level = score 7
- at spares part level = score 6
- processed materials = score 5
- other (eg educational issues) = score 5

c) the discharge period - 7 years

i) Statement:

It is required that the bidder should have committed himself to have fully discharged his total DIP commitment within seven years from the effective date of the DIP Agreement.

ii) Criteria:

If the bidder has undertaken in his "Confirmation by Bidder" to conform to this requirement confirm with YES = 1.

Any other statement/request by such bidder to be exempted from this period and to be allowed to extent his discharge period beyond this seven years must be penalized by stating a NO = 0.

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d) **sustainability of projects - 5+ yrs**

i) **Statement:**

- Sustainability refers to a very important concept regarding the long term sustenance of projects offered.
- Activities should be of such a nature that the prospect of such to continue, even after the official discharge period of seven years, are very favourably.
- Especially on the DIRECT DIP portion care must be taken when considering the sustainability of projects/activities offered.
- The creation of activities (which could include the structuring of new companies and/or joint ventures) to satisfy only a specific need related to the delivery of the main equipment on order must be identified by the respective DIP Evaluation Teams, with the risks attached to such an approach clearly indicated.

ii) **Criteria:**

- Activities or projects must be sustained for between 5 - 7 years in order to attract a score of 8.
- Activities/projects that could extend between 7 - 10 years should attract a score of 9.
- Activities/projects that could extend beyond 10 years should attract a score of 10.
- Activities/projects that are of a **one-off** type (eg ammunition orders) can only attract a 5 - although not perhaps be sustainable in the sense of longterm sustenance, such orders are still contributing to the sustaining

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of defence industrial capabilities and capacities and are thus also important for export considerations.

- e) It is expected that bidders should provide some form of proof that an **agreement/understanding** (MOU) has been reached with the specific local supplier(s) involved with the specific activity. If such indication exist please indicate a 1, if not a 0.
- f) In order to establish to what extent PDIs are involved, indication must be given to this effect by stating a 1 for PDI involvement (0 for non-involvement) and a 1 for the fact that such PDI is a non-JSE listed company and a 0 for a JSE-listed one.
- g) In the case where a bidder has offered banked credits, it must be indicated and the activities represented by such credit be **weighed as for a new project**. (It is presently only BAE and DGA who have banked credits and information can be obtained from Armscor Countertrade if necessary.)
- h) Although not counting specific points the evaluator must also indicate, where possible, what type of industry sector is involved (for eg electronic, mechanical, R&D, etc, as per the examples contained in par 9) as well as what type of abilities/skills (as per the examples contained in par 10) are applied/required.
- i) **The detail scoring sheet for each activity assessment to be submitted by each DIP Evaluation Team, is as per Annexure A.**
- j) The responses of Annexure A will be calculated electronically and a summary generated, for each bidder. The results of the respective summaries (to Annexure A) will be transferred electronically to Annexure C for calculation, and then to Annexure D for comparison purposes. This function resides with the Countertrade Division of Armscor.

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- k) Those activities/proposals having been identified by the respective DIP Evaluation Teams as vague, non-committal or unsubstantiated and which carries a high risk factor will be disqualified and can as such not be used for calculation purposes as per above sub-paragraph j. DIP activities duplicated by a specific Bidder (eg France participating in all 6 bids) under the different package equipment must be identified as such. In this case such an activity will be disregarded completely.

8. TYPICAL ACTIVITIES:

It is envisaged that the following types of activities can possibly be offered, or can manifest within the context of the programme life cycle - evaluators are to use this as a guideline only (it carries no weight):

	LIFE CYCLE PHASE	TYPICAL ACTIVITY
1	OPERATIONAL ANALYSIS	Research & Technology of New Products
2	CONCEPT (System level) Baseline : Functional (FBL)	Develop Requirements into functions Functional Analysis Functional Specifications Configuration Plan Logistic Engineering Design Trade off studies between concepts
3	DEFINITION (System / sub-system) Baseline : Allocated (ABL)	Allocation of Functions Definition of hardware - specifications Design Modelling Testing (limited) Log. Config, QA

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	LIFE CYCLE PHASE	TYPICAL ACTIVITY
4	FULL SCALE ENGINEERING DEVELOPMENT (All levels) Baseline : Product (PBL)	Detail Design Development Test Evaluate Validate (Qualification) Specifications Production Engineering (Product- Process Design) Log element design
5	INDUSTRIALISATION Marketing JVs Investments Baseline : Manufacturing (MBL) Belongs to Ops. Phase {	Process Development (Technology) Quality Control Process Verification Process Control Development Production (limited quantities) Implement Licenced Production (Technical transfer) Complete Datapack: - Product Design - Process Design - Operation - Maintenance - Repair
6	MANUFACTURING Marketing Investment JVs Technical Aid & Service Baseline : Operations (OBL)	Production of Parts etc Quality Control/Assurance Configuration Management Assembly/Integration Process Control Acceptance Testing and verification Datapack: - Process - Product
7	OPERATIONAL PHASE Marketing Technical Aid & Service Baseline : Upgraded (U/OBL) Logistic Support {	Complete Datapack: - Operation - Maintenance - Repair Operate Config. Management Maintain Repair Refurbish Upgrade Phase out

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9. DEFENCE SECTORAL TYPE INDUSTRIES:

The specific defence industry sector most applicable to a specific activity must also be identified. These defence industry sectoral areas can be identified in terms of its main capability, ie

- electronic (including comms, avionics and EW)
- electrical
- mechanical
- electro-mechanical
- chemical
- electro-optical
- aeronautical
- maritime
- transport
- armour
- munitions/ordnance
- explosives
- pyrotechnical
- guns and ammo
- R & D (all forms including NBC)
- Test
- Anti-mine
- Support/maintenance/logistics
- Refurbishment and upgrade
- Medical
- Other (identify if not listed here)

10. ABILITIES/SKILLS AREAS:

For each programme in the industry to be executed professionally certain skills and abilities are either applied or required. Please indicate which of the following skills/abilities are the most applicable to a specific activity, ie

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- programme management
- quality engineering
- systems engineering
- production engineering
- logistics engineering
- upgrade engineering
- configuration management
- general management
- educational
- marketing, promotion, etc.

11. FORMAT OF THE RESULT/FINDING:

- 11.1. The format in which the final results and findings per package deal element must be prepared, is as per annexure D. The responsibility to finalize the end result is that of Armscor's Countertrade Division.
- 11.2. The input from the IP Secretariat, DTI should conform to the same format in order to effect a combined input that forms one of the 3 key elements of the overall evaluation formula. It is however accepted that because of different objectives some of the NIP and DIP outputs might differ, as long as a combined result can be effected and submitted to the Steering Committee ("SOFCOM").
- 11.3. The overall evaluation formula consists of the following three elements, namely Technical (T), IP (consisting of a combined NIP/DIP input) and Financing (F) that makes up the following formula:

$$\frac{T = 100 \times IP = 100}{F = 100}$$

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12. **UNDERTAKING BY EVALUATOR:**

12.1. Each evaluator must confirm that the assessments have been completed by himself/herself to his/her best ability, and is a true reflection of his/her judgement of the DIP proposal as contained in the respective bidder's business plans, relevant to the specific equipment.

12.2. Each Evaluator must also indicate whether the respective bidders have furnished information regarding:

- | | |
|------------------------|---------------------------------------|
| - track records | - compliance to RFO DIP prescriptions |
| - presence in SA | - Bidder's Confirmation |
| - Guarantee provisions | - Business Plans |

12.3. **Each Evaluator's response will be in the format of Annexure B.**

13. **RISK FACTORS:**

13.1. Each of the activities/proposals received are weighed in accordance to the extent it supports strategic considerations, also taking into consideration the levels of such activities, i.e. for example products, services, technologies and areas of involvement. Each is subjected to scrutiny, weighing certain risk factors against the overall prospect of such proposal eventually being successful.

13.2. Some risk elements might be known, others will have (if time permits) to be researched. Some of the risk elements which might have to be considered are for e.g.:

- ° Indigenous capacity - can the industry handle the extent of the activities

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proposed?

- ° Indigenous ability - has the local industry the ability to perform activities proposed?
- ° Sustainability - risk of long-term projections or production runs not materialising;
- ° Dependence on foreign supplier to activate and perform in time for local reaction;
- ° Maintainability of contractual deliverables to third parties - track records;
- ° Status of MOU/agreements - signed vs draft or in process (**intentions only** are to be clearly indicated in each case as it carries a very high risk of not materializing at the end);
- ° Accreditation status - have all parties involved been accredited by Armscor?
- ° Tenderer infrastructure - has he the ability and resources to see the DIP through?
- ° Normative deviations - to what extent has the Tenderer accepted our DIP contract and has the Tenderer tried to introduce loopholes?
- ° Areas of investment (high tech; existing business, new business; Small, Micro and Medium businesses (SMME), PDIs, etc);
- ° Unrealistic valuations of technology transfers (ie use of multipliers);
- ° Risks related to technology transfer (sustainability, level, preconditions etc).
- ° Other (evaluators to identify).

- 13.3. DIP Evaluation Teams should indicate in the "comments part" of Annexure A, any **risk factors** they have identified wrt a specific activity/proposal.

14. SOURCE REFERENCES

The following documentation must be used by each evaluator and collectively by the respective DIP Evaluation Teams as background for conducting this

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evaluation exercise:

- DIP Guidelines (specifically the DIP portion), as distributed under each of the respective package equipment RFOs as issued on 16/2/98.
- DIP Evaluation Guidelines Issue 0 dated 27/1/98, as distributed under each of the respective package equipment RFOs on 16/2/98.
- A-POL-6100 dated 1/4/97.
- A-PRAC-008 dated 1/4/97.
- Proforma DIP Agreement, as distributed under each of the respective package equipment RFOs on 16/2/98.
- Armscor Accreditation record printout. (Companies already accredited and companies applied for accreditation.)
- Publication ENTERPRISE 200 regarding Black Business.
- This Evaluation Instruction.

15. **COMPLETENESS:**

THIS CONSTITUTE THE FULL INSTRUCTION AND SOLE REQUIREMENT FOR THE ASSESSMENT OF THE DEFENCE INDUSTRIAL PARTICIPATION PROPOSALS AS CONTAINED IN THE RESPECTIVE PACKAGE DEAL RESPONSES TO THE INVITED BEST AND FINAL OFFERS (RFOs).

16. **DISTRIBUTION:**

- 16.1. The distribution of this document will be limited to those who have a direct interest in this DIP Package Deal evaluation process.
- 16.2. The Countertrade Division will be responsible to record the distribution of this document and the obtaining of a signature of each recipient.

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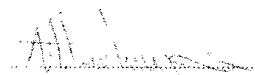
17. CONFIGURATION RECORD:

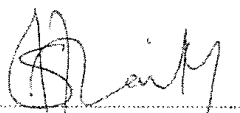
This Issue was preceded by three draft issues and one final issue. Any other amendments (if and when required) to this issue will be configured, approved and controlled as prescribed by SOFCOM.

COMPILED AND ISSUED BY


J. VAN DYK
HEAD OF ARMSCOR'S
COUNTERTRADE DIVISION

ACCEPTED, ENDORSED AND APPROVED BY

1. 
H DE WESTERHUYZE
GM : AERONAUTICS AND MARITIME
ARMSCOR
SOFCOM CHAIRMAN

2. 
C SHAIKH
CHIEF OF ACQUISITION OF THE
DEPARTMENT OF DEFENCE
SOFCOM CO-CHAIRMAN

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**Copy of the SDP's actual DIP Terms
Sample: GFC's Defence Industrial Participation Terms
(Schedule B1 of the Umbrella Agreement)**

12 February 1999

Note 1: This was based on the Proforma DIP Memorandum of Agreement that was part of the SDP's RFO – evidence pack of Armscor's Barry de Beer making testimony to the APC between 3 and 6 March 2014 – page 168 onwards. The final DIP Terms document differs from the original RFP proforma due to the consolidation and changes incorporated by the law Firm: White & Case, Sandton.

Note 2: Actual filled out samples of the DIP business plan sheets referred to as Annexures C1 and C2 are also copied in from the corvette DIP as provided in the evidence pack of Pieter Burger under his testimony to the APC on 11 March 2014 – page 58 onwards.

Note 3: Although the international law firm White and Case endeavoured to standardise all the terms and conditions, there are some slight deviations to be found across all the various DIP Terms – this is primarily due to different effective dates and different discharge milestones due to the nature and timescales related to the delivery of the various SDP equipment.

SCHEDULE B1

GFC DEFENCE INDUSTRIAL PARTICIPATION TERMS

1. INTERPRETATION AND PRELIMINARY

The headings of the Clauses in this Schedule are for the purpose of convenience and reference only and shall not be used in the interpretation of nor modify nor amplify the terms of these DIP Terms nor any Clause hereof. Unless a contrary intention clearly appears:

1.1 words importing -

1.1.1 any one gender include the other two genders;

1.1.2 the singular include the plural and *vice versa*; and1.1.3 natural persons include created entities (corporate or unincorporate) and *vice versa*;

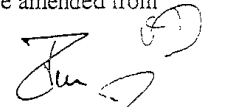
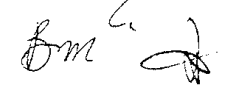
1.2 capitalised terms not defined in this Schedule B1 shall have the meanings ascribed to them in the Umbrella Agreement and the following terms shall have the meanings assigned to them hereunder and cognate expressions shall have corresponding meanings, namely -

1.2.1. "ADDITIONALITY" means the concept that all DIP CONTRACTS (as described in this Schedule B1) must reflect incremental or new business to be considered for DIP CREDIT from the Effective Date of these DIP Terms. Existing business or completed projects will not be considered for DIP CREDIT unless already covered by a signed PRO-ACTIVE DIP AGREEMENT between GFC and ARMSCOR.

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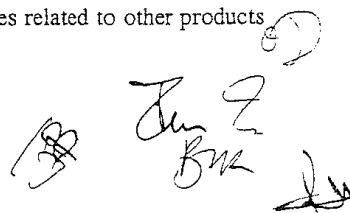
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- 1.2.2. "CAUSALITY" means that the DIP activities were effectively caused by GFC as a result of these DIP Terms and as a direct result of GFC's involvement therein.
- 1.2.3. "COMPANY" shall mean any individual or collective defence related company/companies, supplier, service provider, partnership, association, organisation, joint venture or other business entity organised or existing under South African laws, or of doing business in South Africa under South African Laws. This definition will also apply to a company, etc, organised or existing after the signature of these DIP Terms and also includes ARMSCOR in its capacity as an accredited quality assurance organisation, acquisition authority, a service, research or equipment/product provider, where and when applicable.
- 1.2.4. "DEPARTMENT OF TRADE AND INDUSTRY or "DTT" shall mean the Department of Trade and Industry of the Republic of South Africa.
- 1.2.5. "DIP" shall mean Defence Industrial Participation, and "DIP" shall cover those DIP activities relating to items manufactured by or purchased from a COMPANY in accordance with internationally accepted industrial and/or military specifications/standards. DIP shall ipso facto include but shall not necessarily be limited to aspects relating to local industry involvement, Technology Transfer, know-how, training, exports, investments, beneficial loan interests and/or marketing assistance as described in this Schedule B1, or as otherwise agreed to by the parties and shall be applicable to both DIRECT DIP and INDIRECT DIP.
- 1.2.6. "DIP TERMS" shall mean this Schedule B1, including the appendices and attachments hereto, as they may be amended from time to time.

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- 1.2.7. "DIP COMMITMENT" shall mean the total amount and/or DIP activity values as set out in Clause 2.3.
- 1.2.8. "DIP CONTRACTS" shall mean those written and legally binding contracts placed by GFC and/or for which GFC is the effective cause onto a COMPANY, reflecting the scope of DIP activity, deliverables, delivery period, monetary value and whatever other information is deemed necessary for ARMSCOR to assess the DIP CREDIT claim.
- 1.2.9. "DIP CREDIT" shall mean the actual amount for each DIP activity approved by ARMSCOR, to be credited to GFC.
- 1.2.10. "DIRECT DEFENCE INDUSTRIAL PARTICIPATION" or "DIRECT DIP" shall mean those DIP activities which are directly related (by specification or otherwise) to the products, equipment, material or services which are the subject of the Supply Terms, and which DIP activities directly involve or benefit a COMPANY.
- 1.2.11. "DUAL-USE" shall mean those products, technologies supplied and/or services rendered by a COMPANY and where such products, technologies and/or services could be used for either defence or non-defence related purposes and the meaning DUAL-USE, shall include reference to dual-purpose products, technologies and/or services applied in a similar manner.
- 1.2.12. "IMPORTED CONTENT" means the duty-free, free-on-board (FOB) / free carrier (FCA) as per incoterms 1990 value of goods and services of overseas origin incorporated into the products and services to be supplied to GFC, and/or GFC's sub-suppliers.
- 1.2.13. "INDIRECT DEFENCE INDUSTRIAL PARTICIPATION" or "INDIRECT DIP" means DIP activities related to other products

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not covered under Clause 1.2.10, manufactured by or purchased from, or other services rendered by a COMPANY.

- 1.2.14. "INVESTMENT" shall mean either of the following:
- 1.2.14.1. the amount of foreign equity capital and/or value of capital equipment procured with foreign currency; and
 - 1.2.14.2. the annual interest differential advantage gained by a COMPANY for foreign loan capital granted.
- 1.2.15. "JOINT VENTURE" or "JV" shall mean an agreement between GFC or effectively caused by GFC and any COMPANY in terms whereof each party contributes for the purpose of achieving a common defence industrial interest, as a third commercial company, created and operated for the benefit of the co-owners, but in line with the DIP objectives as set out in the Umbrella Agreement and the Department of Defence's strategic concerns and in accordance with the provisions of South African law.
- 1.2.16. "LOCAL CONTENT" means the selling price of the products and/or services to be supplied by a COMPANY, less the IMPORTED CONTENT.
- 1.2.17. "NETT GAIN" shall mean the actual value of the direct benefit related to the nett profit realised by a COMPANY in relation to a DIP activity.
- 1.2.18. "PRO-ACTIVE DIP AGREEMENT" means the pro-active defence industrial participation (DIP) agreement number THYSEN 04/98 as entered into between Thyssen Rheinstahl Technik GmbH and ARMSCOR on 12 February 1998.

CLAUSE 2.

NATIONAL POLICY AND DIP COMMITMENT

2.1. National Policy

GFC understands that it is National Policy of the Republic of South Africa that whenever an acquisition has to be made from a foreign supplier by any State Department or parastatal and the total value of such contract awarded to a foreign contractor, or the total value of the foreign content if the contract is awarded to a COMPANY, is equal to or more than USD 10 million or the equivalent thereof, then the total value of the foreign contract or the foreign content shall be subject to Industrial Participation (both DIP and NIP) as was specified in the original request to tender, and as set out herein.

2.2. Save as set out in Clause 2.5.4 of each of the GFC NIP Terms and the Thomson NIP Terms, at no stage will the DIP obligation or DIP CREDITS with ARMSCOR and the NIP obligation or related credits with the NIP Implementing Mechanism be interchangeable in any way. This Clause is however subject to the condition that all such contemplated claims must be submitted through ARMSCOR's DIP Division to the NIP Implementing Mechanism.

2.3. DIP Commitment

2.3.1. (a) GFC undertakes to perform DIP activities in respect of the four (4) Corvette Platforms in accordance with these DIP Terms in an aggregate value of the EURO 88,123,584 (eighty eight million one hundred and twenty three thousand five hundred and eighty four). Included in this value is a value of EURO 18,547,574 (eighteen million five hundred and forty seven thousand five hundred and seventy four) which relates to the value of Technology Transfer.

(b) [intentionally omitted]

2.3.2. It is herewith recorded that GFC's DIP COMMITMENT constitutes GFC's full and irrevocable commitment as more fully described in Annexure C1 hereto and will be binding on GFC and will be used by ARMSCOR to monitor and assess GFC's DIP performance against the

commitments contained therein and as stated in Clause 5.1 of these DIP Terms.

2.3.3. GFC's DIP COMMITMENT shall be subject to the provisions of Clause 5 of these DIP Terms.

2.3.4. a) However, should it become evident during the course of the execution of these DIP Terms that a particular DIP ACTIVITY in terms of the approved DIP COMMITMENT needs to be terminated or can no longer be executed, in accordance with the Agreement then GFC shall notify ARMSCOR forthwith in writing clearly stating the reasons for the termination or non-executability thereof and GFC shall engage ARMSCOR and the DOD in prior consultation in respect of any DIP CONTRACTS which GFC may so seek to terminate under these DIP TERMS.

b) GFC may substitute the terminated project with another substitution project provided that such newly proposed project is at least equivalent to or better in all respects including value, to the terminated project GFC shall be entitled to bank credits earned in respect of any project terminated under this Clause subject to a separate agreement with ARMSCOR.

c) The scheduling of this newly proposed project (DIP activity) is subject to ARMSCOR's prior written approval, which approval shall not unreasonably be withheld.

2.3.5. a) ARMSCOR shall at all times reserve the right to approve or reject the substitution DIP activities offered and will submit written reasons to GFC.

b) In the event that ARMSCOR should reject the proposed substitution project(s) (DIP activities) ARMSCOR may invoke liquidated damages as envisaged by Clause 5 as set out

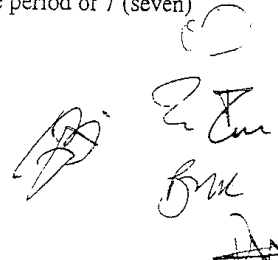
hereinbelow if the requirements of that Clause are satisfied unless GFC can convince ARMSCOR to the contrary.

- c) ARMSCOR shall inform GFC within 90 (ninety) days after having received GFC's substitution project(s) (DIP activities) proposal, of whether such DIP activities have been accepted or rejected by ARMSCOR. In the event that ARMSCOR does not inform GFC within 90 (ninety) days after having received GFC's proposal as required in terms of this Clause 2.3.5 (c), ARMSCOR shall be deemed to have accepted such proposal.

2.3.6. GFC has furthermore provided ARMSCOR with a DIP Discharge Target Planning Schedules reflecting GFC's commitment to achieve the intermediate targets and specific milestone performance targets required to meet its DIP COMMITMENTS. These DIP Discharge Target Planning Schedules forms an integral part of these DIP Terms under Annexure C2 hereto and is subject in its entirety to the provisions contained in the Agreement and in Clause 5 of these DIP Terms specifically.

2.3.7. Should the Option be exercised by ARMSCOR, GFC undertakes to perform Direct DIP Activities with respect to local production with an additional aggregate value of EURO 7,000,000 (seven million) in accordance with the Agreement and which qualify for DIP Credits in terms of these DIP Terms and GFC confirms its commitment to provide additional business plans to ARMSCOR to cover such increased scope or as otherwise determined by ARMSCOR.

2.3.8. Should the eventual allocation of DIP CREDIT in relation to Technology (refer Clause 3.1.1.2) show a shortfall in the monetary value of such an activity as proposed by GFC, such monetary shortfall must be made good by GFC with other DIP activities within the discharge period of 7 (seven) years.

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CLAUSE 3.

DIP ACTIVITIES AND DIP CREDIT CALCULATION

- 3.1. DIP activities to be performed by GFC in accordance with the provisions of Clause 2.3.1(a) and the respective Annexure C1 hereto shall be considered by ARMSCOR for DIP CREDIT according to the principles set out hereunder.

3.1.1. DIP CONTRACTS

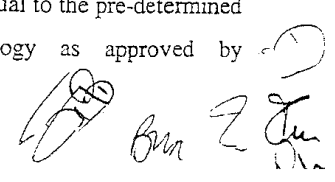
The DIP CREDIT shall be based on actual value of respective DIP CONTRACTS, excluding any escalation, Value Added Tax (VAT), and any IMPORTED CONTENT. This DIP CONTRACT must be placed in accordance with Clause 5.1.2 and Annexure C1 hereto and when applicable. The scope of the DIP CONTRACT can include any one or a combination of the following categories of DIP activities:-

3.1.1.1. LOCAL INDUSTRY PARTICIPATION

Local industry participation activity represents the value of actual work to be physically performed or actual services to be physically rendered by a COMPANY, or the LOCAL CONTENT value of goods procured, purchased from the COMPANY.

3.1.1.2. TECHNOLOGY TRANSFER

- (a) Technology, (including but not limited to know-how, training and technical aid and/or licence agreements), which increase the capability of a COMPANY or help develop goods and/or services not previously produced in South Africa or contribute in substantial improvement of such goods and/or services or production or provision thereof, will be considered by ARMSCOR for crediting in an amount equal to the pre-determined value of the Technology as approved by

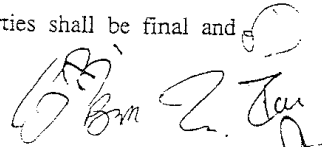


ARMSCOR (and if applicable in ARMSCOR's opinion), *inter alia* taking into consideration the value of the Technology or know-how to South Africa, with special reference to, but not necessarily limited to:

- the uniqueness of the Technology;
- the general availability of the Technology in the international market;
- the inter-dependence with other technologies, not available
- the need for the Technology;
- the degree to which the recipient will master the Technology;
- the level of design/development know-how to be transferred;
- the extent of South African Investment, availability of resources, infrastructure and/or equipment/tools;
- the inherent/intrinsic military value of the Technology;
- the spin-off value of the Technology;
- licensed manufacturing and marketing rights;
- the extent of access to software and related source codes;

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- the level/extent of training, technical assistance, transfer of technical data;
 - long term sustainability and product through-life support;
 - the contribution to industrial and economical development, and
 - any associated risks.
- b) The appropriate value of the Technology as covered by this Clause 3.1.1.2, shall be discussed by ARMSCOR and GFC, prior to the transfer of such Technology or know-how or prior to the commencement of training and/or technical assistance and after taking into account submissions by GFC. ARMSCOR shall at all times reserve the right to consult with the relevant recipient COMPANY, ARMSCOR's Programme Management, the Department of Defence (DOD) and/or the Department of Arts, Culture, Science and Technology or any other entity/organisation during, prior to or after receiving submissions from GFC. In the event that GFC disputes any determination made by ARMSCOR after the discussions under this Clause 3.1.1.2 (b), such dispute shall be referred to the Chief Executive Officer (as such may be designated by GFC for the specific purpose) of GFC on the one hand and the Managing Director of ARMSCOR and the Chief of Acquisition, DoD on the other who shall meet and endeavour to resolve the dispute. The joint and unanimous written decision of such representatives of the Parties shall be final and



binding upon the Parties but if those representatives are unable to agree within 30 (thirty) days of the relevant dispute being referred to them, then the determination made by ARMSCOR shall be final and binding. GFC shall then remain responsible for substituting or supplementing the relevant DIP activity (in whole or in part, as may be applicable) as contemplated in Clause 2.3.4.

- c) DIP CREDIT activities as contemplated by this Clause 3.1.1.2 shall be considered by ARMSCOR in accordance with Clause 3.1.1.2 (a) and the contents of Annexure B hereto, the latter which must be duly completed by GFC and submitted to ARMSCOR with GFC's initial request to negotiate such transfer or related activities with ARMSCOR.
- d) Once negotiations are completed GFC may submit a DIP CREDIT claim (as per Annexure A), for that amount of the transfer agreed on, to ARMSCOR.
- e) The decision of ARMSCOR regarding the agreed amount of the Technology Transfer as contemplated in this Schedule B1 and to be allocated to GFC as DIP CREDIT will be final and binding, once a "Certificate of Acceptance" has been signed and furnished by GFC and the recipient COMPANY after completion of the Technology Transfer and duly endorsed by ARMSCOR.

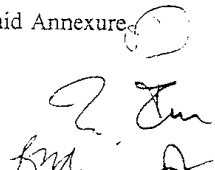
f) The PARTIES hereto confirm that the steps for transferring Technology as contemplated in this Clause 3.1.1.2 will inter alia consist of:

- step 1: notification by GFC to ARMSCOR
- step 2: first order discussion between GFC and ARMSCOR
- step 3: detail negotiation of Technology Transfer plan, including the detailed objectives, scope of work, timescales and acceptance criteria
- step 4: determination of value
- step 5: DIP CONTRACT with the recipient
- step 6: transfer action by GFC
- step 7: receipt of Certificate of Acceptance as issued by recipient and endorsed by ARMSCOR
- step 8: DIP CREDIT claim submission by GFC and subsequent granting of such credit by ARMSCOR as contemplated in these DIP Terms
- step 9: GFC to pursue spin-off value aspect of transfer
- step 10: GFC to submit additional claims in relation to its achievement of the intrinsic values realised through the transfer.

- g) ARMSCOR may decide after the Effective Date, but prior to the completion of Step 5 above, not to accept a Technology/technologies transfer, know-how, technical aid training or a licence agreement as contained in the applicable Annexure C1 hereto. In that case:
- Prior to taking that decision, ARMSCOR shall discuss the matter and its reasoning with GFC, unless it has reasonable grounds not to do so.
 - In the event that GFC disputes any determination made by ARMSCOR after the discussions under this Clause 3.1.1.2 (g), such dispute shall be resolved in accordance with the provisions of Clause 3.1.1.2(b).
 - If ARMSCOR refuses any such acceptance, GFC remains responsible and accountable for substituting such a Technology as contemplated in Clause 2.3.4. under the direction of ARMSCOR or any other entity jointly agreed upon.
- (h) GFC undertakes to commence with negotiations in accordance with Step 3 of Clause 3.1.1.2(f) with ARMSCOR regarding its Technology Transfer initiatives as covered by the relevant Annexure C1 hereto within 12 (twelve) months from the Effective Date.
- (i) ARMSCOR, for a period of 36 (thirty six) months after the Effective Date, reserves the right to

request GFC and/or its sub-suppliers to transfer any or a specific Technology, as contained in the relevant and respective Annexure C1 hereto, into the name of ARMSCOR for the use and application by ARMSCOR or a COMPANY nominated by ARMSCOR even if GFC has nominated a different COMPANY in the applicable or relevant Annexure C1 hereto. Such decision of ARMSCOR shall not impact the Supply Terms. Such transfer shall form the subject matter of a separate agreement to be concluded between the transferor of the Technology and the transferee. If GFC and/or its sub-suppliers should decide not to transfer a specific Technology in the name of ARMSCOR or a COMPANY nominated by ARMSCOR, or if no agreement can be reached in respect of the transfer contemplated in this Clause 3.1.1.2 (i), ARMSCOR will not be under any obligation to grant to GFC any DIP CREDIT as contemplated by this Clause 3.1.1.2, irrespective of the fact that GFC has made its intentions known to ARMSCOR under these DIP Terms and the respective Annexure C1 hereto where applicable and in which case GFC shall remain responsible for substituting the relevant DIP activity as contemplated in Clause 2.3.4, unless GFC can convince ARMSCOR to the contrary.

- (j) It is herewith recorded that GFC's proposed Technology Transfer plan is included in Annexure R of the Supply Terms. For the avoidance of doubt, however, it is recorded that said Annexure

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R in its entirety remains subject to final negotiation as envisaged in this Clause 3.1.1.2.

3.1.1.3. EXPORTS


This Export activity/s represents the LOCAL CONTENT value of goods to be exported by a COMPANY, or the actual value of services to be rendered abroad by a COMPANY, excluding all license fees, royalties and commissions or similar fees paid to third parties.


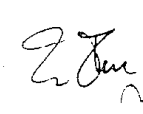
3.1.1.4. EQUITY INVESTMENT

3.1.1.4.1. INVESTMENTS

- (a) DIP CREDIT shall be an amount equal to the sum of the INVESTMENT made or caused by GFC in a COMPANY or JV for a minimum period of 5 (five) years. Should the investment be for less than 5 (five) years from the date that such investment is effected, ARMSCOR may at its sole discretion decide to cancel and reverse any DIP CREDIT granted, unless GFC can prove to ARMSCOR that the return on such investment for any shorter period has resulted in a tangible advantage/gain for the COMPANY. In the latter case only that portion of the advantage gained by the COMPANY as a direct result of the INVESTMENT will be considered by ARMSCOR for DIP CREDIT and not the original amount of the INVESTMENT.

3.1.1.4.2. JOINT VENTURE (JV)

- The formation of any JV for the purposes of these DIP Terms is subject to prior approval by 

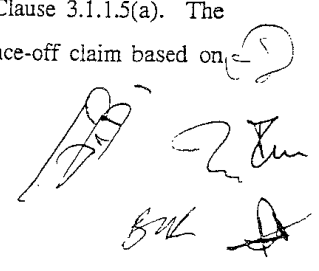
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ARMSCOR in collaboration with the DoD and any DIP CREDIT claim shall at the option of GFC be considered in accordance with:

- the value of any INVESTMENT made or caused by GFC into the JV, to be credited in accordance with Clause 3.1.1.4.1, or
- the value of the NETT GAIN incurred by a COMPANY as a direct result of this contemplated JV, or
- the value of any other DIP activity engaged or caused by GFC with such JV proportionally to the equity share of the South African partner/COMPANY.

3.1.1.5. LOAN INTEREST BENEFIT

- a) ARMSCOR shall also consider DIP CREDIT equal to the value of the accrued interest differential advantage gained by the COMPANY for foreign loan capital directly arranged by GFC as part of these DIP Terms, provided that such loan repayments must be for a period of at least 5 (five) years.
- b) The interest rate differential applicable to a loan to a COMPANY, must be at least 12% (twelve percentum) or more, less than the South African Reserve Bank's "Repo rate" on the actual date of the physical loan transfer in order to qualify for DIP CREDIT, subject to Clause 3.1.1.5(a). The DIP CREDIT will be a once-off claim based on (5)

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this 12% (twelve percentum) or more calculated on the total loan amount.

- c) Should the loan be for less than 5 (five) years, ARMSCOR may decide to cancel and reverse any DIP CREDIT granted, unless GFC can prove to ARMSCOR that the return on such loan for any shorter period has resulted in a tangible advantage/gain for the COMPANY. In the latter case only that portion of the advantage gained by the COMPANY as a direct result of the loan will be considered by ARMSCOR for DIP CREDIT and not the original amount of the LOAN.

3.1.1.6. MARKETING SUPPORT


The value of marketing support will only be calculated at the execution of an export order related to the goods, products or services marketed by GFC on behalf of a COMPANY, and shall be limited to 2,5% (two and a half percentum) of the value of the export order-refer Clause 3.1.1.3. SD

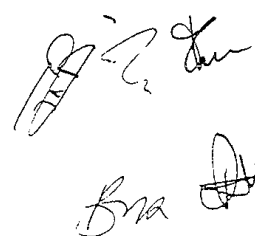
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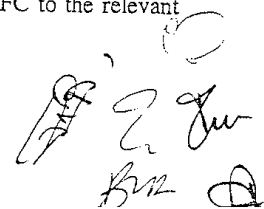
3.1.1.7. OTHER TRANSACTION

- (a) DIP CREDIT will be considered by ARMSCOR in respect of any relief/abatement or waiver from any counter-trade related obligation of a COMPANY in other countries, that GFC is able to obtain or secure on behalf of a COMPANY, subject to Clause 3.2.7.9, or by specific request from ARMSCOR. DIP CREDIT in such an instance will be considered in relation to the actual monetary value of such relief/abatement or waiver obtained or secured by GFC as contemplated in this Schedule B1.
- b) In cases where GFC should act on its own initiative, such initiative must be cleared with ARMSCOR prior to GFC engaging any other country or party or COMPANY in discussion or negotiations related to counter-trade related reliefs/abatements or waivers on behalf of a COMPANY, or otherwise.
- c) Any other DIP related transaction not covered in this Clause 3.1 shall be dealt with on a case-by-case basis by ARMSCOR subject to prior written notification by GFC in relation to the possible undertaking of such activity. 

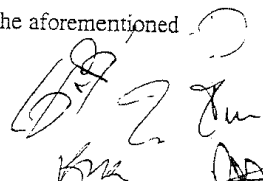


3.2. CREDIT CALCULATIONS & CONSIDERATIONS

- 3.2.1. DIP CREDIT shall at all times be directly related to the LOCAL CONTENT of the relevant DIP CONTRACTS when applicable and in accordance with the specific type of DIP activity, or as otherwise contemplated in this Schedule B1.
- 3.2.2. GFC shall be entitled to submit DIP CREDIT claims for DIP CONTRACTS upon the placement of the specific DIP CONTRACT or the achievement of specific milestones in respect thereof, or upon submission of the relevant invoice related to a DIP CONTRACT. DIP CREDIT claims for any other activity shall be considered by ARMSCOR as agreed upon by the Parties on a case by case basis. All DIP CONTRACTS must, however, be completed within 4 (four) years from the date of placing such DIP CONTRACT(S) onto a COMPANY, unless otherwise agreed to between GFC and ARMSCOR.
- 3.2.3. DIP CREDIT claims must be submitted by GFC in accordance with the stipulations of Clause 5.1.
- 3.2.4. (a) In the event that a DIP CONTRACT is cancelled, in whole or in part due to the sole fault of a COMPANY, no amount shall be deducted from the DIP CREDIT originally granted to GFC.
- (b) In the event, however, of the DIP CONTRACT being cancelled in whole or in part, for any other reason, the DIP CREDIT will be adjusted pro rata by ARMSCOR to the price paid for the goods delivered and/or services rendered.
- (c) In the event of a DIP CONTRACT being delayed or cancelled as contemplated in this Clause 3.2.4, GFC will be obliged to submit details to ARMSCOR (within 60 (sixty) days from the occurrence of such event) in which case ARMSCOR shall effect the necessary adjustments in collaboration with GFC to the relevant and respective Annexure C1.

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- 3.2.5. DIP CREDIT shall only be granted if GFC can demonstrate/prove that it has complied with the norms of CAUSALITY and ADDITIONALITY as per Clauses 1.2.3 and 1.2.1.
- 3.2.6. DIP CREDIT for DIP CONTRACTS with regards to exports will be based on the Free-on-Board (FOB) or Free carrier (FCA) South African port of exit price.
- 3.2.7. The following activities or transactions unless otherwise agreed to by ARMSCOR will not qualify for any DIP CREDIT:
- 3.2.7.1. Options or other non-binding arrangements, until exercised;
 - 3.2.7.2. Purely financial transactions, excluding INVEST-MENTS and LOAN INTEREST BENEFITS as described in Clauses 1.2.15, 3.1.1.4 and 3.1.1.5;
 - 3.2.7.3. Any cost incurred by GFC on to itself and for its own account in the execution of these DIP Terms;
 - 3.2.7.4. Any activity or transaction done prior to the Effective Date of these DIP Terms, except for those DIP activities and subsequent DIP CREDITS already registered by GFC with ARMSCOR in terms of the PRO-ACTIVE DIP AGREEMENT;
 - 3.2.7.5. Any civilian/non-defence transaction or activity, except for DUAL-USE items, produced, manufactured and provided by a COMPANY;
 - 3.2.7.6. Any equipment, Technology Transfer, know-how transfer, providing of training or services as well as products and goods or otherwise, from overseas origin, as may be covered by the Supply Terms against payment by ARMSCOR, and where such or any of the aforementioned



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aspects are not covered by a DIP CONTRACT, as contemplated in this Schedule B1;

- 3.2.7.7. Utilisation of multipliers to determine a DIP CREDIT value;
- 3.2.7.8. IMPORTED CONTENT; and/or
- 3.2.7.9. Any DIP CONTRACT in relation to exports or otherwise being the subject of contra-offset/contra-counter-trade requirements of GFC or GFC's foreign client.

3.3. DIP CREDIT CLAIMS

3.3.1. DIP CREDIT must at all times be claimed by GFC as per the credit claim form attached hereto as Annexure A. All claims shall be accompanied by documentary proof to substantiate the claim. This documentary proof shall include, but not be limited to:

- a copy of DIP CONTRACTS to the extent that they are reasonably required to substantiate the claim;
- acceptance confirmation by COMPANY;
- invoice - when applicable;
- officially audited financial statements - when applicable;
- "Certificate of Acceptance" - when applicable.

3.3.2. ARMSCOR reserves the right to effect enquiries at and with a COMPANY at reasonable times of the day and on reasonable notice being given, to verify DIP CREDIT claims submitted by GFC.

3.3.3. (a) ARMSCOR also reserves the right to request GFC to effect audits or enquiries at GFC and/or its sub-suppliers at reasonable times of the day and on reasonable notice being given, through an officially registered auditor and/or other expert(s), acceptable to

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both parties, as may be reasonably necessary to verify such DIP CREDIT claim(s) submitted by GFC. GFC shall provide for this right of ARMSCOR in all DIP CONTRACTS which it may conclude with third Parties pursuant to these DIP TERMS.

(b) This provision will however not exclude ARMSCOR's right to otherwise itself make enquiries of GFC, related to a specific DIP activity credit claim at reasonable times of the day and on reasonable notice being given.

(c) (i) GFC undertakes to ensure that its sub-suppliers or suppliers/companies nominated by GFC shall effect and keep the necessary records in order to enable GFC to furnish ARMSCOR with traceable documentation as covered in Clause 3.3.1 or to effect audits if so required in terms of Clause 3.3.3(a).

(ii) GFC shall ensure that ARMSCOR is granted the right to effect all audits and enquiries in respect of any third parties in relation to all DIP CONTRACTS at reasonable times of the day and on reasonable notice being given, for the purposes as set out in these DIP Terms, and shall to this extent provide for a stipulatio alteri in ARMSCOR's favour in all DIP CONTRACTS with such third parties.

3.3.4. The responsibility for the payment of any cost arising from any audit or enquiry to verify DIP CREDIT claims will be borne by GFC in the event that such audit or enquiry shows a discrepancy of greater than 5% (five percent) of the relevant CREDIT claim submitted by GFC in accordance with these DIP Terms. In the event that such audit or enquiry shows a discrepancy of less than 5% (five percent) of the relevant CREDIT claim submitted by GFC in accordance with these DIP Terms or no discrepancies.

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ARMSCOR shall bear the costs arising from such audit or enquiry.

- 3.3.5. Any auditor appointed shall comply to the security requirements as required by GFC who will be responsible to effect the necessary arrangements in this respect.
- 3.3.6. DIP CREDIT claims will only be considered by ARMSCOR if a COMPANY has been duly accredited or is in the process of being duly accredited with ARMSCOR as a defence related equipment or service provider in accordance with the rules and prescriptions governing accreditation by ARMSCOR. This condition excludes ARMSCOR.
- 3.3.7. No DIP CREDIT shall be granted unless a proper and legal agreement has been concluded between GFC and/or foreign purchaser (represented by or acting on behalf of or caused by GFC) and a COMPANY.
- 3.3.8. No DIP CONTRACT will be the subject of any contra-offset (counter-trade) requirements by GFC or GFC's country or by any other party outside the borders of the Republic of South Africa (RSA), in respect of any other activity in which GFC might be involved outside the borders of the RSA.
- 3.3.9. GFC accepts full responsibility to effect DIP activities in the manner as prescribed in these DIP Terms and to clear in advance any such prospective DIP CONTRACTS and/or DIP activities, as contemplated in these DIP Terms, in order to establish whether or not ARMSCOR will accept such for the purpose of granting DIP CREDIT. This condition applies in cases where DIP activities have not already been accepted by ARMSCOR as covered in Annexure C1 hereto.
- 3.3.10. a) A DIP CREDIT is granted once ARMSCOR has confirmed such fact in writing to GFC. Should GFC not receive such notice

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within 120 (one hundred and twenty) days after submission of a DIP CREDIT claim(s) such DIP CREDIT claim(s), shall be deemed approved unless GFC has failed to provide such additional information which ARMSCOR may have requested in accordance with these DIP Terms, prior to expiry of the 120 days (one hundred and twenty) from the date of submission of the DIP CREDIT claim by GFC.

- (b) GFC accepts that DIP CREDIT claims must be submitted by it within 6 (six) months from the placement of the specific DIP CONTRACT or the achievement of specific milestones in respect thereof, or upon payment of the relevant invoices related to a DIP CONTRACT. Late submission of DIP CREDIT claims will not be considered by ARMSCOR.

- 3.3.11. The date for calculating a DIP CREDIT will be either the effective date of the DIP CONTRACT or the date a milestone is reached or the date on which the relevant invoice is paid by a COMPANY.

3.4. **EXCHANGE RATE**

[Intentionally Omitted]

3.5. **DIP CONTRACT VARIATIONS/CLOSURE**

- 3.5.1. GFC shall inform ARMSCOR in writing of any variations, changes or amendments effected to the scope of the DIP CONTRACT placed on a COMPANY, within 60 (sixty) days after such an event has occurred, in such cases where such aforementioned amendments will affect the value of the DIP CREDIT already granted by ARMSCOR to GFC.

- 3.5.2. GFC, likewise, shall notify ARMSCOR in writing of the completion of all DIP CONTRACTS, within 60 (sixty) days after the actual completion date thereof.

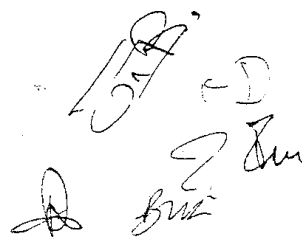
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- 3.5.3. Failure of GFC to adhere to the provisions of Clause 3.5.2 may result in a withdrawal, withholding and/or revoking of DIP CREDITS already submitted to or granted by ARMSCOR.

CLAUSE 4.

DIP REVIEW MEETINGS

- 4.1. The Parties agree that they shall hold DIP Review Meetings (DRMs) every six (6) months, commencing 6 (six) months after the Effective Date, or as otherwise agreed to between GFC and ARMSCOR. The venue for such DRMs shall be in South Africa, unless otherwise agreed by the Parties.
- 4.2. The minutes of the DRM will be compiled by the host Party and issued within three weeks of the meeting and thereafter should be approved by the duly authorised representatives of both Parties and ratified at the next DRM.
- 4.3. DRMs do not form part of any other meeting as envisaged by any other agreements and are arranged and dealt with by separate arrangement between GFC and ARMSCOR's DIP Division, unless otherwise agreed or required by specific circumstances.
- 4.4. The Agenda for each DRM will contain as minimum the following points:
- attendance record
 - previous minutes for ratification
 - issues arising from previous minutes
 - performance reporting and reconciliation of records
 - matters outstanding
 - new matters
 - general issues
 - next meeting

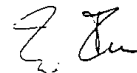


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- 4.5. GFC undertakes to submit a report every six (6) months to the DRM or ARMSCOR's DIP Division, commencing five (5) months from the Effective Date of this Agreement, on the progress made with its DIP COMMITMENT against each individual activity as contained in Annexure C1 and C2 hereto. Reporting to ARMSCOR by GFC shall however proceed irrespective of the fact that a DRM may not be scheduled to coincide with this reporting provision.

CLAUSE 5.**DIP COMPLETION****5.1. COMPLETION**

- 5.1.1. GFC's DIP COMMITMENT in accordance with Clause 2.3.1(a), shall be performed within the time frame and in accordance with the relevant and respective Annexure C1 and C2 hereto, provided that all DIP Credit claims must be submitted within 7 (seven) years of the Effective Date and as detailed in Clause 5.1.2 hereunder. This period, however, shall be extended by ARMSCOR as a result of the provisions of Clause 2.3.1(b) or Clause 2.3.4(a) or Clause 2.3.7, or as otherwise deemed fit or necessary by ARMSCOR or due to official amendments to the Agreement.
- 5.1.2. GFC's overall performance in accordance with Annexure C1 and C2 hereto shall cover the following milestone performances in relation to the monetary value of DIP activities to be performed in accordance with the relevant and respective Annexure C1 hereto. In the event that Clause 2.3.7 takes effect, ARMSCOR shall extend GFC's discharge period accordingly insofar as it relates to the delivery of the Option.



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Milestone 1 =

Corvette Platforms

EURO 7,536,429 (seven million five hundred and thirty six thousand four hundred and twenty nine) to be performed within 6 (six) months after the Effective Date of these DIP Terms.

Milestone 2 =

Corvette Platforms

another EURO 4,656,887 (four million six hundred and fifty six thousand eight hundred and eighty seven) to be performed within 12 (twelve) months after the Effective Date of these DIP Terms

Milestone 3 =

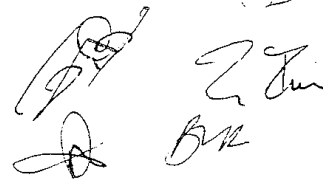
Corvette Platforms

another EURO 3,573,262 (three million five hundred and seventy three thousand two hundred and sixty two) to be performed within 18 (eighteen) months after the Effective Date of these DIP Terms

Milestone 4 =

Corvette Platforms

another EURO 7,926,572 (seven million nine hundred and twenty six thousand five hundred and seventy two) to be performed within 24 (twenty four) months after the Effective Date of these DIP Terms

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Milestone 5 =

Corvette Platforms

another EURO 3,956,262 (three million nine hundred and fifty six thousand two hundred and sixty two) to be performed within 30 (thirty) months after the Effective Date of these DIP Terms.

Milestone 6 =

Corvette Platforms

another EURO 8,655,687 (eight million six hundred and fifty five thousand six hundred and eighty seven) to be performed within 36 (thirty six) months after the Effective Date of these DIP Terms

Milestone 7 =

Corvette Platforms

another EURO 7,360,429 (seven million three hundred and sixty thousand four hundred and twenty nine) to be performed within 42 (forty two) months after the Effective Date of these DIP Terms

Milestone 8 =

Corvette Platforms

another EURO 7,645,787 (seven million six hundred and forty five thousand seven hundred and eighty seven) to be performed within 48 (forty eight) months after the Effective Date of these DIP Terms

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Milestone 9 =

Corvette Platforms

another EURO 2,012,429 (two million and twelve thousand four hundred and twenty nine) to be performed within 54 (fifty four) months after the Effective Date of these DIP Terms

Milestone 10 =

Corvette Platforms

another EURO 2,316,230 (two million three hundred and sixteen thousand two hundred and thirty) to be performed within 60 (sixty) months after the Effective Date of these DIP Terms

Milestone 11 =

Corvette Platforms

another EURO 1,829,229 (one million eight hundred and twenty nine thousand two hundred and twenty nine) to be performed within 66 (sixty six) months after the Effective Date of these DIP Terms

Milestone 12 =

Corvette Platforms

another EURO 1,818,429 (one million eight hundred and eighteen thousand four hundred and twenty nine) to be performed within 72 (seventy two) months after the Effective Date of these DIP Terms

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Milestone 13 =

Corvette Platforms

another EURO 1,826,129 (one million eight hundred and twenty six thousand one hundred and twenty nine) to be performed within 78 (seventy eight) months after the Effective Date of these DIP Terms

Milestone 14 =

Corvette Platforms

another EURO 27,010,423 (twenty seven million and ten thousand four hundred and twenty three) to be performed within 84 (eighty four) months after the Effective Date of these DIP Terms.

5.2. GUARANTEE AND DAMAGES

5.2.1. It is herewith recorded that GFC shall furnish ARMSCOR with a guarantee as per Annexure A of the Umbrella Agreement.

5.2.2. ARMSCOR's remedy for damages will be as per Clause 11 of the Umbrella Agreement.

CLAUSE 6.

INDEMNIFICATION

6.1. GFC hereby irrevocably and unconditionally indemnifies and holds ARMSCOR harmless against any claim that might result or loss that might be suffered directly or indirectly by GFC as a result of these DIP Terms.

6.2. GFC shall not use any agent in the execution of these DIP Terms without prior written notification to ARMSCOR. In the event that GFC should use an agent, GFC shall be responsible for the payment of all commissions and/or other claims arising from the appointment of such agent. An agent will for the purpose of

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these DIP Terms be regarded as any person/entity not permanently employed by GFC in terms of GFC's standard employer service conditions.

CLAUSE 7.

DISAGREEMENT

Intentionally omitted

CLAUSE 8.

ASSIGNMENT AND ENTIRETY

Intentionally omitted

CLAUSE 9.

EFFECTIVE DATE

Intentionally omitted

CLAUSE 10.

SEVERABILITY

In the event that any provision in these DIP Terms shall be held invalid or unenforceable, such provision shall be severed from, and such invalidity or unenforceability shall not be construed to have any effect upon the remaining provisions of these DIP Terms, provided that the effect upon the remaining provisions does not substantially change the designated interests of the Parties. In the event such severance substantially change such interest, the Parties shall endeavour to agree upon a mutually acceptable alternative provision.

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CLAUSE 11.

MISCELLANEOUS

- 11.1. The headings to the Clauses are used for the purpose of convenience only and shall not be taken into consideration in interpreting the meaning and effect of any Clause.
- 11.2. All DIP CREDIT claims and other related documentation to be handed by GFC to ARMSCOR, shall be in the English language and in the prescribed format.
- 11.3. These DIP Terms shall in its entirety be subject to and interpreted in accordance with law as agreed in the AGREEMENT to which these terms form Schedule B1.
- 11.4. Intentionally omitted
- 11.5. GFC, ARMSCOR and DoD undertake to ensure that the proper level of commercial confidentiality is maintained and that relevant procedures are prepared and mutually agreed upon, if necessary. This arrangement does however not detract from the fact that GFC has to regularly report to its authorities and that ARMSCOR has to regularly report to the Department of Defence on DIP issues, inter alia covering content, credits passed, progress, problems, disputes, non-performance and/or penalties related to these DIP Terms, nor prevent a general acknowledgement by ARMSCOR or GFC of the existence of these DIP Terms and GFC's general performance in terms thereof.
- 11.6. Intentionally omitted
- 11.7. Intentionally omitted

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CLAUSE 12.

DOMICILIUM CITANDI ET EXECUTANDI

12.1. Intentionally omitted

CLAUSE 13.

FORCE MAJEURE

13.1. If an event of Force Majeure ("the interrupting circumstances") under any DIP CONTRACT cause delays in or failure or partial performance by GFC of all or any of its obligations under these DIP Terms, these DIP Terms, or as the case may be, the affected portion thereof shall be suspended while the interrupting circumstances prevail, but if they continue for a period in excess of 180 (one hundred and eighty) days, ARMSCOR shall be entitled by written notice to request GFC to provide such substitution activities in accordance with the provisions of Clause 2.3.4(b) of these DIP Terms.

13.2. The remedies under this Clause 13 are the sole remedies available to GFC in relation to Force Majeure.

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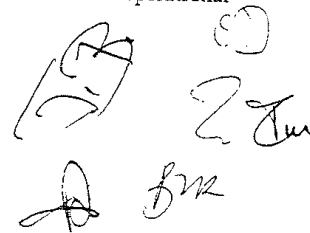
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ANNEXURE B

TECHNOLOGY QUESTIONNAIRE

(Detail of Technology)

1. Identify the recipient COMPANY.
2. What licences and rights will the recipient have with respect to the Technology to be transferred?
3. Please provide Technology audit results conducted at the COMPANY, by GFC. Identify the minimum required Technology status of the COMPANY.
4. Describe the data to be transferred and the method and frequency of its updating?
5. What is the schedule for the data transfer?
6. What is the value of the Technology to be transferred and the conditions attached to such proposed transfer? (Critical items excluded, source codes to software, design data, etc)
7. Please provide the rationale for determining the value.
8. What training is recommended/required in order to assimilate the Technology to be transferred? What is the value of such training? Number of people and skill level?
9. What technical assistance will be available from GFC in order to transfer the Technology in question? what technical assistance in the implementation of the date will be provided in the RSA?, if not in RSA please provide explanation. What is the value of the technical assistance?
10. What special equipment (provide specification) will be required? Will the Recipient be required to purchase in the future additional special equipment, and, if yes, what is the estimated price for same? Future access to items/spares, upgradability of computers and associated software.
11. What other deliverables will be provided to the Recipient which are not listed in 1 to 7 above at what value (cost)?
12. Please provide the acceptance criteria of the Technology Transfer.
13. Who is the legal owner of the Technology rights or patents? List all the registered patents related to the transfer.
14. Where on the life cycle curve is the Technology? Eg. number of items in operational use for how long, number of users, order history.

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SELLER's Claim number

CLAIM FOR DIP CREDIT(to be completed separately for each DIP transaction please)Annexure A
(Form ACT003)
14/7/99

FROM:		TO: The Snr Manager Defence Industrial Participation Division Armcor Private Bag X337 Pretoria, 0001	
Tel no		Tel no	(27)(12) 428 2477
Fax no		Fax no	(27)(12) 347 8550
Reference		Reference	
1	DIP CONTRACT reference number	or Invoice number	
2	DIP CONTRACT placed on COMPANY		
3	The total value of the DIP CONTRACT placed, amounts to (in currency?)		
4	The effective date of the DIP CONTRACT is		
5	The DIP CONTRACT is due for completion on date: (≤ 4 yrs after effective date?)		
6	Supporting documentation attached as required by DIP Agreement (Yes/No)		
7	The amount and currency of this claim is		
8	This DIP claim relates to my approved DIP Business Plan Activity No:		
9	Indicate under the respective column DIRECT or INDIRECT, the monetary value of this DIP CREDIT claim, in the applicable category, as well as the number of jobs involved. (This information must correlate with the DIP Business Plan.)		
A	DIRECT	B	INDIRECT
A.1	Local industry participation	B.1	Local industry participation
A.2	technology transfer	B.2	technology transfer
A.3	Exports	B.3	Exports
A.4	Empowerment project	B.4	Empowerment project
A.5	Equity investments	B.5	Equity investments
A.6	Joint ventures	B.6	Joint ventures
A.7	Loan interest benefits	B.7	Loan interest benefits
A.8	Marketing support	B.8	Marketing support
A.9	Jobs - confirm Number =	B.9	Jobs - confirm Number =
10.	Brief description of scope of DIP contract & claim now submitted:		
I, the Seller, hereby confirms that this claim fully complies with the provisions and conditions of the DIP Agreement as signed with ARMSCOR.			
Signature of Claimant (duly authorized)		Name of Claimant	
		Date of Claim	
FOR ARMSCOR'S USE			
Claim received on:		Adequacy of claim:	
Further info requested from Seller on:		Received on	
Credit claim meeting held on:		Acceptance of DIP Contract by RSA	
Claim returned to Claimant for incompleteness/ additional info:		Company..... on date:	
THIS CLAIM IS:			
1. Approved for the full amount of:		(Signature & Name) Recommended by	Date
2. Partially approved amount of:		(Signature & Name) Approved by - DIPCOM	Date
3. Rejected amount of:			

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15. Is this Technology the subject of control/monitoring in terms of any of the international or national arms control/dual use control Regimes, if so please provide necessary details and where applicable approvals prescribed by such referred to Regimes (or authorities). List all items/technologies of USA origin.
16. What is the level of capital investment required by the Recipient in order to make use or utilise the proposed Technology?
17. What intrinsic (expected military/defence related) value does such a Technology Transfer holds for the Recipient. Over what period. what are the spin-offs (non-military) of such a Technology Transfer. (Please be reminded that if you (GFC) should want to claim credits for spin-off value, you (GFC) will have to substantiate and provide proof of such.)
18. This questionnaire in its entirety is subject to the provisions and conditions of the foregoing DIP AGREEMENT and does not constitute any acceptance by ARMSCOR, either directly or indirectly, any of its information for the purposes of granting any DIP CREDITS.

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ANNEXURE C2 TO DIP TERMS

DIP DISCHARGE TARGET PLANNING SCHEDULE: PLATFORM
DIP ACTIVITY SUMMARY AND PROGRESS REPORT

ACTIVITY SUMMARY AND PROGRESS REPORT										778	
ITEM									21-Oct-98		
A	SELLER'S TOTAL DIP COMMITMENT IN MONETARY VALUE AT SIGNATURE OF DIP TERMS:										
B	ORIGINAL CONTRACT VALUE AT DATE OF SIGNATURE OF SUPPLY TERMS:								EURO		
C	IAS AND WHEN APPLICABLE - SUPPLY TERMS VARIATION ORDERS, EXTENSIONS OR AMENDMENTS - ADDITIONAL DIP:								88,123,584		
D	IAS AND WHEN APPLICABLE - ADDITIONS TO SELLERS DIP OBLIGATIONS NOT MET IN TIME AS PER ARTICLE 6 OF DIP TERMS:								AS A %	17.81%	
E	SELLER'S PROGRESSIVE DIP COMMITMENT AS OF DATE OF THIS ANNEXURE C2:								454,862,759		
F	SELLER'S TOTAL DIP COMMITMENT AS OF DATE OF THIS ANNEXURE C2:										
G	SELLER'S TOTAL ACHIEVEMENT IN TERMS OF DIP CREDITS GRANTED TO DATE OF THIS ANNEXURE C2:								AS A %		
SUMMARY OF MONETARY VALUE OF EITHER DIRECT OR INDIRECT ACTIVITIES COMMITTED TO IN THE APPLICABLE CATEGORIES OF DIP											
1) DIRECT				2) INDIRECT							
1.1	Local industry participation (eq dev, prod, test, asstly, etc...)			EURO	32,255,552	2.1	Local industry participation (eq dev, prod, test, asstly, etc...)			EURO	24,396,000
1.2	Technology transfer & know-how, trng, technical asst.				17,477,216	2.2	Technology transfer & know-how, trng, technical asst.				1,070,358
1.3	Exports				0	2.3	Exports				6,560,000
1.4	Equity investments or capital equipment				648,000	2.4	Equity investments or capital equipment				0
1.5	Loan interest benefit				0	2.5	Loan interest benefit				0
1.6	Marketing support				46,758	2.6	Marketing support				0
1.7	Other activities				155,700	2.7	Other activities				1,097,469
1.8	Utilization of excess/banked credits				0	2.8	Utilization of excess/banked credits				4,415,531
1.9	TOTAL DIP COMMITMENT				50,584,226	2.9	TOTAL DIP COMMITMENT				37,538,358

DIP NO	DIP CONTRACTS	MONTH 6	MONTH 12	MONTH 18	MONTH 24	MONTH 30	MONTH 36	MONTH 42	MONTH 48	MONTH 54	MONTH 60	MONTH 66	MONTH 72	MONTH 78	MONTH 84	TOTAL
DIP 1	Planned	0	0	0	533,552	0	0	0	0	0	0	0	0	0	0	533,552
DIP 2	3.1 Achieved	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3.2 Achieved	0	46,758	0	46,758	0	46,758	0	46,758	0	0	0	0	0	0	187,032
DIP 3	Planned	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3.3 Achieved	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DIP 4	Planned	0	335,000	80,000	4,100,000	280,000	4,100,000	3,700,000	3,900,000	250,000	335,000	335,000	335,000	335,000	335,000	13,941,000
	3.4 Achieved	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DIP 5	Planned	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3.5 Achieved	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DIP 6	Planned	31,428	31,428	31,428	31,428	31,428	31,428	31,428	31,428	31,428	31,428	31,428	31,428	31,428	31,428	224,000
	3.6 Achieved	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DIP 7	Planned	0	370,000	1,000,000	1,000,000	830,000	830,000	690,000	300,000	0	0	0	0	0	0	5,020,000
	3.7 Achieved	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DIP 8	Planned	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3.8 Achieved	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DIP 9	Planned	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3.9 Achieved	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DIP 10	Planned	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3.10 Achieved	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DIP 11	Planned	0	0	833,333	833,333	833,333	1,120,000	1,120,000	1,120,000	1,120,000	1,120,000	1,400,000	1,400,000	1,400,000	1,400,000	14,000,000
	3.11 Achieved	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DIP 12	Planned	0	59,700	75,000	246,000	286,000	334,000	873,000	692,000	811,000	62,800	62,800	52,000	59,700	0	3,414,000
	3.12 Achieved	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DIP 13	Planned	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3.13 Achieved	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DIP 14	Planned	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3.14 Achieved	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DIP 15	Planned	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3.15 Achieved	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DIP 16	Planned	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3.16 Achieved	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DIP 17	Planned	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	3.17 Achieved	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DIP 18	Planned	0	3,359,000	0	0	0	0	0	0	0	0	0	0	0	0	131,000
	3.18 Achieved	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DIP 19	Planned	2,588,531	0	0	0	0	0	0	0	0	0	0	0	0	0	2,588,531
	3.19 Achieved	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DIP 20	Planned	4,148,000	3,814,000	1,191,000	773,000	1,353,000	980,000	648,000	1,555,000	0	0	0	0	0	0	1,883,000
	3.20 Achieved	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DIP 21	Planned	1,827,000	0	0	0	0	0	0	0	0	0	0	0	0	0	14,738,000
	3.21 Achieved	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
DIP 22	Planned	0	0	262,500	262,500	262,500	262,500	0	0	0	0	0	0	0	0	1,827,000
	3.22 Achieved	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
3.23 TOTAL PLANNED		7,536,429	4,658,887	3,573,262	7,928,572	3,855,282	6,855,087	7,360,429	7,845,167	2,012,429	2,316,720	1,829,229	1,818,429	1,828,129	27,010,423	88,123,584
3.24 TOTAL ACHIEVED		4,415,531	0	0	0	0	0	0	0	0	0	0	0	0	0	4,415,531
3.25 CUMULATIVE - PL		7,536,429	12,193,318	15,766,578	23,695,150	27,549,432	34,404,519	41,764,948	49,609,715	53,323,144	55,639,864	57,468,603	59,287,032	61,115,161	88,123,584	88,123,584
3.26 CUMULATIVE - AC		4,415,531	4,415,531	4,415,531	4,415,531	4,415,531	4,415,531	4,415,531	4,415,531	4,415,531	4,415,531	4,415,531	4,415,531	4,415,531	4,415,531	4,415,531

SELLER'S PERFORMANCE & CREDIT CLAIM RECORD

3.1	SELLER'S TOTAL DIP COMMITMENT AS PER 1.9 AND 2.9 ABOVE:	DIRECT DIP	INDIRECT DIP	TOTAL DIP
4.2	SELLER'S TOTAL DIP ACHIEVEMENT AS PER 3.24 ABOVE:	50,584,226	37,538,358	88,123,584
4.3	TOTAL DIP CREDITS GRANTED BY ARMSCOR TO DATE:		4,415,531	4,415,531
4.4	OUTSTANDING DIP CREDIT CLAIMS - SUBMITTED BUT NOT APPROVED AS YET:			0

GENERAL REMARKS

NOTE:	1) PLANNED = SELLER'S PLANNING; 2) ACHIEVED = DIP CONTRACTS PLACED BY SELLER; 3) ACTUAL = DIP CREDITS GRANTED BY ARMSCOR THIS DOCUMENT IS IN ITS ENTIRETY SUBJECT TO THE CONDITIONS AND PROVISIONS OF THE DIP TERMS, TO WHICH IT FORMS PART OF ANNEXURE C2.
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DEFENCE INDUSTRIAL PARTICIPATION STRATEGIC DEFENCE PACKAGE: DIP ACTIVITY SCHEDULES FOR EACH OF THE EQUIPMENT TYPES - Status as at 31 December 2013.

1. Information is replicated from what was reported to the Arms Procurement Commission of Inquiry on 11 March 2014, by Mr Pieter Burger of Armscor.
2. Due to the poor quality of the pdf files uploaded to the APC's website, it had to be retyped. Some of the figures were very hard to read and there may be some minor errors as a result of the retyping. Hence, the information was duplicated at face value. I am most grateful to Magda Cloete of AMD whom have volunteered the retyping of the information as Armscor did not want to provide me with the originals and referred me instead to the APC. I was not prepared to follow that route as not to attract unnecessary attention to my research.
3. The original pdf files can be found under the evidence bundles of Mr Pieter Burger, acting Senior Manager of the DIP Division of Armscor that are available at <<http://www.armscomm.org.za/hearings/...>>
4. Rates of exchange used at the time of the SDP were: USD 1 = R9.25; EUR 1 = R6.40; GBP 1 = R10.00.
5. The page numbers in brackets after the heading of each table refers to the page number in the evidence pack of Pieter Burger.
6. DDIP stands for direct DIP work with SADI; IDIP stands for indirect work especially exports, while TDIP stands for technology transfers including training.
7. The author accepts no responsibility for the correctness of this information and has solely relied on the face value of that was prepared and submitted to the APC.
- 8. PLEASE NOTE THAT THE ENSUING SCHEDULES CONTAIN A VARIETY OF CURRENCIES THAT CAN BE VERY CONFUSING.**

DIP Commitment and actual discharge summary report – all values converted to ZAR

PROJECT	OBLIGATION ZAR	PLANNED PERFORMANCE ZAR 31/03/2014	ACTUAL PERFORMANCE ZAR	ACTUAL vs PLANNED %	ACTUAL vs OBL %
Corvette Platform	563 990 938	563 990 938	563 990 938	100%	100%
Combat Suite – TNF	1 427 142 214	1 427 42 214	1 427 42 214	100%	100%
Exocet Missiles – MBDA	949 383 654	16 733 472	16 733 472	100%	1.76%
Corvette - total	2 940 516 806	2 007 866 624	2 007 866 624	100%	68.25%
Submarine	1 121 282 707	1 121 282 707	1 121 282 707	100%	100%
LUH	1 193 671 219	1 193 671 219	1 193 671 219	100%	100%
HAWK	4 252 135 419	4 252 135 419	4 252 135 419	100%	100%
GRIPEN	5 050 309 381	5 050 309 381	5 050 309 381	100%	100%
Maritime Helicopter	552 845 700	552 845 700	552 845 700	100%	100%
TOTAL	15 110 761 232	14 178 111 050	14 78 111 050	100%	93.59%

GFC DIP TERMS BASELINE: PLATFORM (page 362 to 263)

MILESTONE 18 – 108 MONTHS (31 MARCH 2009)

Direct DIP					
DIP NO	SA COMPANY	DESCRIPTION	COMMITMENT (Euro)	YTD PLANNED	ACHIEVED
DIP 1	Optima Hydraulics (Pty) Ltd	Steering gear/capstan	502 748	502 748	502 748
DIP 2	Prokura Diesel Services of SA	Compressors	46 758	46 758	46 758
DIP 3	Prokura Diesel Services Pty Cape Town	Diesel Gensets, Main Engines	2 241 000	2 241 000	2 241 000
DIP 4	Siemens SA Ltd	E-Plant System, IPCM	14 737 007	14 737 007	14 737 007
DIP 5	Tank Clinic Cape (Pty) Ltd	Heli Refuelling System	171 603	171 603	171 603
DIP 6	MOH-9 Armour Ceramics Division, Pretoria	Splinter Protection	351 011	351 011	351 011
DIP 7	Booyco Engineering	Air conditioning	1 208 997	1 208 997	1 208 997
DIP 9	Marine Cape Town a division of DCD-Dorbyl	Miscellaneous Equipment	1 792 010	1 792 010	1 792 010
DIP 10	International Paint	Paint	148 000	148 000	148 000
DIP 12	FBS Defence Logistics (Pty) Ltd & Waymark	ILS (RAM Engineering)	512 562	512 562	512 562
DIP 13	ADS (Thompson CSF)	Combat Suite – Cancelled	0	0	0
DIP 14	Tech Tex (Pty) Ltd	Insulation Material	411 624	411 624	411 624
DIP 15	Bennetts Engineering (Pty) Ltd	Aluminium Parts for Floating Floor	112 238	112 238	112 238
DIP 16	Pall South Africa (Pty) Ltd	Fresh water generator	79 030	79 030	79 030
DIP 17	Petral Engineering	Waste water treatment	18 700	18 700	18 700
DIP 18	Hyflo SA	WARP	235 510	235 510	235 510
DIP 20	Alvis Gear Ratio and DPS (MTU SA)	Gearboxes	1 168 983	1 168 983	1 168 983
DIP 21	Various SA Suppliers	Undefined Activities	430 702	861 404	684 822
DIP 22	Fabritech a division of the Atomic Energy Corporation	Exhaust Gas System	155 158	155 158	155 158
DIP 23	Sulzer RSA Ltd	Pumps	454 890	454 890	454 890

DIP 24	ADS – African Defence Systems	Navigation Consoles	101 216	101 216	101 216
DIP 25	SIGMA Logistics Solutions (Pty) Ltd	ILS	2 278 042	2 278 042	2 277 842
			27 157 789	27 588 491	27 311 709
Indirect DIP					
DIP NO	SA COMPANY	DESCRIPTION	COMMITMENT	YTD PLANNED	ACHIEVED
DIP 3	Prokura Diesel Services Pty Cape Town	Diesel Gensets, Main Engines	217 000	217 000	217 000
DIP 4	Siemens SA Ltd	E Plant System, IPCM	2 345 000	2 345 000	2 345 000
DIP 5	Tank Cape (Pty) Ltd	Heli Refuelling System	5 823	5 823	5 823
DIP 7	Booyco Engineering	Air conditioning	51 422	51 422	51 422
DIP 11	Denel Group of Divisions	Gas Turbines GE LM 2500	8 452 273	8 452 273	8 452 273
DIP 14	Tech Tex (Pty) Ltd	Insulation Material	13 980	13 980	13 980
DIP 18	Hyflo SA	WARP	3 359 000	3 359 000	3 359 000
DIP 20	Alvis Gear Ratio and PDS (MTU SA)	Gearboxes	14 116 274	14 116 274	14 169 978
DIP 21	Various SA Suppliers	Undefined activities	11 286 296	10 856 594	11 141 956
			35 847 068	39 416 366	35 755 430
Technology DIP					
DIP NO	SA COMPANY	DESCRIPTION	COMMITMENT	YTD PLANNED	ACHIEVED
DIP 2	Prokura Diesel Services of South Africa	Compressors	140 274	140 274	140 274
DIP 3	Prokura Diesel Services Pty Cape Town	Diesel Gensets, Main Engines	11 483 000	11 483 000	11 483 000
DIP 4	Siemens SA Ltd	E-Plant System, IPCM	1 949 000	1 949 000	1 949 000
DIP 5	Tank Cape (Pty) Ltd	Heli refuelling system	28 000	28 000	28 000
DIP 7	Booyco Engineering	Air-conditioning	1 952 500	1 952 500	1 952 500
DIP 8	CSIR Defencetek, Stellenbosch	Heli handling system	469 168	469 168	469 168

DIP 11	Denel Group of Divisions	Gas turbines GE LM 2500	1 120 000	1 120 000	1 120 000
DIP 12	FBS Defence Logistics (Pty) Ltd & Waymark	ILS (RAM engineering)	205 200	205 200	205 200
DIP 16	Pall South Africa (Pty) Ltd	Freshwater generator	181 540	181 540	181 540
DIP 17	Petrol Engineering	Waste water treatment	112 300	112 300	112 300
DIP 18	Hyflo SA	WARP	200 000	200 000	200 000
DIP 19	Simons Town Dock Yard	Navigation	1 435 590	1 435 590	1 435 590
DIP 20	Alvis Gear Ratio and PDS (MTU SA)	Gearboxes	898 367	898 367	845 665
DIP 21	Various SA Suppliers	Undefined activities	183 410	193 410	173 830
DIP 22	Fabritech a Division of the Atomic Energy Corp	Exhaust gas system	280 580	280 580	280 580
DIP 25	SIGMA Logistics Solutions (Pty) Ltd	ILS	475 800	475 800	475 000
			21 118 727	21 118 727	21 056 445
	TOTAL		88 123 584	88 123 584	88 123 584

CORVETTE COMBAT SUITE – TNF (Thales Naval France) DIP TERMS BASELINE (p 364)

MILESTONE 19 – 120 MONTHS (28 APRIL 2010)

Direct DIP					
DDIP NO	COMPANY	DESCRIPTION	COMMITMENT (Euro)	YTD PLANNED 28/04/2010	ACHIEVED
DDIP 13.1	Thales Advanced Engineering	Video switching subsystems and link control system (VSS and LCS)	1 928 339	1 928 339	1 928 339
DDIP 13.2	Denel (trading as Kentron)	Surface to air and surface to surface missile systems (SAM and SSM)	29 923 238	29 923 238	29 923 238
DDIP 13.3	Denel (trading as LIW)	35mm Dual purpose gun	10 501 742	10 501 742	10 501 742
DDIP 13.4	Reutech Radar Systems	Trackers and surveillance and target acquisition radar (STAR)	21 013 708	21 013 708	21 013 708
DDIP 13.5	Grintek Electronic Systems	Communications	5 620 056	5 620 056	5 620 056
DDIP 13.6	M-Tek	Till measurement system and target designation sights	736 703	736 703	736 703
DDIP 13.7	African Defence Systems	Programme management system integration, command and control, navigation and antis ?[sic]	54 816 637	54 816 537	54 816 637
DDIP 13.8	CSIR (M&M Tek)	Antisubmarine warfare	436 161	436 161	436 161
DDIP 13.9	Denel (trading as Somchem)	Surface to air and surface to surface missile systems (SAM and SSM) – Cancelled	0	0	0
DDIP 13.10	Grintek Avitronics	Electronic warfare	16 156 555	16 156 555	16 156 555
DDIP 13.11	C2I2 Systems	Navigation distribution system	1 308 249	1 308 249	1 308 249
DDIP 13.12	TBD	Miscellaneous	0	0	0
DDIP 13.13	Tellumat	Supply of IFF and logistic support	1 230 615	1 230 615	1 230 615
DDIP 13.14	ADS	Miscellaneous DIP contracts	5 349 569	5 349 589	5 349 569

DDIP 13.15	ADS	Black economic activity	456 097	456 097	456 097
			149 477 669	149 477 669	149 477 669
Indirect DIP					
IDIP NO	COMPANY	DESCRIPTION	COMMITMENT	YTD PLANNED 28/04/2010	ACHIEVED
IDIP 13.2	ADS, Denel and others	TNF recovery plan for current period up to April 2007 – Cancelled	0	0	0
IDIP 13.7	African Defence Systems and Various other SA companies	Various defence related business opportunities, including investments	16 319 461	16 319 461	16 319 462
IDIP 13.8	CSIR (M&M Tek)	Antisubmarine warfare	221 000	221 000	221 0000
IDIP 13.9	Denel (trading as Somchem)	Surface to air and surface to surface missile systems (SAM and SSM) – cancelled	0	0	0
IDIP13.10	Denel Swap	Denel / MBDA swap	6 384 837	6 384 837	6 384 837
IDIP 13.13	Lechabile	Black empowerment activity, Lechabile Business for current period up to April 2007	0	0	0
IDIP 13.14	N/A	Pro-active agreement DGA	1 167 564	1 167 564	1 167 564
			24 092 862	24 092 862	24 092 863
Technology DIP					
IDIP NO	COMPANY	DESCRIPTION	COMMITMENT	YTD PLANNED 28/04/2010	ACHIEVED
IDIP 13.2	ADS, Denel and others	TNF recovery plan for current period up to April 2007 – Cancelled	0	0	0
IDIP 13.8	CSIR (M&M Tek)	Antisubmarine warfare	397 800	397 800	397 800
IDIP 13.13	Lechabile	Black empowerment activity, Lechabile Business for current period up to April 2007	3 900 000	3 900 000	3 900 000
DDIP 13.7	African Defence Systems	Programme management, system integration,	39 135 142	39 135 142	39 135 142

		command and control, navigation and antis			
DDIP 13.8	CSIR (M&M Tek)	Antisubmarine warfare	1 985 369	1 985 369	1 985 367
DDIP 13.12	TBD	Miscellaneous	1 037 976	1 037 976	1 037 976
DDIP13.13	Tellumat	Supply of IFF and logistic support	368 000	368 000	368 000
DDIP 13.14	ADS	Miscellaneous DIP contracts	2 596 154	2 596 154	2 596 154
		Sub-total	49 420 441	49 420 441	49 420 439
	TOTALS		222 990 971	222 990 971	222 990 971

CORVETTE COMBAT SUITE (SITRON / EXOCET) – MBDA DIP TERMS BASELINE (p365)

MILESTONE 08 : 48 MONTHS (01 APRIL 2013) – AS AT 7 March 2014

IDIP NO	COMPANY	DESCRIPTION	COMMITMENT (Euro?)	YTD PLANNED 01/04/2013	ACHIEVED
IDIP 1	NDS	Use of Armscor Dock Yard, Simon's Town (NDS) services by UK Royal Navy	630 479	630 479	630 479
IDIP 2	NDS	Armscor Dock Yard, Simon's Town (NDS) Transformation and revitalisation Phase 1	2 900 000	2 900 000	1 984 126
IDIP 3	NDS	Armscor Dock Yard, Simon's Town (NDS) Transformation and revitalisation Phase 2 – Cancelled	0	0	0
IDIP 4	Denel Dynamics	Exports from Denel Dynamics	82 000 000	0	0
IDIP 5	To be advised	Undefined	62 810 717	0	0
	TOTALS		148 341 196	3 530 479	2 614 605

GSC : SUBMARINES (p 366)

MILESTONE 19 : 110 MONTHS (30 SEPTEMBER 2009) – date 7 March 2014

DIP NO	COMPANY	COMMITMENT (Euro)	YTD PLANNED	ACHIEVED
Direct DIP				
DDIP 1	Grintek Avitronics (HDW) and Avitronics maritime (Zeiss)	5 114 330	5 114 330	5 114 330
DDIP 2	Tellumat (Pty) Ltd	690 911	690 911	690 911
DDIP 3	VSIR M&M Tek (STN Atlas)	1 412 500	1 412 500	1 412 500
DDIP 4	Denel Eloptro (Zeiss Optronik)	6 245 015	6 245 015	6 245 015
DDIP 5	Grintek Electronics Systems GES	4 266 177	4 266 177	4 266 177
DDIP 6	AEC Fabritech (HDW)	0	0	0
DDIP 7	Pertec (Raytheon)	79 455	79 455	79 455
DDIP 8	N/A	0	0	0
DDIP 9	Siemens SA (Siemens AG)	5 823 000	5 823 000	5 823 000
DDIP 10	Booyco (Noske Kaeser)	30 000	30 000	30 000
DDIP 11	Electrowave (Litef) and FW Logistics	0	0	0
DDIP 12	N/A	0	0	0
DDIP 13	Sigma Logistic Solutions	409 035	409 035	409 035
DDIP 14	C2I2	1 025 000	1 025 000	1 025 000
DDIP 15	ADS	0	0	0
DDIP 16	Cybicom	2 041 893	2 041 893	2 041 893
DDIP 17	Thales (SA)	0	0	0
DDIP 18	N/A	0	0	0
DDIP 19	N/A	0	0	0

DDIP 20	Cybicom Atlas Defence (Pty) Ltd (CAD)	850 000	850 000	850 000
		28 009 316	28 009 316	28 009 316
Indirect DIP				
IDIP NO	COMPANY	COMMITMENT	YTD PLANNED	ACHIEVED
IDIP 1	AMS	0	0	0
IDIP 2	Truvelo	500 000	500 000	500 000
IDIP 3	Armcor Business Units	24 954 555	24 954 555	24 954 555
IDIP 4	Ballistic Body Armour (Pty) Ltd	0	0	0
IDIP 5	CSIR – Business Development (Integrated Projects)	0	0	0
IDIP 6	Denel Optronics	26 288 701	26 288 701	26 288 701
IDIP 7	Fuchs Electronics	3 443 729	3 443 729	3 443 729
IDIP 8	Grintek GES	0	0	0
IDIP 9	Kimberley Engineering	0	0	0
IDIP 10	KME	0	0	0
IDIP 11	MOH-9	0	0	0
IDIP 12	Denel OTR	4 742 500	4 742 500	4 742 500
IDIP 13	Tellumat Defence (Pty) Ltd	0	0	0
IDIP 14	Grintek	0	0	0
IDIP 15	Denel Swartklip	6 809 280	6 809 280	6 809 280
IDIP 16	Various	22 698 358	22 698 358	22 698 358
IDIP 17	Electrowave (Litef) and FW Logistics	60 000	60 000	60 000
IDIP 18	Cybicom	572 000	572 000	572 000
IDIP 19	TBD	1 123 427	1 123 427	1 123 427
	Total	91 192 550	91 192 550	91 192 550

Technology DIP				
DIP NO	COMPANY	COMMITMENT	YTD PLANNED	ACHIEVED
TDIP 1	N/A	0	0	0
TDIP 2	Cybicom Atlas Defence (Pty) Ltd (CAD)	41 085 400	41 085 400	41 085 400
TDIP 3	CSIR Mattek (STN Atlas)	3 430 500	3 430 500	3 430 500
TDIP 4	Denel Eloptro (Zeiss Optronik)	4 652 756	4 652 756	4 652 756
TDIP 5	Grintek GEC	0	0	0
TDIP 6	AEC Fabritech	0	0	0
TDIP 7	Pertec (Raytheon)	612 520	612 520	612 520
TDIP 8	N/A	0	0	0
TDIP 9	Siemens	0	0	0
TDIP 10	Booyco	51 300	51 300	51 300
TDIP 11	Electrowave (Litef)	0	0	0
TDIP 12	Prokura Diesel Services (MTU)	1 671 816	1 671 816	1 671 816
TDIP 13	ALE (FBS/Logtech)	0	0	0
TDIP 14	C2I2	0	0	0
TDIP 15	IMT	171 400	171 400	171 400
TDIP 16	Cybicom	254 265	254 265	254 265
TDIP 17	Thales (SA)	3 250 000	3 250 000	3 250 000
TDIP 18	SA Naval Dockyard Simon's Town	618 600	618 600	618 600
		55 998 557	55 998 557	55 998 557
	TOTALS	175 200 423	175 200 423	175 200 423

BAES – HAWK LIFT BUSINESS PLANS (p 368)

MILESTONE 17 : 102 MONTHS (17 OCTOBER 2008) – date 7 March 2014

Hawk DIRECT ACTIVITIES – expressed in USD							
DIP NO	COMPANY	DESCRIPTION	COMMITMENT	YTD PLANNED 17/10/2008	ACHIEVED	CLAIMS FOR CONSIDERATION	ACHIEVED (not clear what this means? ⁸⁴⁶)
Direct DIP							
DDIP 1	Advanced Technologies & Engineering (ATE) (Pty) Ltd	LIFT mission system software and integration	21 461 499	21 461 499	21 461 499		0
DDIP 2	ATE	LIFT mission system hardware	17 962 599	17 962 599	17 962 599		0
DDIP 3	Advanced Technologies & Engineering (ATE) (Pty) Ltd	Weapons and stores integration	8 053 599	8 053 599	8 053 599		0
DDIP 4	ATE	Development and supply of the LIFT communications sub system	6 839 299	6 839 299	6 839 299		0
DDIP 5	ATE	Development and supply of the LIFT electronic warfare system	7 216 199	7 216 199	7 216 199		0
DDIP 6	Analysis, Management & Systems (Pty) Ltd	Health and usage monitoring system (HUMS)	18 406 738	18 406 738	18 406 738		0
DDIP 7	Denel Aviation	LIFT final assembly, equipping and test	4 430 000	4 430 000	4 430 000		0
DDIP 8	Denel Aviation Group + Various Other companies	Hawk airframe component manufacture	10 150 526	10 150 526	10 150 526		0
DDIP 9	Denel Aviation Group +	Hawk airframe component	402 629	402 629	402 629		0

⁸⁴⁶ Author's note

	Various Other companies	manufacture					
DDIP 10	Denel Aviation and other companies in the SA Defence field	Mission planning and ground support system (MPGSS)	1 000 000	1 000 000	1 000 000		0
DDIP 11	Turbomeca Africa	Rolls Royce Adour engine – development and manufacture	1 820 021	1 820 021	1 820 021		0
DDIP 12	ATE, ThoroughTek & other South African based companies involved in the Training Systems Field	Training Systems	4 963 000	4 963 000	4 963 000		0
DDIP 13	Denel Aviation	Maintenance and support of the Hawk LIFT aircraft	6 000 000	6 000 000	6 000 000		0
DDIP 14	Denel Aviation and other South African companies from the defence sector	Manufacture of ground support equipment	523 205	523 205	523 205		0
DDIP 15	N/A	Cancelled	0	0	0		0
DDIP 16	N/A	Cancelled	0	0	0		0
DDIP 17	Denel and various companies in the South African defence industry	BAE Systems and partner company based opportunities	5 954 338	5 954 338	5 954 338		0
DDIP 18	To be defined	Quality assurance programme	300 000	300 000	300 000		0
DDIP 19	Avitronics	Displays repair facility licence	860 000	860 000	860 000		0
DDIP 20	ATE	HUD and HDD symbology software workshop transfer	0	0	0		0
DDIP 21	ATE	Level B Kernel software capabilities	600 000	600 000	600 000		0
DDIP	Denel, ATE, Saab	Undefined packages	4 459 634	4 459 634	4 459 634		0

22	Avitronics and Armscor QA						
	TOTALS		121 403 284	121 403 284	121 403 284		0
Hawk INDIRECT ACTIVITIES (p 368) – expressed in USD							
IDIP NO	COMPANY	DESCRIPTION	COMMITMENT	YTD PLANNED 17/10/2008	ACHIEVED	CLAIMS FOR CONSIDERATION	ACHIEVED
IDIP 1	N/A	Cancelled	0	0	0		0
IDIP 2	N/A	Cancelled	0	0	0		0
IDIP 3	Denel Aviation / Group and various companies	Undefined packages	5 290 949	5 290 949	5 290 949		0
IDIP 4	Denel Aviation / Group and various companies	Undefined packages	21 948 532	21 948 532	21 948 532		0
IDIP 5	Aerosud and affiliated companies	Supply of aircraft components and other defence related work	26 443 699	26 443 699	26 443 699		0
IDIP 6	N/A	Cancelled	0	0	0		0
IDIP 7	Denel Aviation / Group and various companies	Aircraft tooling	1 316 176	1 316 176	1 316 176		0
IDIP 8	Denel Aviation	Components manufacture	31 329	31 329	31 329		0
IDIP 9	To be defined	Black Economic Empowerment	10 000 000	10 000 000	10 000 000		0
IDIP 10	Denel Ordnance group and Avitronics	UAE swap	162 582 074	162 582 074	162 582 074		0
IDIP 11	Denel Land Systems, BAE Systems Land Systems OMC and other South African based ordnance and Land Systems Companies	Ordnance and Land Systems opportunities	44 767 599	36 458 210	44 767 599		8 279 389
IDIP 12	ATE, AMS, Grintron, IFS Defence SA, Parsec,	Software development and defence electronic systems	42 790 754	32 990 941	42 790 754		9 799 813

	Tellumat plus other South African based companies						
IDIP 13	To be defined	Rolls Royce and partner company related opportunities	4 383 296	4383 296	4 383 296		0
IDIP 14	Denel	Defence export work for Denel	71 391 807	55 500 570	71 391 807		15 591 237
IDDIP 6 [sic]	Analysis, Management and Systems (Pty) Ltd	Health and Usage Monitoring Systems (HUMS)	13 193 600	13 193 600	13 193 600		0
	TOTALS		404 140 117	370 469 678	404 140 117		33 670 439
Hawk TECHNOLOGY TRANSFER (p 368) – expressed in USD							
TDIP NO	COMPANY	DESCRIPTION	COMMITMENT	YTD PLANNED 17/10/2008	ACHIEVED	CLAIMS FOR CONSIDERATION	ACHIEVED
TDIP 1	N/A	Cancelled	0	0	0		0
TDIP 2	Advanced Technologies and Engineering (Pty) Ltd	Independent validation, verification and clearance of LIFT Mission System	32 000 000	32 000 000	32 000 000		0
TDIP 3	N/A	Cancelled	0	0	0		0
TDIP 4	N/A	Cancelled	0	0	0		0
TDIP 5	ATE, GES, Reutech, Plessey, Grintek Avionics and Denel Aviation	Approval of South African suppliers	5 351 261	5 351 261	5 351 261		0
TDIP 6	Turbomeca Africa	Propulsion system – Technology transfer	1 077 005	1 077 005	1 077 005		0
TDIP 7	Analysis, Management and Systems (Pty) Ltd	Engine algorithms for engine lifing system (ELS)	1 600 000	1 600 000	1 600 000		0
TDIP 8	Analysis, Management and Systems (Pty) Ltd	Ruggedised flight data recorder	500 000	500 000	500 000		0
TDIP 9	Aerosud (Pty) Ltd	Provision of a business	100 000 000	94 910 374	100 000 000		5 089 626

		improvement technology package to Aerosud					
TDDIP 19	Avitronics	Displays repair facility licence	5 900 000	5 900 000	5 900 000		0
TDDIP 20	ATE	HUD and HDD symbology software workshop transfer	6 300 000	6 300 000	6 300 000		0
TDDIP21	ATE	Level B Kernel software capabilities	2 070 000	2 070 000	2 070 000		0
			154 798 266	149 708 640	154 798 266		5 089 626
	TOTALS		680 341 667	641 581 602	680 341 667		38 760 065

BAE GRIPEN DIP BUSINESS PLANS (p 369)

MILESTONE 22 : 132 MONTHS (17 APRIL 2011) – 7 March 2014

Gripen DIRECT ACTIVITIES – expressed in USD								
DDIP NO	SA COMPANY	DESCRIPTION OF ACTIVITY	TOTAL COMMITMENT	YTD PLANNED 17/04/2011	ACHIEVED	CLAIMS FOR CONSIDERATION	OVER (UNDER) PERFORMANCE	TRANSFER-RED TO THE DTI
DDIP 1	Denel Aviation	Skills and technology transfer programme	14 700 000	14 700 000	14 700 000		0	
DDIP 2	Cumulus (Division of Denel Kentron) / Denel Aviation	Helmet Mounted display development, supply and integration	13 952 660	13 952 660	13 952 660		0	
DDIP 3	Denel Aviation	Participation in the Gripen flight test programme	2 324 914	2 324 914	2 324 914		0	
DDIP 4	Denel Aviation	System integration	3 340 940	3 340 940	3 340 940		0	
DDIP 5	Denel	Weapons development – Cancelled	0	0	0		0	
DDIP 6	Grintron	Communications control and display unit for the Swedish and Export Grip programme	6 175 429	6 175 429	6 175 429		0	
DDIP 7	N/A	Cancelled	0	0	0		0	
DDIP 8	Grintron	Development and supply of communications sub system for the Swedish and Export Gripen	12 493 486	12 493 486	12 493 486		0	

		programme						
DDIP 9	Grintron / Reutech	Development and supply of the communication system for the SAAF Gripen programme	7 637 300	7 637 300	7 637 300		0	
DDIP 10	Grintek Avitronics	Development and supply of the EW components for the SAAF and Export Gripen programme	8 613 500	8 613 500	8 613 500		0	
DDIP 11	Grintek Avitronics	Development and supply of EW components for the SAAF and Export Gripen programme	3 760 500	3 760 500	3 760 500		0	
DDIP 12	N/A	Cancelled	0	0	0		0	
DDIP 13	N/A	Cancelled	0	0	0		0	
DDIP 14	Grintron	Logistics support facility for electronic warfare system – cancelled	0	0	0		0	
DDIP 15	Denel Aviation	Gripen design and development centre	5 565 514	5 565 514	5 565 514		0	
DDIP 16	Denel Aviation	This activity refers to the manufacture of the rear fuselage for the Gripen programme. This will include manufacture of all details, sub-assemblies	11 899 163	11 899 163	11 899 163		0	
DDIP	N/A	Cancelled	0	0	0		0	

17								
DDIP 18	Denel Aviation	Manufacture and assembly of the Main Landing Gear Unit for the Gripen programme	3 952 982	3 952 982	3 952 982		0	
DDIP 19	Denel Aviation	Development and manufacture of NATO Standard Pylons for the Gripen Export programme	30 067 223	30 067 223	30 067 223		0	
DDIP 20	Denel Aviation	Manufacture of Drop Tank components for the Gripen Export programme – Cancelled	0	0	0		0	
DDIP 21	N/A	Cancelled	0	0	0		0	
DDIP 22	TBD	Development of a computer based training system for the SAAF Gripen	287 566	287 566	287 566		0	
DDIP 23	N/A	Cancelled	0	0	0		0	
DDIP 24	Denel / TBD	Participation in the development and manufacture of components for Flight Training Simulators for the SAAF – Cancelled	0	0	0		0	
DDIP 25	N/A	Cancelled	0	0	0		0	
DDIP 26	Denel Aviation / Exponent (OSIS	Development of a maintenance ground support system for the	440 000	440 000	440 000		0	

	Consultancies)	Export Gripen						
DDIP 27	Denel Aviation	Development of a mission support system (MSS) for the Gripen export programme	520 856	520 856	520 856		0	
DDIP 28	Turbomeca Africa	Components manufacture for Gas Turbine engines	1 042 353	1 042 353	1 042 353		0	
DDIP 29	Grintron	Manufacture of electronic sub systems for Gripen	55 449 716	55 449 716	55 449 716		0	
DDIP 30	Denel Aviation	Navigation system development for SA	444 241	444 241	444 241		0	
DDIP 31	Grintron	Manufacture of power supplies for Avionics components	5 301 000	5 301 000	5 301 000		0	
DDIP 32	Denel /Aerosud /Logtronics	Production of GSE for SA and Export	1 500 000	1 500 000	1 500 000		0	
DDIP 33	Grintron / TBD	Automatic Test System for SA	375 000	375 000	375 000		0	
DDIP 34	Denel Aviation	Mechanical depot level maintenance – Cancelled	0	0	0		0	
DDIP 35	Grintron	Electronic/Avionics depot level maintenance - Cancelled	0	0	0		0	
DDIP 36	TBD	Activities identified by Gripen Vendor Base	22 693 742	22 693 742	22 693 742		0	
DDIP 37	Armcor Quality	Quality assurance programme – Cancelled	0	0	0		0	

	Department							
DDIP 38	TBD	Undefined packages	18 524 817	18 524 817	18 524 817		0	
			231 164 222	231 164 222	231 164 222		0	0
<p style="text-align: center;">Gripen INDIRECT ACTIVITIES (p370) – expressed in USD</p>								
IDIP NO	SA COMPANY	DESCRIPTION OF ACTIVITY	TOTAL COMMITMENT	YTD PLANNED 17/04/2011	ACHIEVED	CLAIMS FOR CONSIDERATION	OVER (UNDER) PERFORMANCE	TRANSFER-RED TO THE DTI
IDIP 1	Denel Somchem (Pty) Ltd	Supply of launcher platforms for project RAYO	1 359 680	1 359 680	1 359 680		0	
IDIP 2	Fuchs Electronics (Pty) Ltd	Supply of fuses for Project RAYO	275 760	275 760	275 760		0	
IDIP 3	Denel (Pty) Ltd trading as Naschem	Supply of 90mm ammunition components	4 969 146	4 969 146	4 969 146		0	
IDIP 4	TBD	Undefined packages	30 800 578	30 800 578	30 800 578		0	
IDIP 5	Denel Aviation / Denel Land Systems / TBD	Credit transfer from Ewation / EADS	16 813 561	16 813 561	16 813 561		0	
IDIP 6	Denel, Zeiss Optronics and other defence related companies	Products Manufacturing / Assembly	8 800 000	8 800 000	8 800 000		0	

IDIP 7	TBD	Black Empowerment	10 000 000	10 000 000	10 000 000		0	
IDIP 8	OMC Land Systems	Armoured vehicles	205 166 574	205 166 574	205 166 574		0	
IDIP 9	Denel PMP	Small Arms Ammunition to UK and other international markets	28 000 000	28 000 000	28 000 000		0	
			305 985 279	305 985 279	305 985 279		0	0
Gripen TECHNOLOGY TRANSFER ACTIVITIES (p 370) – expressed in USD								
TDIP NO	SA COMPANY	DESCRIPTION OF ACTIVITY	TOTAL COMMITMENT	YTD PLANNED 17/04/2011	ACHIEVED	CLAIMS FOR CONSIDERATION	OVER (UNDER) PERFORMANCE	TRANS-FERRED TO THE DTI
TDIP 1	Denel Aviation	Strategic Technology Areas – Mission System and Avionics	0	0	0		0	10 500 000
TDIP 2	Denel Aviation	Strategic Technology Areas – Mission System and Avionics	15 000 000	15 000 000	15 000 000		0	0
TDIP 3	Denel Aviation	Strategic Technology Areas – Mission System and Avionics	9 000 000	9 000 000	9 000 000		0	0
TDIP 4	Denel Aviation	Strategic Technology Areas – Mission System and Avionics	0	0	0		0	10 500 000
TDIP 5	Denel Aviation	Strategic Technology Areas – Mission System and Avionics	0	0	0		0	22 500 000
TDIP 6	Denel Aviation	Strategic Technology Areas – Mission System and Avionics	27 000 000	27 000 000	27 000 000		0	0
TDIP	Denel Aviation	Strategic Technology Areas – Mission System	34 000 000	34 000 000	34 000 000		0	0

7		and Avionics						
TDIP 8	Denel Aviation	Strategic Technology Areas – Mission System and Avionics	0	0	0		0	7 000 000
TDIP 9	Denel Aviation	Strategic Technology Areas – Mission System and Avionics	9 000 000	9 000 000	9 000 000		0	0
TDIP 10	Denel Aviation	Strategic Technology Areas – Airframe Technology, Operations and Support	0	0	0		0	46 000 000
TDIP 11	Denel Aviation	Local production support technologies	42 000 000	42 000 000	42 000 000		0	0
TDIP 12	Denel Aviation	Strategic Technology Areas – Airframe technology operations and support	48 000 000	48 000 000	48 000 000		0	0
TDIP 13	Denel Aviation	Strategic Technology Areas – Airframe technology operations and support	0	0	0		0	43 000 000
TDIP 14	Denel Aviation	Strategic Technology Areas – Airframe technology operations and support	5 000 000	5 000 000	5 000 000		0	0
TDIP 15	Denel Aviation	Strategic Technology Areas – Airframe technology operations and support	0	0	0		0	9 500 000
TDIP 16	Denel Aviation	Additional technology areas	8 000 000	8 000 000	8 000 000		0	2 000 000
TDIP 17	Ansys Integrated	Local production support technologies	0	0	0		0	0

	Systems (Pty) Ltd							
TDIP 18	Grintron	Local production support technologies – Cancelled	0	0	0		0	0
TDIP 19	Grintron	Supportability technology areas – cancelled	0	0	0		0	0
TDIP 20	TBD	Additional technology areas	0	0	0		0	0
TDIP 21	Grintron	Local production support technologies	35 000 000	35 000 000	35 000 000		0	0
TDIP 22	Denel Aviation	Supportability technology areas	4 000 000	4 000 000	4 000 000		0	0
TDIP 23	Grintron	Supportability technology areas	15 000 000	15 000 000	15 000 000		0	0
TDIP 24	Denel Aviation	Local production support technologies	16 000 000	16 000 000	16 000 000		0	0
TDIP 25	Denel Aviation	Supportability technology areas	0	0	0		0	0
TDIP 26	Denel Aviation	Local production support technologies	0	0	0		0	0
TDIP 27	Grintek Avitronics	Supportability technology areas	0	0	0		0	0
TDIP 28	Grintek Avitronics	Supportability technology areas	0	0	0		0	0
TDIP 29	Mistral Aviation Services	Hydraulic and mechanical component maintenance (TT29)	2 700 000	2 700 000	2 700 000		0	0
TDIP 30	Resolution Avionics	Avionics and instruments	1 200 000	1 200 000	1 200 000		0	0

		maintenance (TT30)						
		Sub Total	270 900 000	270 900 000	270 900 000			151 000 000
		Grand Total	808 049 501	808 049 501	808 049 501			151 000 000⁸⁴⁷

⁸⁴⁷ As per the testimony of P. Burger to the APC

AGUSTA SpA – DIP BUSINESS PLANS FOR LIGHT UTILITY HELICOPTER A109 (p 371)

MILESTONE 14 : 84 MONTHS (19 APRIL 2007) – date 11 March 2014

DIP NO	COMPANY	DESCRIPTION	COMMITMENT (USD)	YTD PLANNED 19/04/2007	ACHIEVED
Direct DIP					
DDIP 1	Denel Aviation	Development activities to design, integrate and validate South African basic configuration	1 900 000	1 900 000	1 900 000
DDIP 2	Denel Aviation	Integration of the avionic mission system	6 853 276	6 853 276	6 853 276
DDIP 3	Denel Aviation	Subcontract to manufacture parts of the A109 SAAF helicopters starting from the 5 th helicopter	34 282 092	34 282 092	34 282 092
DDIP 4	Denel Optronics, ADS,	Procurement of equipment to be integrated and installed into the SAAF helicopters	14 917 210	14 917 210	14 917 210
DDIP 5	N/A	Cancelled	0	0	0
DDIP 6	N/A	Not used	0	0	0
DDIP 7	Waymark Infotech (Pty) Ltd	ILS logistics data and management	2 804 989	2 804 989	2 804 989
DDIP 8	N/A	Cancelled	0	0	0
DDIP 9.1	AMS	Vehicle management module (VMM) development and manufacturing	2 609 046	2 609 046	2 609 046
DDIP 9.2	Denel Aviation	Development of avionic system	189 000	189 000	189 000
DDIP 9.3	Denel Aviation	Man Machine Interface	2 120 000	2 120 000	2 120 000
DDIP 9.4	N/A	Cancelled	0	0	0
DDIP 10.1	Turbomeca Africa	Assembly and test of Arrius engine for the LUH programme	637 000	637 000	637 000
DDIP 10.2	Turbomeca Africa	Complete manufacture of the Arrius reduction gearbox	691 241	691 241	691 241
DDIP 10.3	Turbomeca Africa	LUH engine support, repair and overhaul	2 704 944	2 704 944	2 704 944

		under licence			
			69 688 798	69 688 798	69 688 802
Indirect DIP					
IDIP NO	COMPANY	DESCRIPTION	COMMITMENT	YTD PLANNED 19/04/2007	ACHIEVED
IDIP 1	Various companies	Indirect DIP activities to be defined	4 970 363	4 970 363	4 970 363
IDIP 2	GCS, Cumulus, ADS, Chelton	Procurement of equipment to be exported for integration on the A109 helicopters	5 384 595	5 384 595	5 384 595
IDIP 3	AMS	Vehicle management module (VMM) development and manufacturing	2 958 517	2 958 517	2 958 517
IDIP 4	Denel Optronics	Delivery of navigation system test bench	4 000 000	4 000 000	4 000 000
IDIP 5	Turbomeca Africa	Repair of Hi-tech engine components for TM requirements	13 556 648	13 556 648	13 556 644
IDIP 6	BAE OMC	Procurement of personnel carrier vehicles by the Italian Government	12 498 444	12 498 444	12 498 444
			43 368 566	43 368 566	43 368 562
Technology DIP					
TDIP NO	COMPANY	DESCRIPTION	COMMITMENT	YTD PLANNED 19/04/2007	ACHIEVED
TDIP 1	Denel Aviation	Development activities to design, integrate and validate South African basic configuration	4 600 000	4 600 000	4 600 000
TDIP 2	Denel Aviation	Integration of the avionic mission system	6 630 000	6 630 000	6 630 000
TDIP 3	Denel Aviation	Subcontract to manufacture parts of the A109 SAAF helicopters starting from the 9 th helicopter	7 200 000	7 200 000	7 200 000
TDIP 4	N/A	Not used	0	0	0
TDIP 5	Denel Aviation	Licence to manufacture and assemble the A109 helicopter in SA	25 000 000	25 000 000	25 000 000
TDIP 6	Denel Aviation	Production of A119 Koala parts for the Agusta	12 500 000	12 500 000	12 500 000

		assembly line			
TDIP 7	Waymark Infotech	ILS logistics data and management	2 500 000	2 500 000	2 500 000
TDIP 8	Denel Aviation	Transfer of the know-how to undertake maintenance and overhaul activities	600 000	600 000	600 000
TDIP 9.1	AMS	Vehicle management module (VMM) development and manufacturing	2 000 000	2 000 000	2 000 000
TDIP 9.2	Denel Aviation	Development of avionic system	1 800 000	1 800 000	1 800 000
TDIP 9.3	Denel Aviation	Man machine interface	2 670 031	2 670 031	2 670 031
TDIP 10.1	Turbomeca Africa	Assembly and test of Arrius engine for the LUH programme	080 000	080 000	080 000
TDIP 10.2	Turbomeca Africa	Complete manufacturing of the Arrius reduction gearbox	710 000	710 000	710 000
TDIP 10.3	Turbomeca Africa	Licence assembly and test of Arrius engine for the LUH programme	3 500 000	3 500 000	3 500 000
TDIP 10.4	Turbomeca Africa	Repair and overhaul of Makila 1K2 engines under licence	7 140 000	7 140 000	7 140 000
		Sub Total	77 930 031	77 930 031	77 930 031
		Grand Total	190 987 395	190 987 395	190 987 395

The Tracking Record of the Strategic Defence Package DIP – since 2000

1. **Engineering News bi-weekly** articles being of relevance to this research - since 1999 (dates are as per Creamer Media's research channel's back copies format) [as accessed over the research period]: - Refer section in BIBLIOGRAPHY
2. **Other Media** reports consulted – refer relevant section in BIBLIOGRAPHY:
3. **Arms Deal Virtual Press Office:** From this above media scan it was possible to track the following DIP activities, many a time presented as snippets of information that lack proper empirical substance and left wide open for interpretation. The only entity that can provide a substantive empirical set of data remains Armscor. The virtual database that was set up by Dr Richard Young, the MD of CCII was also a useful source, cf. <http://www.arismdeal-vpo.co.za>.
4. This compendium of DIP results was further complimented by information that was gathered from the respective testimonies and evidence packs of the senior DOD, SDANDF and Armscor Officials made at the Arms Procurement Commission (APC) of inquiry during 2013 and 2014 (cf. <http://www.armscomm.org.za/hearings>).

4.1 Corvettes (Meko A200 Class)

The DIP-related activities stemming from the above as supplied under a German/French Frigate Consortium (GFC), later joined by ADS/TDS, South Africa, are *inter alia*:

- ❖ Significant technology transfer to Simons Town Dockyard⁸⁴⁸ - cf. Appendix F.
- ❖ A new maritime facility was opened by Avitronics – jointly owned by Grintek and Saab, Sweden – at Capricorn Park in Muizenberg, Western Cape.
- ❖ An export order (end user not declared) was placed with Denel for the corvette combat suite, which was reportedly to be sourced from South

⁸⁴⁸ The SA Navy has contracted Armscor to run the Simons Town Dockyard since 1 April 2003 (Armscor, 2012).

African suppliers under the prime contractor Thales Naval of France (TNF), which was part of the German Frigate Consortium.

- ❖ Locally ADS (then, later TDS) was awarded all the command and control work, which was done in accordance with the corvette's tender-specified equipment requirements. Denel divisions delivered surface-to-air missiles, the 76 mm gun upgrade, the 35 mm naval dual purpose gun and ammunition.
- ❖ Saab Grintek provided radios and communications. The Grintek Group is involved through Grintek Communication Systems (GCS) and Grintek Avitronics. GCS is responsible for the design, manufacture and supply of the external communication sub-system and associated logistic support, while Avitronics is responsible for delivering the electronic warfare system for integration on the patrol corvette. Through the involvement of foreign OEMs, foreign markets (no details provided) opened up for these companies, which led to successful export of their capabilities and equipment.
- ❖ Reutech Radar Systems (RRS) supplied the STAR tracking, surveillance and target acquisition systems, as well as the RTS6400 optronics tracker.
- ❖ Booyco Engineering was involved in the installation of air conditioners and refrigeration equipment, which also benefitted from valuable technology transfer in the process.
- ❖ MTU South Africa was contracted to assemble the main diesel engines and the diesel generator sets for the corvettes. The skills, equipment and technology required for this activity were transferred from Germany and undoubtedly contribute to the locally owned MTU's long-term sustainability.
- ❖ Hyflo Southern Africa was involved with specifically designed controllable pitch propellers.
- ❖ MOH – 9 Armour Ceramics - although not significantly big in value compared to other contracts, this company received valuable international exposure through its work for the GFC.
- ❖ Siemens SA was contracted to supply the hardware for the electrical plant system on the South African corvettes. Although this activity was

marred by the delivery of faulty cables that were manufactured by its sub-contractor, Bartel, most of the work was completed to the satisfaction of the GFC (and Armscor/SA Navy).

- ❖ Other work undertaken by Gear Ratio (then still part of OMC) included the manufacture and supply of gear box parts for the South African corvettes (under sub-contract from Renk, Germany), as well as providing REMAT type automatic vehicle transmissions for armoured vehicles for an international client.
- ❖ The SA Navy indicated that support services will be procured locally – several examples reported during the Arms Procurement Commission of Inquiry's hearings 2013/2014.

4.2 Submarines (Class 209 Type 1400 MOD)

The DIP-related activities stemming from the above, as supplied under the GSC, Germany are *inter alia*:

- ❖ Marketing assistance was provided for the export of optical equipment and components by the then Denel Optronics.
- ❖ The submarine combat suite software was developed.
- ❖ Transfer of technology occurred for the local manufacture and export of 40 mm self-destruct fuses under license from Junghans, Germany.
- ❖ Grintek Avitronics, now owned by Saab, provided components of the optronics mast, which were manufactured locally, as well as the electronic warfare system of the submarines. This system has also been exported successfully to other customers. Avitronics' performance under this contract resulted in a relationship with Saab, which has evolved into a partnership for supply to various other international clients – no details provided though.
- ❖ Siemens SA delivered the main electrical switchboards.
- ❖ Tellumat collaborated with German STN Atlas on an integrated sonar system.
- ❖ Denel Optronics, under a USD45 million contract from Zeiss, was tasked with the complete design and manufacture of the high-precision periscopes. It was this contractual relationship that actually led to Zeiss

acquiring a 70% equity stake in this Denel division in 2006/7; it subsequently became involved with a US-based company FLIR Systems, in the supply of forward-looking infrared equipment worldwide.

- ❖ Ferrostaal, one of the GSC members, was responsible for a contract with Denel Overberg Test Range (OTR) for certain weapon flight tests on the German Air Force Tornados. The successful conclusion of these tests opened doors for OTR in the international market, which may in time result in further business.

4.3 Light Utility Helicopter (A109)

The DIP-related activities stemming from the LUHs supplied by Agusta Westlands (AW), Italy, are *inter alia*:

- ❖ A license was awarded for the local manufacture of 25 the A109 helicopter for the SAAF, by Denel.
- ❖ Grintek was awarded the contract for a multi-sensor warning system and self-protection electronic warfare suite, as well as a communications sub-system and navigation.
- ❖ ADS/TDS delivered a procedural cockpit trainer.
- ❖ Denel Optronics (old Cumulus, then Carl Zeiss Optronics, now Cassidian) delivered the Argos 410 observation system.
- ❖ Chelton supplied antennas and direction-finding equipment.
- ❖ Futuristic Business Solutions (FBS) supplied certain logistic support elements.
- ❖ Aeroflo (at that time part of Defencetek at the CSIR) was awarded the contract for a new sand filter system.
- ❖ Turbomeca Africa (TMA) produced the Makila engine and did the design and integration of the Arrius gearbox (as a result of an undertaking from Turbomeca (part of SAFRAN), France, contained in the AW DIP offer. Turbomeca subsequently acquired a 51% equity stake in Denel's Airmotive Division in 2002).
- ❖ Tellumat supplied the identify-friend-or-foe (IFF) systems.

4.4 Hawk 100 (SAAF model referred to as the Mk120)

The DIP-related activities stemming from the above as supplied by BAE Systems of the UK are *inter alia*:

- ❖ BAES certified various local companies as aerospace suppliers.
- ❖ Technology was transferred to Aerosud; and Airbus orders were secured for the delivery of 240 ship-sets of wing components with a reported value of R500 million.
- ❖ Companies that received orders from BAES include Denel Aviation (final integration and manufacturing of components), Denel (Carl Zeiss) Optronics (for helmet sights, also for the Eurofighter – see also under Gripen, further down, Saab Grintek for power supplies and displays and Saab Grintek (Electronic Systems – GES) for communication sub-systems.
- ❖ TMA was involved with the Hawk's engines and gearboxes, under sub-contract from Rolls Royce.
- ❖ ATE (in which BAES held a 20% stake until 2003) was involved with the design, development and integration of the Hawk avionics and mission systems (valued at R500 million).
- ❖ By 2007/8. BAES acquired OMC (now BAE Land Systems) and procured export business for its company by supplying the US Marines with around 2182 RG33, and 773 RG31 armoured mine-protected personnel carrier. BAE Land Systems now sold to Denel.
- ❖ Aerosud⁸⁴⁹ was awarded a USD20 million contract to make components for the European Eurofighter programme. Under the contract for Eurofighter parts, set to run for at least six years, Pretoria-based Aerosud is to manufacture up to 3,500 detailed parts and minor assemblies for Eurofighter Typhoon, Europe's biggest defence programme. 'While strengthening our partnership with Aerosud, this contract also illustrates BAE Systems ability to deliver new export business opportunities to South African industry.'⁸⁵⁰

⁸⁴⁹ **Author's note:** Aerosud, which was initially not a beneficiary under the DIP programme, is today one of the main beneficiaries under the DIP programme and has become fully entrenched in the Airbus and Boeing supply chains, also on the NIP side. The company had to expand to meet this increase in demand, and further expansion is imminent, which not only earns more foreign currency for the country, but is also creating more jobs than anticipated.

⁸⁵⁰ BAES's South Africa chief executive, Mike O'Callaghan, *Mail & Guardian*, 4 Aug 2006

- ❖ AMS is a focussed defence industry electronics company ⁸⁵¹ and at an early stage of its development got involved in the design and manufacture and supply of a health usage monitoring system (HUMS) for all types of military aircraft.⁸⁵² As the work undertaken by AMS forms a very important part of BAES's DIP programme, all future Hawk aircraft for other buyers will include the AMS system. The value of this business for AMS is huge, and in addition to the 24 aircraft ordered by the SAAF, the Royal Air Force ordered 44 new Hawk aircraft that went into service by c. 2008, while India ordered 66 aircraft. The AMS HUMS system is already operational on the 22 aircraft delivered to the NATO Flight Training Centre in Canada and the 33 aircraft being delivered to the Royal Australian Air Force. Although the supply of the HUMS system to the international market began as a DIP project, the standing that AMS now has as a supplier to large companies as BAE and Thales is evident, and the local company is receiving orders from other countries and companies. Saab acquired 100% equity in AMS.
- ❖ BAES (c. October 2000) expressed interest in procuring an equity stake in Denel (Pty) Ltd. However, after the due diligence process was completed, and government's reluctance to relinquish certain management positions, aggravated by a non-attractive offer, the deal was aborted (Dunne and Haines, 2005).
- ❖ BAES reported that Hawk orders up to 2005, amounted to 350 for export. Denel would be making the air brakes and tail planes.

⁸⁵¹ *Dataweek*, 28 Jan 2004

⁸⁵² *AMS' first big opportunity was with the development, manufacture and support of a comprehensive HUMS system for Denel Aviation's Rooivalk helicopter in a programme that was initiated in 1987. AMS developed and manufactured HUMS systems for a wide variety of aircraft types, including all versions of the C-130 (Hercules) transport aircraft as used by the SAAF, the unique turboprop version of the DC-3 used locally for maritime surveillance, the BAE Hawk LIFT, and the Augusta 109 helicopters that form part of the local defence acquisition programme.*

4.5 Gripen JAS39

The DIP-related activities stemming from the above as supplied by Saab, Sweden in partnership with BAES, which was in this instance the main DIP obligor, are *inter alia*:

- ❖ A major skills transfer activity, referred to as the ‘STTP’ (skills transfer and technology), including a design and development centre for system and airframe design, was established by Saab at Denel Aviation, in early 2002/3 at a value (at that time) of SEK2,8 billion.⁸⁵³ This state of the art aircraft design centre could unfortunately not be financially maintained by either Denel or the South African Air Force (SAAF), and to my knowledge ceased to exist circa 2009.⁸⁵⁴ However, the technology and exposure that Denel aircraft engineers received as a result of the STTP has put them in a position to perform technologically advanced engineering design work on parts of the Airbus military cargo aircraft, the A400M. The led Denel to be appointed as a manufacturing partner for the duration of the A400M’s production. The only one outside the EU.
- ❖ In 2005/6 Saab was engaged by Denel and the Department of Public Enterprises (DPE), with the view of Saab acquiring an equity stake in Denel Aviation. This equity was set at an initial 20% (approximately USD10 million) that was anticipated to grow into a majority share. The new company was to be called Denel Saab Aerostructures. NIP credits were also awarded by DTI (in a rather unorthodox manner – see section 10.6.3) in return for taking up this equity in Denel’s ailing aircraft manufacturing entity, as well as a ZAR1,6 billion indemnity from the South African government on the risky Airbus A400M work. Saab withdrew again in 2011, but no information is available on the exact details of this exit transaction, nor on how this influences DIP credits granted. It is not clear either what the status of the design centre is at present; this is a facility for which Armscor granted a substantial

⁸⁵³ Defence.professionals GMBH, 2008

⁸⁵⁴ I was at the time involved in the processing of the Saab DIP claim and subsequently witnessed the process of first dividing the Old Denel Aviation into a MRO facility and restructuring the manufacturing part as Denel Aerostructures. It is into the latter business unit that Saab bought a small equity stake. The design centre in this process fell between the cracks as it was a costly capability to maintain without the prospect of turning profitable business from it

amount of DIP credits. In the Armscor Annual Report of 2008 it was reported that due to the financial constraints of the DOD, the facility remains under-utilised and marketing of the capabilities and capacity to foreign entities is also proving to be difficult due to the highly classified nature of the work that can be undertaken. Denel Aerostructures thus remain a loss-making entity in the Denel group of companies.⁸⁵⁵

- ❖ The Denel Aero-structures subsidiary was tasked with several production export contracts for the NATO standard pylons, rear fuselage and the main landing gear for the Gripen aircraft. The company reported that it had at that stage (c. November 2010) already exported 100 ship sets, comprising the main landing gear and the rear fuselage section. The Eastern Cape-based company Comau-AIMS was also involved under a sub-contract to Denel, for the design of the NATO pylon.
- ❖ Denel OTR (near Bredasdorp) was tasked with various Gripen flight tests.
- ❖ Denel Optronics (then Carl Zeiss Optronics, now Cassidian) also secured contracts (in 2003 already) for its helmet-mounted display/tracking system (HTS) for Gripen, also for the export market. This eventually led to an export contract to the value of R200 million being awarded in May 2007, for the Eurofighter-Typhoon aircraft.⁸⁵⁶ Some 700 units of the HTS were reported to have been manufactured over a four- to five-year period.⁸⁵⁷ Denel Optronics is a pioneer in head-tracker systems, having designed and produced operational pilot helmet-mounted sighting and tracking systems in the early 1970s. Evaluations have shown the Denel system to be superior to any other similar system available in the world.
- ❖ The CSIR was put in a position to obtain much needed technical information on the Saab/Ericsson, Swedish-produced PS-05A long-range radar. This collaboration resulted in the formation of a team of young radar professionals in South Africa.

⁸⁵⁵ *Engineering News*, 2 June 2007; 22 June 2011

⁸⁵⁶ *Business Day*, 1 June 2007

⁸⁵⁷ *Engineering News*, 15 June 2007

- ❖ Tactical simulation development of digital models and data links for radar warning receivers were also linked to the CSIR's virtual ground-based air defence system demonstrator (with Denel Dynamics).
- ❖ Testing and maintenance of advanced equipment are being undertaken locally.
- ❖ Denel's munitions group (PMP) received a number of major contracts for the export of brass parts and components for ammunition production in the UK from BAES. This was the largest single contract ever awarded to PMP in its 68-year history. It occurred in late 2006 and amounted to R296 million. PMP is reported to be increasingly recognised as a producer of world-class ammunition and related components.
- ❖ Saab also secured equities, first in Grintek Avitronics, then in Grintek Holdings, while also acquiring AMS. Saab Grintek is reported to be engaged with Grintek in the development of a civil aircraft missile protection system. Saab's biggest operation outside Sweden⁸⁵⁸, i.e. Saab South Africa, employs 1 064 people and in 2011 had a turnover of R1.4 billion; 60% of which came from exports. It has become a manufacturing base for the Swedish group in Africa, and is supplying and serving countries in East and West Africa, as well as Southern Africa. It is developing markets in Asia, Latin America and Europe. Saab South Africa will be supporting the SAAF Gripens throughout their life-spans, which should be between 30 to 40 years. The company employs highly skilled and technical staff and approximately 10% of its turnover is invested in R&D. DIP was reported as having boosted Avitronics' turnover, at the time, with USD16 million.⁸⁵⁹
- ❖ The CSIR helped to develop a local capability to understand the Gripen's complex digital flight control system in order to be able to integrate the Denel manufactured 5th generation air-to-air missile system.⁸⁶⁰

⁸⁵⁸ *ibid*

⁸⁵⁹ *Engineering News*, 6 June 2003

⁸⁶⁰ Cf. <<http://www.csir.co.za>>

4.6 Maritime Helicopter – Super Lynx 300 Mk64

The DIP-related activities stemming from the above, as supplied by Agusta Westlands (AW), UK, are *inter alia*:

- ❖ AW funded a new material-cutting machine for the local manufacturing of tents and canvas items.
- ❖ Several export contracts for infrared suppression systems, armoured helicopter crew seats, electronic warfare items and related countermeasures were awarded.
- ❖ Denel Optronics (Cumulus, then Carl Zeiss Optronics, now Cassidian) supplied stabilised observation systems in accordance with the SA Navy's equipment specifications.
- ❖ Aerosud was contracted to deliver engineering services for the supply of the infrared suppression system and the armoured crew seat for the Lynx helicopter delivered to an international supplier. Through this co-operation with Westland Helicopters, Aerosud is the preferred supplier of this equipment.
- ❖ The relationship between Avitronics (now part of Saab Grintek) and Westland has resulted in the export of warfare systems, threat approach warning systems and countermeasure systems to an international client.
- ❖ Ground support equipment was to be procured locally – no exact information is available of this.

Appendix H.1

2006/7 Survey Questionnaire DEFENCE INDUSTRIAL PARTICIPATION IN SOUTH AFRICA

(Conducted by Johan J van Dyk as part of his MA – Developmental Research Studies at the Nelson Mandela Metropolitan University, PE. 2006/7)

Respondent Company: _____ Date: _____

Address: _____

Tel: _____ Mobile: _____

Email address of respondent: _____

Name of respondent: _____

Position in Company: _____

Main line of business: _____

Wholly owned South African Company YES/NO

If not, who are you foreign equity partner/s: _____

SMME Company: YES/NO Number of employees: _____

Total average turnover per annum for the past five years: ZAR _____

What portion of your turnover was as a result of DIP: _____%

What is your average export over past 5 years: ZAR _____

What portion of your exports was through IDIP: ZAR _____

BEE Company: YES/NO %PDI ownership: _____

Are you company accredited with Armscor: YES/NO/In Process

All information received individually, will be treated as **commercially confidential** and will not be shared with any other person or entity, unless so authorized by the Respondent, Department of Defence and/or Armscor.

(The Department of Defence and Armscor are fully aware this survey: August 2006 – all findings will be shared with them)

Please respond to each statement individually by marking the MOST appropriate answer.

Statement	5 Strongly Agree	4 Agree	3 Neutral	2 Disagree	1 Strongly disagree
1. The DoD/Armscor must keep on using DIP for contracts with imported content					
2. The DIP policy is fully supported by the local DRI					
3. The aims, goals and objectives of the DIP policy are clear and well communicated by Armscor/DoD					
4. The successes of the DIP programme are frequently published by Armscor/DoD					
5. Armscor should retain full management responsibility for the DIP process					
6. Armscor provides full support to the local DRI to advance the objectives of DIP and the interest of the local DRI					
7. The DIP process works very well in practice					
8. The DIP process causes a retention of local DRI capabilities and capacities					
9. Work share caused by DIP represents sustainable business for my company					

10. DIP activities are commercially viable and profitable for my company					
11. The DIP technology evaluation and transfer process is working well					
12. Technology transfer proposals are of a value add nature and contribute to my company's business plans					
13. DIP causes value add training and skills development in core areas of my business					
14. DIP forced my company to become more competitive					
15. DIP ensured that my company secured sustainable access to the export market					
16. DIP contributes to job retention in key vocational areas					
17. DIP has caused job creation in my company					
18. DIP has caused increased levels of activities by BEE companies, as a result of sub-contracting by my company					
19. DIP has caused an increased levels of work share with SMME companies, by forcing sub-contracting activities by my company					
20. DIP has caused increased levels of productivity and skills					
21. DIP has caused foreign partnerships being formed with my company					
22. DIP contracts are only once off short term focused.					
23. Productivity in my company has caused a loss of DIP opportunities, diverted elsewhere					
24. My company's production processes are world class					
25. My company's labour rates are very competitive, compared locally and with Eastern Europe & Asia Pacific					
26. The DIP (Armscor) process should be combined with the NIP (DTI) process					
27. The DIP process should implement incentive schemes to secure higher levels of investment					
28. The use of multipliers for DIP credits should be implemented					
29. The DIP penalty is adequate					
30. The DIP discharge period of 7 years with annual milestones is regarded as working very well					
31. I believe my company's profile is well suited to perform DIP successfully					
32. I believe my company has the right and adequate skills base to perform DIP work					
33. I believe that non-recurring cost is not an inhibitive factor when accepting DIP work					
34. My company is always in a position to meet any investment needs in order to accept DIP work					
35. Foreign DIP obligors are sincere with honouring their DIP obligations in SA					
36. Foreign DIP obligors do not resort to any bullying tactics when negotiating DIP contracts under their DIP commitments					
37. The DIP process works extremely well with creating value-adding benefits for my company and the local DRI as a whole.					
38. My company's execution of DIP work is always on budget and on time.					
39. My company constantly receive follow-on business as a result of performance and price					
40. My company is constantly faced with mismatched DIP opportunities (i.e. work that does not suit my capability or capacity ('profile'))					
41. Foreign DIP obligors are never unreasonable when negotiating DIP contracts with my company					

Socio-economic benefit ISSUES					
42. My estimated total turnover of DIP work over the past 5 years, was	More than ZAR1bn	Between ZAR500m-1billion	Between ZAR100m to 500m	Between ZAR20m and 100m	Below ZAR20m
43. My estimated earnings (EBIT) from DIP work over the past 5 years, were	Above 30%	Between 20% & 30%	Between 10% & 20%	Between 5% & 10%	Below 5%
44. The number of jobs RETAINED in my company, as a result of DIP is	More than 500	Between 200 & 500	Between 100 & 200	Between 50 & 100	Below 50
45. The number of NEW jobs created as a result of DIP is	More than 500	Between 200 & 500	Between 100 & 200	Between 50 & 100	Below 50

46. The average duration of a DIP contract is	More than 48 months	Between 36 & 48 months	Between 24 & 36 months	Between 12 & 24 Months	Less than 12 months
47. In which vocational categories did DIP contribute most (training, skills, education, technology, OEM assistance)					
47.1 Engineering – all levels	Substantial contribution	Major contribution	Marked contribution	Minor contribution	No contribution
47.2 Technicians – all levels	Substantial contribution	Major contribution	Marked contribution	Minor contribution	No contribution
47.3 Artisans– all levels	Substantial contribution	Major contribution	Marked contribution	Minor contribution	No contribution
47.4 Scientists – all levels	Substantial contribution	Major contribution	Marked contribution	Minor contribution	No contribution
47.5 Quality Assurance – all levels	Substantial contribution	Major contribution	Marked contribution	Minor contribution	No contribution
47.5 Managerial – all levels	Substantial contribution	Major contribution	Marked contribution	Minor contribution	No contribution
47.1 Supervisory – all levels	Substantial contribution	Major contribution	Marked contribution	Minor contribution	No contribution
48. The number of people trained through the DIP process is	More than 500	Between 200 & 500	Between 100 & 200	Between 50 & 100	Below 50
OTHER General DIP RELATED ISSUES					
49. How regular do you meet with Armscor DIP Officials?	Every month	Once every second month	Once every six months	Once a year	Never
50. How do you rate the general communications from Armscor and the DoD on DIP and related opportunities for the local DRI?	Excellent	Very Good	Good	Not so good	Poor
51. What is your general source of DIP information?	Armscor Tenders	Armscor website	Armscor news letters	Media	Other
52. Should DIP and NIP be interchangeable in advancing benefits for the DRI?	Yes, unconditionally	Yes, conditionally	No not at all	Maybe	Not sure
53. Should DIP and NIP be applicable when contracts are placed on local DRI companies?	Yes, unconditionally	Yes, conditionally	No not at all	Maybe	Not sure
54. It is critical for the local DRI to be supported by a sectoral DRI strategy with developmental incentives, from the DTI side.	Crucial	Extremely important	Very important	Neutral	Not important
55. The DoD and Armscor should retain sole responsibility for maintaining and developing the local defence industrial base	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
56. DIP/NIP obligations of foreign suppliers should always be exchangeable, when a local DRI company should attract an obligation in that obligor's country	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
57. If my company, as a local DRI entity, is a Prime contractor to Armscor on any Defence contract, my company would be in a position to attend to all the DIP and NIP requirements	Strongly agree	Agree	Neutral	Disagree	Strongly disagree
58. My company is being involved with the following DIP programmes, with very satisfying, rewarding and gratifying results, both of quantitative and qualitative nature. Please confirm this statement for each of the relevant programs.					
58.1 Hawk – BAE Systems	Extremely satisfied	Very satisfied	Satisfied	Marginally Dissatisfied	Totally dissatisfied
58.2 Gripen – Saab					
58.3 Corvettes (German on platforms)					
58.4 Corvettes (French on combat suite)					
58.5 Submarines (German consortium)					
58.6 A109 LUH (Agusta)					
58.7 Lynx (Agusta Westlands)					
58.9 C130 (Marshalls of Cambridge)					
58.10 Boeing (SAA and Presidential a/c – civil)					
58.11 Airbus Military A400M					
58.12 Eurocopter (SAPS Choppers)					
58.13 GBADS (Denel - prime, (TGB, TADL, Thales/ADS, BAES/AMS))					
59. Any comments and suggestions that you would like to make: PLEASE SUBMIT YOUR COMPLETED QUESTIONNAIRE- <ul style="list-style-type: none"> By fax to (012) 671-2786, or By email to: jjvdyk@denel.co.za or johan.vandyk@worldonline.co.za BY NO LATER THAN 30 SEPTEMBER 2006 PLEASE. I thank you sincerely for your time and co-operation in this matter. Johan J van Dyk Tel: 082 905 7717					

[I will arrange an appointment with you to discuss the following as well:]

DIP INTERVIEW CHECKLIST

Respondent Company: _____ Date: _____

Address: _____

Tel: _____ Mobile: _____

Email address of respondent: _____

Name of respondent _____

Position in Company: _____

Main line of business: _____

Wholly owned South African Company YES/NO

If not, who are you foreign equity partner/s: _____

SMME Company: YES/NO Number of employees: _____

Total average turnover per annum for the past five years: ZAR _____

What portion of your turnover was as a result of DIP: _____ %

What are your average exports over past 5 years: ZAR _____

What portion of your exports was through IDIP: ZAR _____

BEE Company: YES/NO %PDI ownership: _____

Are your company accredited with Armscor: YES/NO/In Process

All information received individually, will be treated as commercially confidential and will not be shared with any other person or entity, unless so authorized by the Respondent, the Department of Defence and/or Armscor.

1.	Have you received the DIP questionnaire?
2.	Is there any questions form your side on the DIP questionnaire?
3.	Do you understand the reasons for the DIP survey?
4.	What are your personal views on the DIP process?
5.	What are your views of the respective DIP obligors, in terms of their commitments, performance, integrity and sincerity?
6.	What is it that you particularly like about the DIP process?
7.	What is there that you particularly dislike about the DIP process?
8.	What do you believe are hurdles and obstacles preventing your company for securing larger DIP projects – work share and exports?
9.	Do you have action plans in place to help your company to identify DIP (and NIP) opportunities, in order to grow your company's business further (describe)?
10.	Do you have adequate support from the DOD and Armscor with securing and executing DIP opportunities?
11.	Any other observations and comments?

NELSON MANDELA METROPOLITAN UNIVERSITY

INFORMATION AND INFORMED CONSENT FORM (compressed format)
2011 DIP SURVEY

Title of the research project	"Countertrade as a development tool – an analytical approach"	
Reference number (for official use)		
Principal investigator/researcher	Johannes Jacobus van Dyk (ID 560321 5087 087 - Student Number 206552570)	
Address	PO Box 326 Magalieskruin	
Postal Code	0150	
Contact telephone number	082 905 7717 or 012 564 5220	
A. DECLARATION BY OR ON BEHALF OF PARTICIPANT (Person legally competent to give consent on behalf of the participant)	Initial	
I, the participant and the undersigned I.D. number and I, in my capacity as of the participant I.D. number Address (of participant)	<input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/> <input type="text"/>	
A.1 I HEREBY CONFIRM AS FOLLOWS:		
1. I, the participant, was invited to participate in the abovementioned research project that is being undertaken by of the Department of in the Faculty of of the Nelson Mandela Metropolitan University.	<input type="text" value="Johannes Jacobus van Dyk"/> <input type="text" value="Development Studies"/> <input type="text" value="School of Economics Development and Tourism"/>	
2. The following aspects have been explained to me, the participant: 2.1 Aim: The investigator/researcher is studying the countertrade phenomena as a development tool – and specifically how defence industrial participation (DIP), as an element of countertrade manifested in the South African Defence related industry over the period 2000-2009/10 . In this process the investigator needs to ascertain certain issues pertaining to his research on the DIP element. Armscor as the DIP management authority in South Africa's support with providing information is being solicited. It is my understanding that the information will be used for the completion of the doctoral thesis covering the research subject matter.		

2.2	<p>Procedures: I understand that my participation is voluntary and that I have the right not to provide any information, or to otherwise clearly indicate which information may not be used due to reason of confidentiality or national security, or in which instances I as source must not be revealed or quoted directly.</p> <p>The following agenda had been agreed between me as participant and the investigator, inter alia focussing on – my <i>responses</i> are also herewith recorded an agreed:</p> <ul style="list-style-type: none"> a) What is Armscor’s view of the DIP emanating from the SDP, <u>covering the period 2000-2009/10</u>? b) Was Armscor involved in any decisions or giving/providing directions to either, obligors or SADI members during said period? c) How did Armscor influence the DIP process <u>during</u> the SDP? (e.g. substitutions, changes, etc) d) To your knowledge was any due diligence done by any of the OEMs/obligors for any SDP DIP project in the SADI - should this not be done if not for the future? e) How do you view the technology DIP Process, stemming from the SDP - did it cause a growth in SADI capabilities - if so how - if not why? Examples are f) What (in your opinion) makes DIP a success? Or sustainable and what would you have done differently in the DIP for the SDP – why? g) Update on Armscor’s relationship/interaction with the SADI, DOD, and the DTI and/or the obligors – formal meetings forums, frequency of meetings, etc? h) What reports (and when) were made to the Parliamentary committees on Defence? Copies of this can be provided? (Y/N) i) What changes would you like to see to the existing DIP methodology? How would that be achieved? Are any material changes foreseen in the DIP policy - any progress - given the last review 2011 effort with AMD? What impact will the PPPFA have on DIP prescriptions? j) What is the status as at end March 2010 with all the SDP discharge obligations – copies of the Armscor Annual Reports of 2008/9 and 2009/10 are furnished. Were there any penalties imposed on any of the SDP obligors? k) Is there statistical information available as to the different categories in which DDIP, TDIP and IDP manifested (realised) in the SADI – percentages, values, jobs, etc? Can this be shared with me in a generic format to still honour non-disclosure undertakings? (this is a rather crucial part of describing the actual and realised benefits/or not of the whole SDP DIP programme. 	
2.3	<p>Risks: The use of sensitive information provided/shared by me to the investigator/researcher, may lead to a breach in the trust relationship with the DOD and all Obligors and/or the dti alike. Information that is otherwise governed by national security legislation may in turn lead to possible prosecution of both of us.</p>	
2.4	<p>Possible benefits: As a result of my participation in this study I understand that this thesis will lead to a better understanding of countertrade in its broader developmental sense and the DIP process’ manifestations in practice, as well as contributing to the growing scholarly work and research being done both nationally and internationally on the subject matters of countertrade and development.</p>	
2.5	<p>Confidentiality: My identity can be revealed in any discussion, description or publications by the investigator, unless I have pertinently indicated otherwise as related to any specific sensitive information.</p>	
2.6	<p>Access to findings: Any new information/or benefit that develops during the course of the study will be shared with AMD, who in turn will share it with its members. It is however my understanding that any proprietary information in the form of the investigator’s thesis will reside in NMMU.</p>	

NELSON MANDELA METROPOLITAN UNIVERSITY
INFORMATION AND INFORMED CONSENT FORM AS RELATED TO THE RESEARCH SURVEY
ON THE SDP'S DIP FROM AROUND 2000-2012
2014 DIP SURVEY

Title of the research project	"Countertrade as a development tool – an analytical approach – with the SDP's DIP as case study" – from 1998-2012	
Reference number (for official use)		
Principal investigator/researcher	Johannes Jacobus van Dyk (ID 560321 5087 087 -Student Number 206552570)	
	To note : I am a paid up member of AMD and also bound by their Code of Conduct"	
Address	PO Box 326 Magalieskruin	
Postal Code	0150	
Contact telephone number	082 905 7717 or 012 564 5220	
A. DECLARATION BY OR ON BEHALF OF PARTICIPANT (Person legally competent to give consent on behalf of the participant)		Initial
I, the participant and the undersigned I.D. number	<div style="border: 1px solid black; height: 20px; width: 100%;"></div>	
and	<div style="border: 1px solid black; height: 20px; width: 100%;"></div>	
I, in my capacity as the participant	<div style="border: 1px solid black; height: 20px; width: 100%;"></div>	
I.D. number	<div style="border: 1px solid black; height: 20px; width: 100%;"></div>	
Address (of participant)	<div style="border: 1px solid black; height: 20px; width: 100%;"></div>	
	<div style="border: 1px solid black; height: 20px; width: 100%;"></div>	
	<div style="border: 1px solid black; height: 20px; width: 100%;"></div>	
A.1 I HEREBY CONFIRM AS FOLLOWS:		
1.	I, the participant, am invited to participate in the abovementioned research project that is being undertaken by	<div style="border: 1px solid black; padding: 2px;">Johannes Jacobus van Dyk</div>
	of the Department of	<div style="border: 1px solid black; padding: 2px;">Development Studies</div>
	in the Faculty of	
	of the Nelson Mandela Metropolitan University.	<div style="border: 1px solid black; padding: 2px;">School of Economics Development and Tourism</div>
2.	The following aspects are clear to me, the participant:	
2.1	Aim: The researcher is studying the countertrade phenomena as a development tool – and specifically how defence industrial participation (DIP), as an element of countertrade that stemmed from the SDP manifested in the South African Defence related industry over the period 1998-2012. In this process the researcher needs to ascertain certain issues pertaining to his research on the DIP element. AMD members' support with providing information is being solicited. It is my understanding that the information will be used for the completion of the doctoral thesis covering the research subject matter.	
2.2	Procedures: I understand that my participation is voluntary and that I have the right not to provide any information, or to otherwise clearly indicate which information may not be used due to reason of	

	confidentiality or national security, or in which instances I as source must not be revealed or quoted directly	
2.3	<p>The following is a brief account of my position in the defence related industry (SADI) or DoD, or Armscor (former or present) since the SDP's inception around May 1998, as well as my role in the SDP, especially the DIP process. Please state clearly whether your response is from an active participant in the process or merely as an observer:</p> <ul style="list-style-type: none"> <i>Response</i> 	
2.4	<p>The following responses are herewith recorded in relation to the questions raised by the researcher:</p> <p>a) How do you view the SDP's DIP Process, - did it cause any growth in SADI's capabilities, did it lead to expanded local sales and exports or did it lead to other business as a result of acquired know-how- if so how - if not why not?</p> <p>b) How did SADI in general benefit from SDP's DIP over the said period? PLEASE SUBSTANTIATE TO THE EXTENT POSSIBLE WITHOUT COMPROMISING ANY DIP COMMERCIAL CONFIDENTIALITY OR DIP NON-DISCLOSURE CONSTRAINTS:</p> <ul style="list-style-type: none"> - did DIP lead to Work share i.e. local production (Direct DIP) – <i>yes/no – substantial/marginal</i> - did DIP lead to technology– <i>yes/no – substantial/marginal</i> - did DIP lead to investment in cash, loans, equity of equipment, human capital – <i>yes/no – substantial/marginal in what form</i> - did DIP lead to jobs creation – <i>yes/no – substantial/marginal</i> - did DIP lead to job retention– <i>yes/no – substantial/marginal</i> - did DIP lead to skills and training – <i>yes/no – substantial/marginal</i> - did DIP lead to access to new markets – local (other than Armscor) – <i>yes/no – substantial/marginal</i> - did DIP lead to access to new markets – abroad (exports) – <i>yes/no – substantial/marginal</i> - were SADI companies in general entrenched in the supply chain of the Obligors in a sustainable long term manner? <i>yes/no – substantial/marginal</i> - If exports – were these SDP equipment related, and/or existing products, and/or new products, in the form of major parts, sub-systems, components, material, etc.... - <i>Response</i> - did DIP lead to SMME development and/or increased involvements in SADI – <i>yes/no – substantial/marginal</i> - did DIP lead to BBBEE contribution in SADI- <i>yes/no – substantial/marginal</i> - did DIP lead to increased turn over in SADI companies – <i>yes/no – substantial/marginal</i> - did DIP lead to increased profits for SADI companies- <i>yes/no – substantial i.e. >10% or /marginal < 10%</i> - did DIP lead to improved skills, capabilities and productivity in SADI companies – <i>yes/no – substantial/marginal</i> - did DIP lead to SADI to become more competitive in the market – <i>yes/no – substantial/marginal</i> - did DIP lead to Internationalisation through mergers or foreign equity structures – <i>yes/no – substantial/marginal (%)</i> - How did the merger or foreign equity partnership benefited any SADI company and the country at large? - <i>Response</i> <p>c) With regards to the SADI (based on your knowledge) – would you agree with the following observations wrt the SADI's capabilities as related to DIP activities contemplated by obligors, namely that there was around 2005 – five years into the DIP discharge process, a....</p> <ul style="list-style-type: none"> • Lack of required engineering and quality control skills. <i>Agree/disagree, because...</i> • Lack of required programme management skills. <i>Agree/disagree, because...</i> • Limited capability in structuring a proper tender. <i>Agree/disagree, because...</i> • Limited international negotiation competencies. <i>Agree/disagree, because...</i> • Frequent changes to management structure and/or management not empowered to make decisions, as they were only in an acting capacity (temporarily) in their positions. <i>Agree/disagree, because...</i> • Disregard for commitments to foreign suppliers. <i>Agree/disagree, because...</i> • Enforcement of policies and practices, especially HR practices and supply chain management, which conflicted with business unit efficiency and had a negative impact on the ability of business units to be competitive. <i>Agree/disagree, because...</i> • Lack of openness with foreign suppliers regarding problems with processes and technology. <i>Agree/disagree, because...</i> 	

<ul style="list-style-type: none"> • Inability to perform effective pricing and costing and submit bids on time. <i>Agree/disagree</i> • There was also a clear lack of capabilities in the areas of management, production and quality assurance. <i>Agree/disagree, because...</i> • Companies were unable to meet contractual delivery times. <i>Agree/disagree, because...</i> <p>d) With regards to the SADI (as related to your company or based on your knowledge) – would you agree with the following observations wrt the SADI's capacity constraints as related to DIP activities contemplated by obligors, namely that there was around 2005 – five years into the DIP discharge process, still</p> <ul style="list-style-type: none"> • Outdated processes. <i>Agree/disagree, because...</i> • Old equipment. <i>Agree/disagree, because...</i> • Lack of investment in capital and human capital. <i>Agree/disagree, because...</i> • No coherent utilisation of production structures and personnel. <i>Agree/disagree, because...</i> • Failure to be geared for lean manufacturing processes. <i>Agree/disagree, because...</i> • Shortages of trained personnel, which led to crisis management (trained personnel being moved from project to project when the OEMs complained about delays in their supply line). <i>Agree/disagree, because...</i> • Disregard for OEM planning to build up to a production stage by not appointing the required personnel who had to be trained well in advance to be able to handle all the new processes. <i>Agree/disagree, because...</i> • Delay in the timeous procurement of items with long lead times and of raw materials. <i>Agree/disagree, because...</i> • Apparently interested only in the 'manufacture' of assemblies. <i>Agree/disagree</i> • Cost structures that did not support efficiency. <i>Agree/disagree, because...</i> • Interested only in high-value items with quick turn-around times. <i>Agree/disagree, because...</i> • Local personnel trained by OEMs for specific SDP projects being used on other programmes. <i>Agree/disagree, because...</i> • Regarding the DIP programme as a <i>right</i> that would force the OEMs to place work with the local industry at any cost, regardless of whether it made a compelling business case or not. <i>Agree/disagree, because...</i> • Failure to regard the DIP programme as an opportunity to establish long-term, sustainable business relationships. <i>Agree/disagree, because...</i> • Most of the SMME companies were not certified in terms of ISO, Milspec or Aeronautical standards; this situation was aggravated by financial constraints in obtaining such certification. Despite that DIP credits were 'offered' to encourage foreign OEMs to assist with certifications, very little to my knowledge materialised. <i>Agree/disagree, because...</i> • Excellent capabilities existed within various SMMEs, but on a small and limited scale, and most of these companies did not have the capacity or the appetite to take on an increase in demand that in many instances would have required substantial investments in infrastructure and equipment. <i>Agree/disagree, because...</i> • There were serious financial restraints in expanding capacities. <i>Agree/disagree, because...</i> <p>e) Given the above considerations prevalent around 2005, how did the SADI then improve its capabilities and capacities – if any during the SDP's DIP discharge process that came to an end around 2011/12 (except for the MBDA portion on the corvettes that will reportedly be finished by 2016 only)</p> <p>f) Should due diligence be done for any/all DIP project in the SADI as part of the Armscor assessment process before awarding contracts?</p> <p>g) How do you rate the level of technologies received as a result of the SDP DIP? Were those technologies really of benefit to your company and the industry and country at large? If so why if not why not?</p>	
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h)	What (in your opinion) made the SDP's DIP a success, or not? If not why not?	
i)	Do you regard the SDP's DIP as sustainable – for example are there any DIP activities on-going post the SDP discharge process that ended by 2007/8 with Direct DIP of Hawk and Gripen only ending 2009 and 2011 respectively?	
j)	What changes would you like to see to the existing DIP methodology with future major acquisition programmes – having observed the fact that since the SDP there were no major acquisitions (with maybe the exception of Hoefyster)?	
k)	Would you regard DIP as a possible instrument of development of for example the industrial military complex, human resources, R&D, international trade and globalisation as examples – please elaborate briefly?	
l)	Government should continue to use the leverage of procurement to enforce reciprocal benefits for SADI in cases of imports? <i>Agree/disagree, because...</i>	
m)	Any other relevant information you deem relevant and willing (or allowed) to share with me as related to any specific aspect of the SDP's DIP?	
n)	Are you of the opinion that DIP and NIP should be consolidated into only ONE obligation to the sole benefit of the SADI? If so – would the 80% realistic and is the threshold of USD2m realistic?	
o)	What is the most important lesson you have learnt in the SDP DIP process over that period circa 1998 till circa 2012?	
p)	Looking back now what is the most important aspect of the SDP DIP that stands out – whether positive or negative?	
q)	Would you regard the SDP's DIP as major international success story in relation to the international reciprocal trade practice of countertrade?	
2.4	Risks: The use of sensitive information provided/shared by me to the researcher, may lead to a breach in the trust relationship with AMD, SADI members and/or Armscor and/or the DOD and/or the DTI alike. Information that is otherwise governed by national security legislation may in turn lead to possible prosecution of both of us.	Yes/No
2.5	Possible benefits: As a result of my participation in this study I understand that this thesis will lead to a better understanding of countertrade in its broader developmental sense and the DIP process' manifestations in practice, as well as contributing to the growing scholarly work and research being done both nationally and internationally on the subject matters of countertrade and development.	Yes/No
2.6	Confidentiality: My identity can be revealed in any discussion, description or publications by the researcher, unless I have pertinently indicated otherwise as related to any specific sensitive information.	Yes/No
2.7	Access to findings: Any new information/or benefit that develops during the course of the study will be shared with AMD, who in turn will share it with its members. It is however my understanding that any proprietary information in the form of the investigator's thesis will reside in NMMU.	Yes/No
2.8	Voluntary participation/refusal/discontinuation:	Yes/No True/False
3.	No pressure was exerted on me to consent to participation and I understand that I may withdraw at any stage without penalisation.	Yes/No
4.	There is no restriction on the use of this information. - <i>Response if a restriction is applicable and clearly state such restriction.....</i>	
5.	I furthermore confirm that participation in this research will not result in any additional cost to myself/my company, except for my personal time used in the completion of this questionnaire, as well as responding to telephonic clarification discussions with the researcher.	

BIOGRAPHY OF JOHAN J. VAN DYK (author)



Born on 21 March 1956 in Lydenburg, South Africa, I completed my school career in 1974 (Head Boy in 1969; Under-Head Boy in 1974). I did military service in the SADF from January 1995 till January 1977 (commission rank of 2nd Lieutenant). After that I was employed in the Public Service till August 1980. Then joined Armscor where I was employed till March 2001. (Armscor is by law the South African Ministry of Defence's defence acquisition agency.) During the period 1980 till 1999, I was involved in various defence projects, defence sales contracts, budgeting, financial and office administrations and various contract administration activities. During this time I also worked in Paris, France, i.e. from 1989 to 1991.

On my return from France, early 1992, I was appointed Head of the Conventional Arms Control Section (1992-1996). I structured and established a new conventional arms control regime under the ANC government within the newly established Secretary for Defence's office (DOD) to which I was seconded from 1994-1996. This process, based on the commendation written by the DefSec, (retired Lt Gen) Pierre Steyn, caused me to receive the highly competed for Armscor Chairman's Award in 1996. During this period I worked very closely with late Ministers Kader Asmal and Joe Modise and Deputy Minister Ronnie Kasrils.

I re-joined Armscor mid-1996, in the Countertrade Department (later renamed to the DIP Division). I played a major role in the restructuring of South Africa's defence industrial participation (DIP) policy, procedures and practices during late 1996, approved in May 1997 by the DefSec and subsequently adopted as policy by Armscor. During 1998 to 1999, I provided substantive 'back-office' support to the South African government's negotiation team, who negotiated unparalleled levels of industrial participation (up to 340% - especially on the NIP side), linked to South

Africa's biggest ever strategic defence package transaction (the SDP, signed on 3 December 1999). It was this 1997 DIP policy that was put into practice in the SDP 1998/1999 that is today the case study of my PhD thesis. I again, for the second time in 2000, received the sought after annual Armscor Chairman's Award for my contributions to the SDP's DIP process. This time the award was made based on the commendation written by the then Executive Director of AMD (retired Maj Gen) Julius Kriel on behalf of the SA defence industry that stood to benefit some R15 billion in offsets (i.e. DIP) stemming from the SDP. The former CEO of Armscor, Mr H.S. Thomo, in the **Armscor Annual Report of 1999/2000 (p13)** stated: *'In particular, I would like to thank Mr Johan van Dyk of Armscor and his team for the excellent work they have done on the Defence Industrial Participation Programme.'*

From April 2001 to March 2009, I was appointed general manager at Denel (Pty, now SOC) Ltd. I managed Denel's entire countertrade and offset portfolio at Group level. This portfolio was running into several billions of rands of obligations, at both national and international levels. This involved the Denel Group of companies. Denel remains the largest defence-related state-owned company in South Africa.

I have over the past 30 odd years acquired extensive knowledge of the defence-related industry and its industrial base in South Africa, (especially its production capabilities, having visited literally hundreds of production facilities, locally and abroad) as well as having an intimate knowledge of Armscor's acquisition and procurement processes, defence trade and commercial sales practices in general and the marketing processes of SADI's products and services, and of course industrial participation.

I also participated, for example, in preparing a number of defence-related research reports in the late 1990s for the Royal Institute for Security and Conflict (RISCT) in the UK and the Stockholm International Peace Research Institute of Sweden (SIPRI). I also contributed a chapter on the South African offset process in *'Panorama da Practica do Offset do Brazil'*, a Brazilian government publication focussing on countertrade and offsets (2004). This chapter was later also published by the Greek offsets company Epicos. I have also been involved in furnishing Prof Richard Haines information related to the whole DIP process and its practices since

early 1999. It was Prof Haines who convinced me in 2004 to do my PhD in countertrade in the faculty of development studies at the Nelson Mandela Metropolitan University (NMMU) in Port Elizabeth, South Africa.

I am an expert in the field of countertrade (offsets) and was involved as guest speaker in various international countertrade conferences. I also performed countertrade-related training programmes, in both South Africa and Malaysia. I had, since 2009, also distinguished myself as a DIP/NIP and business analyst consultant (part-time). I am at present employed by the AIDC Development Centre (SOC) Ltd (a Gauteng Province State Owned Company) as a senior manager responsible for business analysis and planning, performance monitoring and evaluation, as well as enterprise risk and operations process management and control. This involves various developmental type projects focusing on the further development of the automotive and allied sector, which includes township revitalisation projects.

I hold a Bachelor degree from the University of South Africa (UNISA, 1984), Pretoria, South Africa; a BA Honours (cum laude, NMMU, 2007) and a Master's degree in development studies from NMMU (2008).

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