

Transformation or Stagnation? The South African Defence Industry in the early 21st Century

J. Paul Dunne

University of West England
and SALDRU, University of Cape Town

Richard Haines

Nelson Mandela Metropolitan University
and Middlesex University Business School

Abstract

In post-Apartheid South Africa, the ANC Government faced the challenge of restructuring an unsustainably large defence sector.. This was in the context of economic and social problems and a declining international arms market. This paper considers the restructuring of the South African industry over that period and more recently, providing a valuable case study of defence industrial restructuring in a small industrialised economy. It considers how the public sector (DENEL) and private sector responded to the cuts in defence spending and the impact of the Government's decision to modernise the South African Defence Force through foreign procurement, the Strategic Defence Package (SDP) but with extensive offset deals. Within this context the prospects for the industry and the issues surrounding the privatisation of DENEL are considered. The SDP and its offset deals is seen to be continuing to have a considerable impact on the defence industry, but is of questionable value to the South African economy. While the defence projects seem to have some successes the experience of the non defence projects is poor and overall the value of the deals is nowhere near the promises made at the outset. Lack of transparency has created a environment where corruption was almost inevitable and successful industrial planning almost impossible. While there is still some way to go, the scepticism of offset programmes expressed by Brauer and Dunne (2004) seems to be justified by the experience of South Africa.

December 2005

Correspondence to John2Dunne@uwe.ac.uk and Richard.Haines@nmmu.ac.za . Haines is grateful to the National Research Foundation (South Africa) for support

1. Introduction

Since the early 1990s, the international arms industry has seen significant restructuring, with increasing concentration of the market and internationalisation of the major players. These changes have important implications for countries with defence industries, especially small industrialised economies where the defence industry has been an important part of the economy. South Africa is just such a country, though with a particular history. South Africa's transition to democracy and the ending of apartheid was accompanied by a parallel process of demilitarisation, which reversed the militarisation of South African society that occurred during the 1970s and 1980s. This saw dramatic cuts in the defence budget, the ending of compulsory conscription for white males, the re-establishment of civilian control over the armed forces, and the implementation of various disarmament measures. These included the termination of the country's nuclear weapons program and the destruction of the country's stockpile of anti-personnel mines. The domestic defence industry, which was built up under the presence of the United Nations arms embargo, was forced into a process of downsizing and restructuring in response to the cuts in domestic defence spending and the decline of the international market (Batchelor and Dunne, 1998). More recently the declines in expenditure have slowed and the SANDF have been allocated funds to purchase new weapons systems. This procurement was tied into an increasingly important facet of the international arms trade, offset agreements (arrangements that obligate the arms seller to reinvest ("offset") arms sales proceeds in the purchasing country), which promised the domestic industry some respite.

This paper examines the developments in the international arms market and the restructuring of the defence industries and the implications for South Africa. Section 2 looks at global changes in expenditure and the changes in the international arms industry. Section 3 then considers the changing procurement relations and section 4 looks at the evidence for the economic effects of defence industries. The restructuring of the South African industry in the post Apartheid period in both the public (DENEL) and private sector companies, is then considered in section 5. In section 6 and 7 recent developments in the industry are considered, namely the privatisation of the state arms producer Denel and the recent arms procurement practice. Finally, section 8 considers future prospects for the industry and policy issues/implications.

2. The Changing International Market for Arms

With the end of the Cold War came profound changes in the levels of military spending across the world. The reduced involvement of two superpowers in areas of conflict reduced the scale of conflicts and the resources available to combatants. With biting economic constraints and the increasing need to use resources for other purposes, world military spending fell by one third between 1989 and 1998, but with wide regional variation. Western Europe, for instance, only experienced a decline of 14%, with North America seeing a reduction of 32% and the CIS between 1992 and 1998 a decrease of 76%. In contrast, prior to the Asian crisis of 1997, the region was showing increases in military spending (SIPRI, 1999) At the same time the arms trade reflected the decline in procurement expenditure. SIPRI figures for the trade of major conventional weapons show that, from the last years of the cold war 1984-88, when transfers were relatively high, arms transfers went through a transitional period of steep decline between 1989 and 1994 and then seem to have stabilised, but at a much lower level than that achieved in the late 1980s. More recently the declines in military spending have bottomed out and it has started to increase again, mainly driven by the growth in US expenditure (SIPRI, 2004).

These changes in the demand side of the international arms industry were accompanied by a marked restructuring in the supply side, the international arms industry. The Cold War defence industry was very clearly historically specific, however, and very different to what had gone before it. It was very much a modernist industry with its clusters of inventions and technocratic culture, a consciously planned product of the nation states, who wished to have the capability to produce and develop a comprehensive range of weapons (Lovering, 2000). In this way it was the product of a particular structure of national and international relations, markets and technologies underpinned by a superpower arms race. It should be no surprise that the end of the Cold War saw such profound changes.

The resulting restructuring has left world arms production highly concentrated. In 1996 the 10 largest arms producing countries accounted for almost 90% of production: sales about \$200 billion (not including China and Russia). This declining trend has stopped, though restructuring continues in the USA and the EU. In the USA concentration peaked in 1998 when four huge arms companies absorbed more than 20 others and further concentration has been blocked by anti trust concerns and some problems with the integration of the different companies. Western Europe seems to be heading towards cross border integration but cross Atlantic links remain important). This rationalisation in response to declining demand saw no real conversion to civil production and the internationalisation has not created the truly global companies expected. What is clear is that the old 'spin off' of technology, as the benefits of military technology for civil industry were called, is no longer important. Instead 'spin in', the increasing use of civil technology and products in military good has become prevalent (Skoens and Weidacher, 1999).

The major defence companies also changed. They moved away from being manufacturing companies over a range of products to become systems integrators, putting the products of other contractors together. This 'hollowing out' saw companies achieve profitability and endorsement by financial analysts, while shedding employees and production facilities. (Markusen, 2000). In this way subcontracting has become increasingly important for the defence contractors and has led to more non-traditional companies being involved in work for defence companies. It is also clear that the supply chains have extended internationally, as evidenced by BAE Systems moves into South Africa (Batchelor and Dunne, 1998). There have also been numerous cross border equity swaps and purchases, the development of joint ventures, licensed production, technology transfer, which are clearly a strategy of internationalisation by the companies. The companies still require the support of national governments as major customers, however, as national orders are important in getting export orders. More recently concentration has continued, but changed purpose as companies adjust capabilities to be consistent with changing demands, rather than downsizing. The new military-technology environment emphasises the electronics, communications and IT industries and further blurs the boundaries between defence and civil production (Skons et al, 2004).

There have also been considerable changes in the procurement relations between arms companies and the state. In the post Cold War world countries moved away from a planned national defence industrial base (DIB), in which companies perceived themselves as the workshop of defence ministries and were awarded cost plus contracts. There was a degree of privatisation and with this a change in the regulation of the industry within countries both at a formal and an informal level. The UK was a pioneer in this respect and in the mid 1980s moved to a more commercial environment, with competitive tendering, contracts awarded with reference to market prices etc. These changes in procurement relations and the decline in orders led to a marked restructuring of domestic companies. In many arms producing countries it also led to the creation of monopolies for particular components and systems. With competition came failure and the losers were taken over or closed down, leaving the

government facing single suppliers. With the credible threat of foreign procurement, however, the Defence Industrial Base became much less successful in capturing the government. Companies saw the need to find ways of lobbying government and started to identify the most useful channels. This led to a different relation to government than these companies had had in the past. Financial capital came to play an important role as the companies restructured and look for alternative support to government, while internationalisation of the companies allowed them to be involved in procurement contacts in other countries, though they still retained a national base (Dunne, 1995).

In attempts to support the local industry and reduce its costs, export policy was extremely important. It did, however, lead to now well known scandals as governments supported encouraged, subsidised, and took rather questionable actions¹. Offsets became increasingly important for foreign sales and this increased the links with government who were providing support (Martin, 1996). The old defence industrial base may have gone, but it has been reconstructed in a more informal, international, and a less visible form².

3. South Africa's Defence Market

While the South African industry has been responding to the pressures from the international market, it has also had specific internal pressures to deal with and has seen dramatic changes in size and structure since the late 1980s. Before 1992 the state-owned company Armscor not only acted as the procurement agency for the South African Defence Force (SADF), but was also the major domestic producer of armaments through its arms production subsidiary companies. In 1992 Armscor was split into Denel, a new state-owned industrial company, which inherited all of Armscor's former arms production and research facilities; and Armscor, which retained responsibility for procurement for the SADF (Batchelor and Willett, 1998). South Africa's re-admittance into the international community and the lifting of the United Nations mandatory arms embargo in May 1994, allowed South Africa 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 sector, with the share of imports in total procurement spending remaining relatively constant from the early 1990s, until the recent SANDF procurement package – the so-called SDP (Strategic Defence Package)

Denel has continued to dominate the domestic defence market, averaging 48% of the domestic market since 1992, while the private sector's share has averaged 52%. However, Denel's current share of the domestic market is significantly lower than in the 1980s, when the former Armscor subsidiary companies (now part of Denel) accounted for nearly 70% of the domestic market (Batchelor and Willett, 1998). Denel also continues to dominate most of the seven major sectors of the domestic defence market, particularly aerospace, ammunition (small, medium and large calibre), weapons systems (including infantry weapons, cannons, artillery systems and missiles) and military vehicles. The other major sectors of the domestic defence market, namely electronics, maritime and support equipment are dominated by the three largest private sector defence firms, namely Reunert, Altech (now merged with ADS) and Grintek. Denel also dominates many of the sub-sectors of the domestic defence market such as information technology and testing (Dunne and Batchelor, 2000; Dunne, 2002). Traditionally, three large private sector defence firms - Reunert, Grintek and Altech - have dominated the private sector's share of the domestic defence market. In 1996, the three firms accounted for over 80% of the private sector's share of the domestic defence market. Since the early 1990s these three firms have acquired many small and medium sized private defence firms in an attempt to consolidate their positions in the domestic market. These firms,

like Denel, have also attempted to vertically integrate, by outsourcing far less of their defence business than in the past. This process of vertical integration had a negative impact on the hundreds of smaller defence firms, particularly those that act as suppliers and sub-contractors for the larger defence firms. Many small and medium-sized private defence firms exited the defence market, merged with, or been acquired by, larger defence firms (e.g. Reunert acquired the armoured car division of TFM in early 1997). As a result, the domestic defence market (excluding imports) has become increasingly concentrated. In 1996 Denel and the three largest private sectors defence firms accounted for over 90% of total domestic acquisition spending, with none of the private sector companies having defence more than 20% of turnover and Denel's defence sales, including exports, accounting for 64% of turnover (Denel Annual Report, 1996/97). During 2000, Altech's defence interests were taken over by the black economic empowerment grouping African Defence Systems (ADS). ADS in turn became a subsidiary of French-based conglomerate Thomson CSF, which was renamed Thales in 2001.

Denel's financial performance since its establishment in 1992 has not been particularly impressive. Over the period 1992-96 its turnover declined by an average of nearly 6% per annum in real terms, while the three largest private sector companies, Reunert, Altech and Grintek, witnessed increases in turnover during the same period. The late 1990's was more mixed, with the companies restructuring internally, and Reunert showing declines in turnover (ADS's turnover, as a subsidiary of Thales, is now incorporated into the parent company's financial reports). The average annual growth (negative) in Denel's net profit between 1992 and 1996 was better than Altech and Grintek but worse than Reunert. In the latter half of the 1990's Denel was reporting losses and only returned to the black in 2001³. In recent years there have been further fluctuations with the 2004/5 financial year shaping up as a loss⁴. According to the 2004 annual report, the gross revenue increased somewhat from Rm 4 372.4 in 2003 to Rm 4 442.2 but the net loss was greater – from Rm 72.6 in 2003 to Rm377.5 in 2004 (Denel 2005: 3). Denel also has a much higher level of total assets relative to turnover than the private sector companies, suggesting it retains poorly performing assets. The relatively high value of Denel's total assets relative to the private sector companies is largely a result of the fact that they are valued at book value rather than market value (Batchelor et al, 2001). Previous poorly executed deals have added to the group's economic misfortunes⁵.

Denel's total employment declined by nearly 9% between 1992 and 2000 from 15,572 to 11,090. The group has continued to shed jobs in the early and mid 2000s, largely from the ranks of older white employees – a source of conflict between the relevant union Solidarity and Denel management. Over the same period Reunert's employment had remained relatively constant 12-13,000 but in the later years of the 1990's declined to 3,716. Both Altech and Grintek witnessed declines in total employment by over 20% 1992-96, but less marked changes since then.

The larger private sector firms performed well in early and mid 2000s – a reflection in part of the impact of the offset programme. Reunert and Grintek yielded particularly impressive financial results for 2003 and 2004. The turnover of Reutech (a defence-intensive division of the group) increased from 82% from 2002 to 2003 (R375m to R615m). And overall, the Reunert Group increased its revenue from 4 465Rm in 1999 to 6 103.9 Rm in 2003 with operating profit up from 296.6 to 607.7 Rm for the same period⁶. Grintek in its interim results for year end June 2004 saw its earnings increase by 285% for the year in review. There was a further 7% increase on these figures in the subsequent interim results declared in December 2004⁷.

In April 2005 the CEO Denel, Victor Moche, a former MK operative was axed in favour of Shaun Liebenberg, who had previously headed Grintek. This was seen by analysts

as an unsentimental effort by new Minister of Public Enterprises to effect a turnaround of the group. But with new offsets contracts not yet contributing to revenue flows, Denel is technically on the verge of bankruptcy⁸. The defence offsets associated with the Strategic Defence Package, which we discuss below, have proved more problematic and less profitable for Denel than originally assumed.

Clearly the changes in the defence market reflected to some degree the changes taking place internationally, but there are also noticeable differences. As we have seen the end of apartheid led to substantial changes in the sector but also left it with a legacy of a large public sector producer and a strong grouping of vested interests around the military. The ‘hands off’ policy of the new government in the mid-1990s, led to the declines in both public and private sector outlined above, but recent changes in policy have led Government to consider the industrial problems and its future role.

5. The Restructuring and Privatisation of Denel

Behind these major changes in fortunes for Denel are a whole host of changes in structure and state relations, with almost continuous attempts to develop some form of privatisation policy. The performance of Denel in the first five years of its life was certainly not impressive and did not augur well for its future. From the mid 1990’s, however, the group appeared to forge a more coherent and mutually beneficial working relationship with government. Moves since 1998 to restructure and privatise the company came to be closely bound up with the arms procurement deal and associated industrial participation programme, and the decision to find a large international defence company to take a strategic equity partnership in Denel. The visit of UK prime minister to South Africa in 1998 saw the signing of a memorandum of understanding between BAE Systems and Denel. The latter was then internally restructured 1999, shifting from a looser network of companies and divisions to more autonomous business groupings. The current business units are Denel Aerospace, Denel Aviation, Denel Ordnance, and a commercial and IT division. There is a small training grouping the Kentron Training College, which provides bridging programmes for aspirant military engineers.

This round of restructuring reflected in part the policy developments outlined in the 1999 the National Conventional Arms Control Committee discussion document “Policy on the South African Defence Related Industry”, which set out proposals for the restructuring of the industry. This included breaking up Denel by selling off less than 100% in clusters, breaking off the attractive bits first to maximise revenue and a proposal to encourage rationalisation of both the private and public industry. This was clearly intended to be a continuing process, but reflected the policy at the time of breaking up Denel with strategic partners, with privatisation planned later when the issues of the involvement of black empowerment had been considered. Over time these original aims became less imperative and implicitly questioned.

In October 2000, Cabinet approved BAE Systems as the preferred strategic equity partner for the Denel Aerospace and Ordnance Groups, Within the Denel Aerospace, at a secondary/meso level, Snecma/Turbomeca was approved as the strategic equity partner at division level for the business unit Airmotive. Similarly, within Denel Ordnance, the UK pyrotechnic manufacturer Pains Wessex Defence was confirmed as strategic equity partner for the Swartklip division. At the macro level, it was hoped that the finalization of a strategic equity partnership with BAE Systems could be achieved by March 2001, but the negotiations proved more protracted and problematic than initially thought⁹. A revised offer of R375

million (US\$37m) for a 30% stake in Denel was supposed to be finalized by late 2001, but fell through in 2002 due to BAES's insistence that the top-heavy management structure of Denel be cut back significantly. This was apparently anathema to certain of the old white and new black elites within the organization. Consequently, for this and other reasons, external to the dynamics within the organization, the deal was not struck, leaving the two organizations in a formal and comprehensive but weakened partnership, with some degree of buy-in from BAES, but without substantive equity and management participation.

There were also pressures within Denel in the early 2000s to return to concentrating on the Group's perceived traditional strengths, although this is not without its contradictions¹⁰, and to downsize in areas such as small arms¹¹. The Commercial and IT group were split off from Denel Aerospace and Denel Ordnance in 2001, and emerged as a separate entity. The establishment of Arivia.Kom as a joint venture between the information technology divisions of Eskom, Datavia in Transnet and Ariel Technologies in Denel was also a step in this direction (Gounden 2001: 10). Arriva.Kom has since become an independent parastatal with a commercial orientation and momentum of its own. The Denel Group is currently divided into three divisions, namely Denel Aerospace, Denel Land Systems, and Denel Commercial.

These partnerships at macro and meso levels, are not necessarily discrete or self-standing. Turbomecca Africa, for instance, will provide engines for the new light helicopter (LUH), the Augusta A109, and the Hawk advanced trainers on order from BAE Systems. As part of the SNECMA group Turbomecca has an extensive set of manufacturing and aircraft maintenance operations internationally¹².

With the failure of the envisaged equity enhanced partnership between BAES and Denel, the status quo was maintained for some time. In 2004 negotiations were held with EADS – a European competitor of BAES – regarding a strategic partnership and buy-in. This too fell through. Currently, a strategic partnership with SAAB is being considered, conditioned by the fact that the new CEO, in his previous role as head of Grintek, had developed a generally productive partnership with the Swedish contractor.

The future of Denel in regard to privatization is less clear at the time of writing, with the priority at present on improving the financial standing and output of the group. Breaking up the company extensively seems to have been put on the back burner for the time being, although strategic partnerships will continue to be sought. These developments need to be contextualized within the current overhaul of the Department of Public Enterprises, by the minister of Public Enterprises. A range of parastatals are experiencing a shake-up designed to aiming to locate a productive state sector at the centre of a more vigorous economy. This is expected to result in the perpetuation of a substantive set of public enterprises at macro level, with further privatization more likely to occur at micro-levels¹³.

There are a number of concerns that arise from the changes and planned changes. Firstly, the issue of regulation could be problematic. The links between Denel and Armscor may compromise its role and some consideration has to be given to the control of state and private entities that have major strategic partners. There is some concern that rent-seeking behaviour within the state, industry and foreign players may impact upon the success of the privatisation measures. Indeed, the role and influence of the international companies is of concern as it may be difficult to control and may lead to the creation of a strengthened 'military industrial complex'. This could see further pressure to increase military spending and to loosen export controls. Finally, while the overlapping interests of companies such as BAE Systems, SNECMA/Turobmecca and Westland Augusta and ADS/Thint Holdings in South Africa in terms of the current defence offset programme in South Africa is not uncommon, it can raise concerns that companies can collude in their own interest. We now turn to consider the programme in more detail.

6. The SANDF Procurement Package

The changes in the defence industry in recent years bear the very clear marks of the government's decision to procure weapons systems for the SANDF from foreign suppliers, the SDP. This made explicit an already implicit government view that the maintenance of a general capability in military production was not feasible. Once this decision was made a considerable amount of effort was put in to attempts to wring as much from the potential suppliers as possible, both in the form of defence-related industrial participation, to maintain the competitive parts of the industry and non-defence products. A major justification for the packages became the economic benefits through these offset deals.

The proposals included direct contracts with South African defence firms; investment in Denel; and diverse non-defence investments ranging from automotive components, manufacturing, telecommunications, stainless steel and speciality steel plants, gold jewellery, plastics and high-quality textiles¹⁴. Credits were given for technology transfers and for economic empowerment. Under guidelines that took effect from September 1996, all government and parastatal contracts with an import content exceeding US \$10m, must include an Industrial Participation (IP) component. The value of the offsets was to comprise a minimum 30% of a bid's imported component for civilian contracts and 50% for defence contracts. The industrial participation portion of the bid was assessed according to 'credits' awarded for each type of benefit¹⁵. Bidders must fulfil their obligations within seven years, and must provide a performance guarantee equal to five per cent of the offset component. Once the contract is awarded, the supplier must file bi-annual progress reports.

The Ministry of Finance and the DTI personnel, who assisted in the final stages of negotiation, once the structure of the deal was essentially in place, remain convinced that they achieved a particularly good deal. The anticipated export percentages of the projects will exceed the stipulated 50% level, and returns on the overall cost of the procurement package are estimated to be in the order of 94.5% on investment. And during the duration of the deal, exports are expected to be in the region of 280% of the original purchase price¹⁶.

The defence industrial participation (DIP) components, provided something of a lifeline to the South African defence industry, while at the same time undercutting any remaining aspirations for South Africa to maintain its own defence industrial base¹⁷. The initial response from the defence industry was generally favourable with some small-scale dissent especially from the aviation sector¹⁸. However, criticism from public and private sectors of the industry has increased significantly of late¹⁹.

The impact of the deal has been more on the defence and related industries as more progress has been made on the DIP side of the offsets than with the non-defence industrial participation (NIP) scheme. In the early stages of the implementation of the SDP, Batchelor and Dunne (2000) raised concerns about the capability of the local industry to benefit from the deals. They suggested that while the aerospace sector seemed best placed to benefit and to prove themselves attractive to foreign companies, the electronics sector might have a harder time and the maritime sector was likely to struggle. This would seem to have been borne out by recent developments (Dunne and Lamb, 2004; Haines 2004; 2005).

Denel and certain private companies have been drawn further into the international circuits of defence production through both direct and indirect DIP projects, but have not seen much in terms of technology transfer or use of indigenous technology. Certain DIP contracts are of a nature that has obliged contractors to rethink their niche business and their form (e.g. Eloptra and Tellumat as discussed below). There is an increasing participation of European defence groupings and investors in the South African industry, at prime contractor

and sub-contractor levels. This participation is part of ongoing restructuring and expansion of international defence groups such as EADS and Thales/Thint Holdings and has provided orders to domestic companies and opportunities for companies to develop niches in the international market through their links with the foreign companies. But the process has proven to be more uneven and contradictory and less clear-cut as to the costs and benefits. Some patterns are emerging. Within the private sector, the general expectation was that the larger defence firms would be more favoured in the SDP and subsequent procurement exercises, contributing to the shrinkage of the defence sector, with attrition especially noticeable within the smaller firms.

At one end of the spectrum there is the case of C2I2, which is involved in an extended court case with Thales and government, in regard to having their combat suite system for the corvettes sidelined for what seems to be an 'off the shelf' product from one of Thales/Thint Holdings sub-contractors. Also the sums and amounts of formally contracted work were apparently unilaterally reduced and payments delayed²⁰. The efforts by C2I2 to attain redress through the courts appears have contributed to its marginalization in the defence industry, with no new contracts awarded to the firm since 2001.

Although the larger defence companies such as Reunert and Grintek appear on balance to have benefited from the SDP, their interaction with the OEMs has been more mixed and problematic than might have been anticipated. Avitronics, Maritime, a subsidiary of Grintek, with branches in Gauteng and Cape Town, were particularly enthusiastic about their contracts under DIP and indirect DIP²¹, while Tellumat, also a subsidiary of Grintek, with a particular expertise in transponders, had a more tepid response. The company had large expectations of large contracts which have mostly not materialized. RRS (Reutech Radar Systems) like Avitronics and Tellumat are linked in directly to sub-contracting DIP networks through their parent company. However, most of their relatively modest amount of contractual work under DIP would seem to have been non-core business. Small companies out of the loop seem to have fared worse. For example, Delkon, a small firm on the outskirts of Cape Town, specializing in refitting and upgrading the diesel engines and drive packs of armoured vehicles and tanks for the SANDF, have had contracts from other procurement programmes of Armscor, but surprisingly not the SDP.

What one does find is evidence of a greater fluidity in terms of the boundaries between civil and defence-related production. The CEO of Thales, a modest Gauteng firm not connected to Thint Holdings, points out that there is a significant reciprocal relationship between the defence industry and ITC companies²⁵. Indeed, a number of new-generation start-up IT companies comprise former defence industry engineers, analysts and researchers.

Interviews with a range of defence-related companies showed some dissatisfaction with the administration of the DIP scheme by Armscor. One of the respondents referred to the bureaucratic approach to credit allocation and investment targeting. There was a general perception, whether implicit or explicitly stated, that insufficient concern was being shown by the DTI in providing state incentives to domestic defence industrial work. Several of the firms drew attention to the significant amounts of DIP work and credits which were unallocated., while there is clearly some degree of swapping NIP and DIP credits and contracts. Indeed, in the words of one of the respondents, DIP/NIP credits were 'monopoly money'²⁶. There were indications that obligors at times prefer to set up a new 'sweetheart' subsidiary in South Africa for some of their DIP obligations rather than work through an existing firm. In addition, there is evidence of insufficient linkages between DIP and NIP initiatives in the provinces (Haines and Wellman 2005).

Within the public sector Denel and its subsidiaries have shown increased concerns about the real value of DIP and IDIP, with the failure of certain of the obligors to fulfil their targets and their promises to help stimulate output and exports orders of the Denel group²⁷.

Denel management dealing with DIP feel that there could have been more transparency and detailed and rigorous financial information regarding the flow of funds, and the implementation and evaluation of projects. Concerns with commercial confidentiality limited information flows and the resulting lack of scrutiny makes it no surprise that a number of OEMs/obligors plans were inflated and unrealistic and have not materialised²⁸. Poor planning and lower than planned production volumes also led to higher than normal direct costs to Denel, the effect of which was exacerbated by the Rand weakening immediately after the deal was signed (2000-2002).

The bulk of the DIP offset work appears to have been sourced from BAES/SAAB and allocated to Denel Aviation and Denel Aerospace, although other companies in the group have also received not insignificant allocations. For instance, Denel has been contracted to build certain components of the South African Hawk fighter trainers, and to oversee and undertake final assembly. It is also contracted to build the tail section of the RAF's fleet of Hawk fighter trainers²⁹, and to look to export opportunities for wings and tail plane components. In addition, it is constructing landing gear, rear fuselage sections, wing attachment bulkheads and pylons for the Gripen jet fighter³⁰. These are not overly high-tech manufacturing operations and do not support the development of technological potential in Denel. On the other hand, helmet sight production for the Hawk fighter trainers and Gripens has been allocated to Denel Aviation and Denel Cumulus respectively and a further contract to produce helmet sights for the RAF Tornado fighter aircraft was awarded to Denel Aviation in late 2004 by BAES. Denel Aviation has also been contracted to manufacture a number of helicopter parts of the A109 SAAF and to assemble the majority of the consigned helicopters³¹. There are also some export possibilities for South African manufactured components of similar helicopters for Sweden and Malaysia.

Denel is involved in the corvette contract through its subsidiaries Kentron/Denel Aerospace, Lyttelton Engineering Works (LIW) and Somchem at Somerset-West³². In the submarine contract Denel Eloptro designed and manufactured high-precision periscopes for the submarines, in partnership with Zeo Zeiss of Germany that bought all periscopes from Eloptro, which led to massive countertrade as a result. Zeiss technology transfer enabled Eloptro to expand, exporting repaired periscopes and participates with Zeo Zeiss worldwide (Haines 2004).

Denel and other private companies have certainly been drawn further into the international circuits of defence production and there is an increasing participation of European defence groupings and investors in the South African industry, at prime contractor and sub-contractor levels. This participation is part of ongoing restructuring and expansion of international defence groups such as BAES, EADS and Thales.

Despite such success stories, there has been a downside. There is evidence that DIP work crowded out other potential projects in the aircraft production, as many small parallel activities abnormally loaded the production facility and multi-task DIP work was extremely difficult to handle logistically. A single, large volume job would have been easier to handle and more profitable (Ferreira and Haines 2005). There has also been a growing concern about the value of the offset deal to the South African economy. The compact but growing body international literature on defence offsets and their economic effects, does not instil confidence (see Brauer and Dunne 2004). The impact of offsets is often found to be problematic in terms of job creation, the strengthening of backward and forward linkages, and technology enhancement (Struys, 2004). Nor do they constitute a 'third way' for the economic development of LDCs (Brauer and Dunne 2004 and 2005). Few countries appear to have been successful in using defence offsets to utilise sufficiently, and embed and extend technology transfers (Matthews 2000). The domestic defence companies that are expected to benefit from offset deals often are producing technologically sophisticated goods, but are

deeply conservative in outlook and used to a dependence on safe government orders. This does not make them good catalysts in the development of intellectual and social capital (Batchelor and Dunne 2000). What is required is a 'high degree of local technological absorptive capacity' to be achieved through a state-sponsored 'civil-military, Science and Technology strategy' (Matthews 2000).

The policies have come under public criticism on a range of fronts. The prices of the systems have been criticised as inflated by the offset arrangements, while reports have identified beneficiary companies with links to the head of the weapons procurement committee³³. Hidden costs, including unanticipated capital expenditure to activate imported equipment, and the R&D expenditure required to benefit from technology transfers have been highlighted. Furthermore, as is acknowledged by DENEL staff, there will be a variety of possibilities for technology transfer and other opportunities arising from the defence offsets that the economy is not in a position to exploit³⁴. Government claimed that the impact on the budget would be 'relatively attenuated and is entirely manageable' and that the 'net effect on the total procurement on the South African economy is broadly neutral' (ibid.). By contrast, the IDASA Budgetary group, 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 somewhat the percentage allocated to infrastructural and public works programmes (IDASA 1999). This would undercut somewhat the provision of more funds for poverty relief and affect the more peripheral provinces such as the Eastern Cape. Furthermore, Batchelor and Dunne (1999) suggested that the arms acquisition programme could lead to more imports and place pressure on the South Africa's balance of payments.

As regards regional development, there were promises of important contributions, but these are not tied into a clear policy framework (Haines 2004; Haines and Wellman 2005)). The initiative is project-driven, but there is still little in the way of public awareness of the investment possibilities on offer. There is no doubt that the procurement programme will impact on the economy, but its spatial effects are more difficult to estimate. The general economic effects have been far more limited and the externalities more problematic than originally predicted.. The initial estimate of 65,000 jobs and earnings of R110bn for the original R30bn have been downscaled. These figures were questioned at the outset of the programme (Batchelor and Dunne, 2000) and the misgivings have proved to be well founded. The DIP may have a positive effect on the defence industry, but it is at a cost to the economy and there is a clear opportunity cost to the use of these resources (Dunne and Lamb 2004; Haines 2005; and Haines and Hosking 2005).

These concerns raise important questions as to the value of this particular deal, but also the use of offset deals in arms procurement generally. The move to justify procurement of weapon systems by economic rather than security benefits, is problematic and the obscuring of the true price of weapons systems by offsets creates problems. It provides scope for corruption and policy confusion and compromises debates over alternative paths of security and development. The impact of companies used to operating in the world of arms trading with its commissions and bribes and murky deals in a new democracy is unlikely to be a positive one. The experience of South Africa has provided many lessons for other countries facing similar policy choices and continued monitoring over the life of the projects is likely to provide more.

7. Conclusions

The analysis in this paper suggests that there have been significant shifts in the nature, scope

and workings of the South African defence industry in recent years, and that these have to be understood in part in the context of the changes in the international arms market, the restructuring of the international defence industry and the discourses accompanying these processes. The changes cannot be understood in terms of globalization, but rather are a complicated process of internationalization, where companies remain wedded to their home countries but increasingly have international joint ventures and other links. With the concentration and growth of major defence companies, brokered and networked production has become pervasive. A further discernible shift is that the new generation defence conglomerates are becoming more like non-defence companies and increasingly influenced by financial capital. In both developed and developing countries the 'Military Industrial Complex' is reconstituting itself in more informal and less visible forms. As part and parcel of this process the larger companies have found new ways to influence governments. This has clear implications for any country with a defence industry, as it implies that a comprehensive defence industrial base is impossible to maintain. For relatively small economies the only possible future lies in becoming a niche producer.

Clearly the South African defence sector has gone through considerable restructuring in response to changes internally and externally. This has seen a breaking off of state arms production to form Denel, but until the late 1990s, a 'hands off' approach by government. The massive reductions in procurement in the late 1980s and early 1990s led to downsizing and increased concentration and a push for exports. The changing international scene, both the supply and demand sides, has also influenced the industry and continues to do so. The declining demand for exports has exacerbated the local cuts in procurement and the changing nature of the international arms producers made the maintenance of a national defence industrial base impossible. This has heightened the spread of some major players into South Africa to expand their network of component and sub-product suppliers and their search for markets, encouraged by the SANDF procurement package and related offset obligations, but also by the existence of valuable and cheap skills and capabilities and technologies within the industry.

The SDP and its offset deals continues to have a considerable impact on the industry, but the evidence so far questions its value to the South African economy. While the DIP projects seem to have some successes the experience of the NIP is poor and overall the value of the deals is nowhere near the expectations and promises made at the outset. The lack of transparency has created an environment where corruption was almost inevitable and successful industrial planning almost impossible. There is still some way to go, but the scepticism expressed by Brauer and Dunne (2004) in their collection of studies on offsets seems to be justified by the experience of South Africa.

Given the evidence of the economic costs of defence industries, a large opportunity cost is likely to be attached to any strengthening of their importance in the economy. It would seem better that the government aim to retain intelligent customer status, with a recognisable subsidy where needed, rather than develop policies which maintain a potentially costly resource, with subsidy and costs hidden from view through the brokering of procurement deals with offsets. At present these proposals are based upon concerns and warnings emanating from recent developments. It is important that research is conducted for the life of the projects to inform future policymaking and to provide important lessons to other countries considering similar policies.

Notes

1. As the Scott report showed for the UK. See http://news.bbc.co.uk/onthisday/hi/dates/stories/february/15/newsid_2544000/2544355.stm.
- See also Gerald James (1996) *In the Public Interest* (Warner Books: London) on the experience of Astra and David Leigh (1993) *Betrayed* (Bloomsbury: London) on Matrix Churchill.
2. Future weapons systems are not simply determined by government, they are dependent on what technologies are available in the pipeline and what companies feel is manageable. They are obviously state dependent.
 3. The group announced a net profit of R24.1m for the financial year March 2000-2001. Export revenues during this period grew from 38% of total revenue to 46%. *Star*, 10 July 2001.
 4. Interview, Mr Johan van Dyk, Denel, Erasmusrand, October 2004.
 5. For instance, a \$22,5m 'commitment fee' for a prospective arms sale of \$1,4bn to Saudi Arabia plus a commission fee of 20% for were paid in 1996 without a formal contract with the Saudi government being concluded. Denel has pursued this prospective deal for the past ten years without any success. A Department of Justice government investigation hampered since 2002, has been given permission to proceed within a scrutiny of potential South African recipients of the 'kickback' from this deal. These include former directors and officials of Denel, the late defence minister Joe Modise, and other politically-connected facilitators. *Mail & Guardian* (April 15-21, 2005).
 6. Reunert Group Annual Report for 2003, 32.
 7. Report posted on 3 February 2005. www.grintek.com/news.htm.
 8. *Ibid.*
 9. BAE Systems apparently offered in the region of between R500m to 50 million pound sterling for a strategic equity partnership of between 20-30% in Denel Aerospace and Denel Ordnance (Martin Creamer. *Engineering News* (31 July 2001). This offer was seen as somewhat low by the South African negotiating team. BAE Systems also requested that Denel's board of directors be reduced from its present eleven members, that it be given seats on the board, and that certain BAE Systems staff be placed in strategic management positions in the business groups (Interview with Denel executive, name withheld, 8 September 2001).
 10. Although Denel appears to be exiting its non-core business, its board has decided to keep property divisions Bonaero Park, Denel Properties and Aero Properties, as well as Specialized Protein Products, the R140bn soybean processing plant in Potchefstroom. Irengo, the third-party manufacturer of electronic and plastic injection moulding products, and Dendustri, the engineering services provider, would also be kept, for the short-term at least. However, as Botha pointed out the Group would 'manage out low-value property from the portfolio and grow the division with high return properties'. *Star* (10 July 2001). For instance, Denel Properties (Denprop) added the Waterkloof Ridge shopping centre to its portfolio in March 2001. This follows the opening in February 2001 of Denprop's Castle Walk office park in Pretoria. *Pretoria News* (28 March 2001).
 11. This is reflected in efforts to scale down the small arms producer Vector, which is unprofitable and facing a class action law suit in the US along with certain other small arms manufacturers. *African Armed Forces* (31 May 2001).
 12. Interview with Mr Jean-Bernard Cocheteux, CEO of Turbomeca. *African Armed Forces Journal* (31 January 2001).
 13. *Sunday Times Business Times* (6 August 2005).
 14. There were changes over time in the nature and scope of the projects with some high-profile projects giving way to lower-order and less attractive ones. Richard Haines. 'Defence Offsets and Regional Development in South Africa', in J Brauer and JP Dunne (eds) *Arms Trade and Econ Development: Theory, Policy and Cases in Arms Trade Offsets* (London: Routledge 2004).
 15. To illustrate, the number of credits for job creation should equal the estimated value of salaries and wages. New investments, research and development, and links with previously disadvantaged persons (either as shareholders or contractors) earned double credits.
 16. Interview, Dr P Jourdan, Director, Special Projects, DTI (30 May 2000). Dr Jourdan is now CEO of Mintek.
 17. The DIP component of this defence procurement is informed largely by the strategic considerations of Armscor and the DOD of maintaining defence capability and ensuring the long-term existence of the private and public sectors of the South African defence industry. Interview with Ms Brenzia Potgieter, Armscor Pretoria (7 June 2002).
 18. Interview with freelance defence consultant, Mr Dave Verster, Martin Creamer's *Engineering News* (25 May 2001).

19. This has not deterred government, however, from undertaking and / or considering new IP deals of both a civilian and defence-related nature. Deals include the purchase of new large Airbus jet transports, and the re-equipping of the army which includes a substantial order for tanks and armoured vehicles.
20. Of a R200 million contract only R6.4 million of work materialized, and of this latter amount there is apparently a sum outstanding. Interview with Mr Richard Young, CEO, C2 I2, Struisbaai, Western Cape (16 June 2004).
21. The company specializes in electronic warfare systems. The executive manager pointed out that they were proactive in chasing work, and did not wait for obligors and prime sub-contractors to get in touch with them as was apparently the case with certain defence companies. Their relationship with SAAB Tech – a joint venture arrangement set up by Avitronics helped provide access to certain overseas markets which were hitherto closed. And in areas where the SAAB-Tech has met with adverse reactions, Avitronics has been able to utilize its independent credentials to try to gain new markets. Interview with Mr Eddie Noble, Chief Executive Manager, Avitronics (Maritime), Cape Town (17 June 2004).
22. While they have had steady orders in regard to the corvettes, submarines, and the LIFT, Hawk and LUH parts of the aircraft components of the SDP, the sums have been modest. Larger commencing contracts have been reduced dramatically. Also, contracts have been confined to Direct DIP work, and despite various visits by representatives of the obligors no Indirect DIP work has eventuated. In addition, one of the offset contracts intended for Tellumat was swapped for another contract with another company. There is a sense that the ‘tide has gone out’ on DIP contracts. Given the initial expectations regarding DIP and IDIP work the company put a great deal of effort into the new potential business. Among other things, a new division was set up and two mechanical engineers recruited. Also, a promising independent international export drive begun in the mid-1990s was halted. Interview with Mr Marc Anderson, General Manager, Tellumat, Cape Town (15 June 2004) and with Mr Brian Ferguson, Marketing and Sales Manager, Tellumat, Cape Town, (15 June 2004).
23. They anticipated more business. In their experience, the R&D and engineering staff of the obligors were reluctant to relinquish projects and technology, and tended to under-price these components in tendering and contracting processes. With South African companies facing a range of add-on costs and general discounting of their bid offers, the South African firms had to be significantly lower on their pricing than their international counterparts. Interview with Mr James Verster, CEO, RRS, Stellenbosch (17 June 2004).
24. These programmes are being wound down, but the company has managed to keep operational by running a parallel ‘civilian’ operation in turbo diesel engineering, and by retaining a core staff along with a network of sub-contractors, who are part of the mechanical engineering sub-sector of the provincial economy. The company has an export profile and useful in-house technology for non-military and military purposes and it is thus somewhat surprising that this firm has not been approached by one of the obligor. Interview with Mr Johan Delport, Delkon, Brackenfell, Western Cape (18 June 2004).
25. Interview with Mr Peter Handley, Thales South Africa, Johannesburg (2003).
26. Interview with Dr Richard Young, C2I2, Struisbaai (16 June 2004).
27. After 4 years only 38% of the promised DIP contracts were received, instead of 66% as envisaged. This gives a total of R3 bn, while it should now have been R7 bn. Some of the contracts were even called “100% loss-making contracts” by Victor Moche, the former Denel chief executive. R. Ferreira. *Preliminary Report on the Defence Industrial Participation (DIP) Program* (Interim confidential report for Denel: January 2005).
28. Interview with Mr Johan van Dyk, Denel, Erasmusrand (October 2004).
29. *Business Day* (26 October 2000).
30. It was also mooted that Denel manufacture tail sections and ailerons for other RAF aircraft, but this has yet to be effected.
31. A progressive technology transfer is mooted to allow for the eventual manufacture of the helicopters in SA, although there is a dispute between Denel Aviation and Agusta regarding the necessary technology transfer and orders placed for work required to build the helicopters.
32. The contract involves the supply of surface-to-air and surface-to-surface missile systems by Denel Aerospace, the manufacture of the 35mm dual purpose gun by LIW and the remainder of the work is allocated to Somchem (Somerset-West Chemicals). The exact work packages are still to be finalised and international opportunities are being investigated. *Armcor DIP Report* (2004) p. 10.
33. *Mail & Guardian* (26 May – 1 June 2000), and *Mail & Guardian* (2-8 June 2000).
34. Interview, Mr Pieter Labuschagne, Group Manager, Trade in Arms Control, DENEL (1 June 2000).

References

- Armscor. 2004. Defence Industrial Participation (DIP). Report on the Performance of the Foreign Suppliers's DIP Obligation on the Strategic Defence Packages (SDP). Finance Department: DIP Division. 31 March. Armscor: Erasmusrand .
- Batchelor, P. and Dunne, P. 2000. "Industrial Participation, Investment and Growth: The Case of South Africa's Defence Related Industry". *Development Southern Africa*, Volume 17, No. 3, September. pp 417-35.
- Batchelor, P. and Dunne, P. 1998. "The Restructuring of South Africa's Defence Industry", *African Security Review*. Vol. 7. no 6.
- Batchelor, P. and Willett, S. 1998. *Disarmament and Defence Industrial Adjustment in South Africa*. SIPRI and Oxford University Press: Oxford.
- Brauer, Jurgen and Dunne, Paul. (eds). 2004. *Arms Trade and Economic Development: Theory, Policy, and Cases in Arms Trade Offsets*. Routledge: London.
- Brauer, Jurgen and Dunne, Paul. 2005. "Arms trade offsets and development." *Africanus*, Vol. 35. No 1. pp 13-24.
- Denel. 2005. Denel Annual Report 2004. Erasmusrand: Denel.
- Dunne, J.P. 2003. "The Making of Arms in South Africa". *Economists Allied for Arms Reduction (ECAAR) Review*.
- Dunne, Paul and Haines, Richard. 2001. "Defence Procurement and Regional Industrial Development in South Africa: A Case Study of the Eastern Cape", Economics Discussion Paper. Middlesex University Business School. No. 98.
- Dunne, J.Paul and Lamb, Guy. 2004. "Defence Industrial Participation: The Experience of South Africa". Chapter 19 in Jurgen Brauer and Paul Dunne (eds) *Arms Trade and Economic Development: Theory Policy and Cases in Arms trade Offsets*. Routledge. September 2004.
- Dunne, Paul. 1995. "The Defence Industrial Base". Chapter 14 in Keith Hartley and Todd Sandler (eds) (1995) *Handbook in Defense Economics*". Elsevier. pp 592-623.
- Evans, Richard and Price, Colin. 1999. *Vertical Takeoff*. Nicholas Brealey Publishing Ltd.
- Ferreira, R. 2005. 'Preliminary Report on the Defence Industrial Participation (DIP) Program.' Interim confidential report for Denel. January.
- Ferreira, R. and Haines, RJ. 2005. 'Industrial Participation and Defence Offsets in Gauteng.' Paper presented to Annual Congress of South African Sociological Association, University of the North. July.
- Haines, RJ. 2004. 'Defence Offsets and Regional Development in South Africa'. In J Brauer and JP Dunne (eds) *Arms Trade and Econ Development: Theory, Policy and Cases in Arms Trade Offsets*. London: Routledge

- Haines, RJ. 2005. "The Politics of the Strategic Defence Procurement Programme in South Africa: Snapshots from KwaZulu-Natal". *Africanus*. Vol. 35. No1. pp 59-73.
- Haines, Richard and Wellman, Gwendolyn. 2005. 'Value Chains and Institutional Imperatives in Regional Industrial Development: A Consideration of the Implementation and Impact of Defence Offsets in the Western Cape'. *Africanus*. Vol. 34. No 1. pp 25-43.
- IDASA. 1999. "Submission on the Medium Term Budget Policy Statement." IDASA Budget Brief. Cape Town: Institute for Democratic Alternatives in South Africa.
- James, Gerald. 1996. *In the Public Interest*. Warner Books.
- Leigh, David. 1993. *Betrayed: The Real Story of the Matrix Churchill Trial*. Bloomsbury.
- Lovering, John. 2000. 'The Defence Industry As A Paradigmatic Case Of 'Actually Existing Globalisation' in Judith Reppy (ed) *The Place of the Defense Industry in National Systems of Innovation*. Occasional Paper. Cornell University Peace Studies Program.
- Martin, Stephen. 1996. *The Economics of Offsets*. Amsterdam: Harwood.
- SIPRI (various years) *SIPRI Yearbook*, SIPRI and Oxford University Press.
- Skons, Elisabeth and Weidacher, Reinhilde. 1999. "Arms Production". Chapter 10 in *SIPRI Yearbook*. (1999). SIPRI and Oxford University Press.
- Skons, E., Bauer, S. and Surry, E. 2004. "Arms Production". Chapter 11 in *SIPRI Yearbook* (2004), SIPRI and Oxford University Press.
- Struys, Wally. 2001. "Offsets in Belgium: between Scylla and Charybdis". Chapter 11 in Brauer, Jurgen and Dunne, Paul (eds). 2004. *Arms Trade and Economic Development: Theory, Policy, and Cases in Arms Trade Offsets*. Routledge: London.