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Financing upstream oil and gas ventures in the transitional economies of the former Soviet Union a study of foreign investment and associated risks

Seck, Andrew Benjamin

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Andrew Benjamin Seck

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1997

FINANCING UPSTREAM OIL AND GAS VENTURES

IN THE TRANSITIONAL ECONOMIES

OF THE FORMER SOVIET UNION:

A STUDY OF FOREIGN INVESTMENT

AND ASSOCIATED RISKS

(VOLUME I)

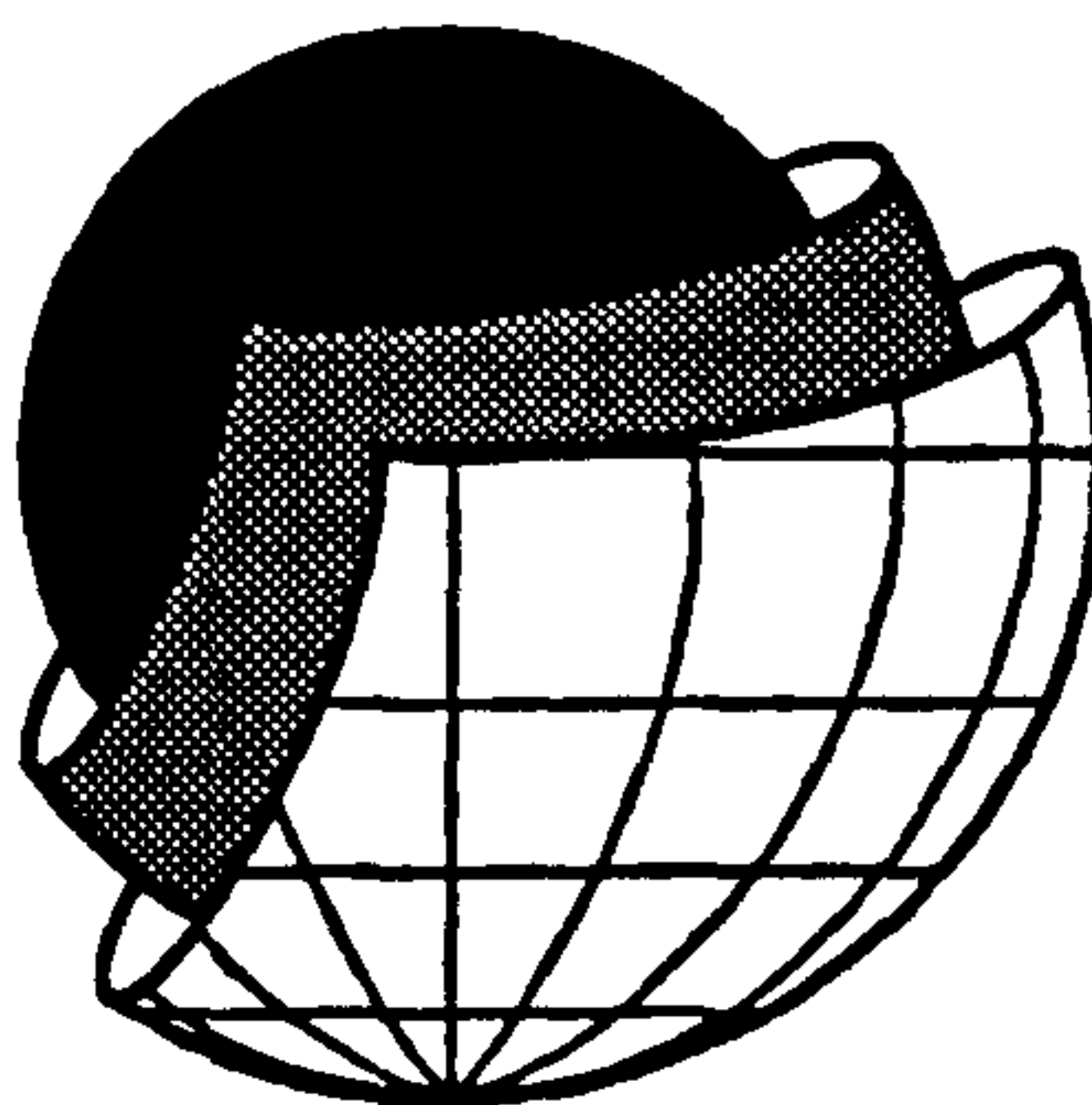
By

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August 1997

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ABBREVIATIONS AND ACRONYMS

A.J.I.L.	American Journal of International Law
ADRs	American Depository Receipts
AIOC	Azerbaijan International Operating Company
AIPN	Association of International Petroleum Negotiators
Alta.L.Rev	Alberta Law Review (Journal)
API	American Petroleum Institute
B.R.P.M.	Bulletin of Russian Petroleum and Mining (publication)
bbls	barrels
Bcm	billion cubic metres
BIEE	The British Institute of Energy Economics
bopd	barrel of oil per day
BRANOBEL	Nobel Brothers Petroleum Producing Company (French acronym)
C.J.T.L.	Columbia Journal of Transnational Law
C.J.W.B.	Columbia Journal of World Business
CAPEX	capital expenditure
CERA	Cambridge Energy Research Associates (Cambridge, MA, USA)
CERI	Canada Energy Research Institute
CIA	Central Intelligence Agency (US)
CIS	Commonwealth of Independent States
CMEA	Council of Mutual Economic Assistance
CPC	Caspian Pipeline Consortium
CPE	centrally planned economy
CEPMLP	Centre for Energy, Petroleum and Mineral Law and Policy
CPSU	Communist Party of the Soviet Union
CSIS	Centre for Strategic International Studies (Washington, DC, USA)
E&CA	Europe and Central Asia
E.E.E.Report	East European Energy Report (publication)
EBRD	European Bank for Reconstruction and Development
EC	European Community (old name pre-Maastricht Treaty)
ECA	Export Credit Agency
ECGD	Export Credits Guarantee Department (ECA of United Kingdom)
ECT	Energy Charter Treaty
ECU	European Currency Unit
EE&FSU	Eastern Europe and the former Soviet Union
EIB	European Investment Bank
EIU	Economist Intelligence Unit
EMV	expected monetary value
EOR	Enhanced Oil Recovery
EU	European Union (current name post-Maastricht Treaty)
FDI	foreign direct investment
FIAS	Foreign Investment Advisory Service (Department of IFC)
FIRR	Financial Internal Rate of Return
FOGI Database	Foreign Oil and Gas Investment Database (developed by author)
FPD	Finance and Private Sector Development Group of the World Bank
FSRs	former Soviet Republics
FSU	former Soviet Union
Hous.J.Int'l.L.	Houston Journal of International Law
I.B.L.	International Business Lawyer (publication)
I.C.L.Q.	International Comparative Law Quarterly
I.C.S.I.D. Rev.-	ICSID Review Foreign Investment Law Journal
F.I.I.J.	
I.J.I.A.	Iranian Journal of International Affairs
I.J.I.L.	Indiana Journal of International Law
I.L.M.	International Legal Materials
IAEE	The International Association for Energy Economics

IBA	International Bar Association
IBRD	International Bank for Reconstruction and Development (i.e. the WB)
ICJ	International Court of Justice
IEA	International Energy Agency
IFC	International Finance Corporation (Private Banking arm of the WB)
IMF	International Monetary Fund
Int'l.Fin.L.Rev.	International Financial Law Review
Int'l.Lawyer	International Lawyer
IOCs	international oil companies
IPBP	International Petroleum Business Programme (Moscow)
J.E.F.D.	Journal of Energy Finance and Development
J.E.R.L.	Journal of Energy & Natural Resources Law (journal)
J.I.B.S.	Journal of International Business Studies
J.Int'l.Bus.L.	Journal of International Business Law
J.P.T.	Journal of Petroleum Technology
J.W.T.	Journal of World Trade
JEXIM	Japanese Export-Import Bank (ECA of Japan)
JV	joint venture
LLCR	Loan Life Cover Ratio
LSE	London Stock Exchange
Mcm	thousand cubic metres
MDBs	Multilateral Development Banks
MER	Maximum Efficient Rate (of Production)
MFE	Russian Ministry of Fuel and Energy
MGP	Ministry of Gas (ex-Soviet Ministry)
MIGA	Multilateral Investment Guarantee Agency
Mingeo	Ministry of Geology (ex-Soviet Ministry)
MLAs	Multilateral Agencies
MM	millions
MMbbbls	millions of barrels
MMbopd	millions of barrels of oil per day
MMMMS	Marathon, McDermott, Mitsui, Mitsubishi and Shell
MMt	million tonnes
MMtkmpy	million tonne kilometres per year
MMtpy	million tonnes per year
MNE	Multinational Enterprise
MNP	Ministry of Oil (ex-Soviet Ministry)
MOU	memorandum of understanding
MWO	minimum work obligation
N.R.F.	Natural Resource Forum (journal)
NEP	New Economic Policy of Lenin
NIOC	National Iranian Oil Company
NIS	Newly Independent State
NOC	National Oil Company
NPV	Net Present Value
ODA	Official Development Assistance
OECD	Organisation for Economic Cooperation and Development
OGFA	Oil and Gas Framework Agreement
Oil & Gas Tax Q.	Oil & Gas Tax Quarterly (journal)
OMRI	Open Media Research Institute
OMS	Operations Manual Statement (World Bank guidelines)
OP	oil price (variable for regression analysis)
OPEC	Organisation of Petroleum Exporting Countries
OPEX	operating expenditure
OPIC	Overseas Private Investment Corporation (US)
OTA	Office of Technology Assessment of the United States Congress
P.F.I.	Project Finance International (publication)

P.F.Yb.	Project Finance Yearbook (publication)
P.I.W.	Petroleum Intelligence Weekly (publication)
PAF	Petroleum Advisory Forum
PDA	petroleum development agreement
PFC	Petroleum Finance Corporation (Washington based)
PFC&PW	Petroleum Finance Corporation and Price Waterhouse
PIA	Project Incentive Agreement (from US Eximbank)
PLCR	Project Life Cover Ratio
PSA	Production Sharing Agreement
PSC	Production Sharing Contract (equivalent to PSA)
QCBS	quality crude banking system
R.O.G.L.J.	Russian Oil and Gas Law Journal
R.P.I.	Russian Petroleum Investor (publication)
RF	Russian Federation
RIIA	Royal Institute of International Affairs (London, UK)
RSFSR	Russian Soviet Federal Socialist Republic
S.E.E.L.	Survey of East European Energy Law (publication)
SAR	Staff Appraisal Report (public document from World Bank staff)
SOCAR	State Oil Company of Azerbaijan
SODECO	Sakhalin Oil Development Corporation
SPE	Society of Petroleum Engineers
STEs	state owned enterprises
TACIS	Technical Assistance CIS (EU assistance programme)
Tcm	Trillion cubic metres
TEPSA	Trans-European Studies Association (Brussels)
TNCs	transnational corporations
tpy	tonne per year
Tulsa L.J.	Tulsa Law Journal
U.K.T.S.	United Kingdom Treaty Series
U.N.T.S.	United Nations Treaty Series
UKCS	United Kingdom Continental Shelf
UN	United Nations
UNCLOS	United Nations Convention on the Law of the Sea Treaty 1982
UNCTAD	United Nations Conference on Trade and Development
UNCTC	United Nations Centre on Transnational Corporations
UNECE	United Nations Economic Commission for Europe
US DOE	United States Department of Energy
US GAO	United States General Accounting Office
USEXIM	United States Export-Import Bank (ECA of US)
USSR	Union of Socialist Soviet Republics
VAT	Value Added Tax
VDRCS	Volga-Don/River Canal System
W.P.A.	Weekly Petroleum Argus (publication)
WB	World Bank

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any thesis is the ultimate responsibility of the author and therefore any errors and omissions are mine and mine alone.

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I dedicate this thesis to my wife and best friend, Kathy, who stood by me and despite working full time to support my studies plus finishing her own MBA, found time to patiently edit and re-edit much of my writing. Kathy exhibited remarkable understanding for someone whose everyday conversation has been intruded, with increasing frequency, by my own thoughts and references to oil and gas matters in the FSU. I have enjoyed taking three years out of a professional career to undertake post-graduate studies — it has been a most fulfilling experience, but one which now must come to a close. I suspect that as far as Kathy is concerned it is now payback time. I conclude by quoting from a speech given by Sir Peter Ustinov to the University of Dundee — for me it embodies the challenge in discovering originality.

“A theme like Discovery makes you think. It suggests the drawing of attention to something which was always there, but out of sight, like a continent loaded with *terra incognita*....Discovery is not creation, a conjuring up out of thin air. No, there is an element of luck in discovery, both good and bad.”¹

¹ Sir Peter Ustinov (Former Rector and Honorary Graduate of the University of Dundee), “Discovery Lecture,” presented at the Annual Meeting of the Graduates’ Council, University of Dundee, Dundee, Scotland, 11 Apr., 1992.

DECLARATION

I, Andrew Benjamin Seck, am the author of this thesis and hereby declare that unless otherwise stated, all references cited have been consulted by the author, that the work of which the thesis is a record has been done by myself, and that the thesis has not been previously accepted for a higher degree.

Signature: ; Date: 27 October 1997.

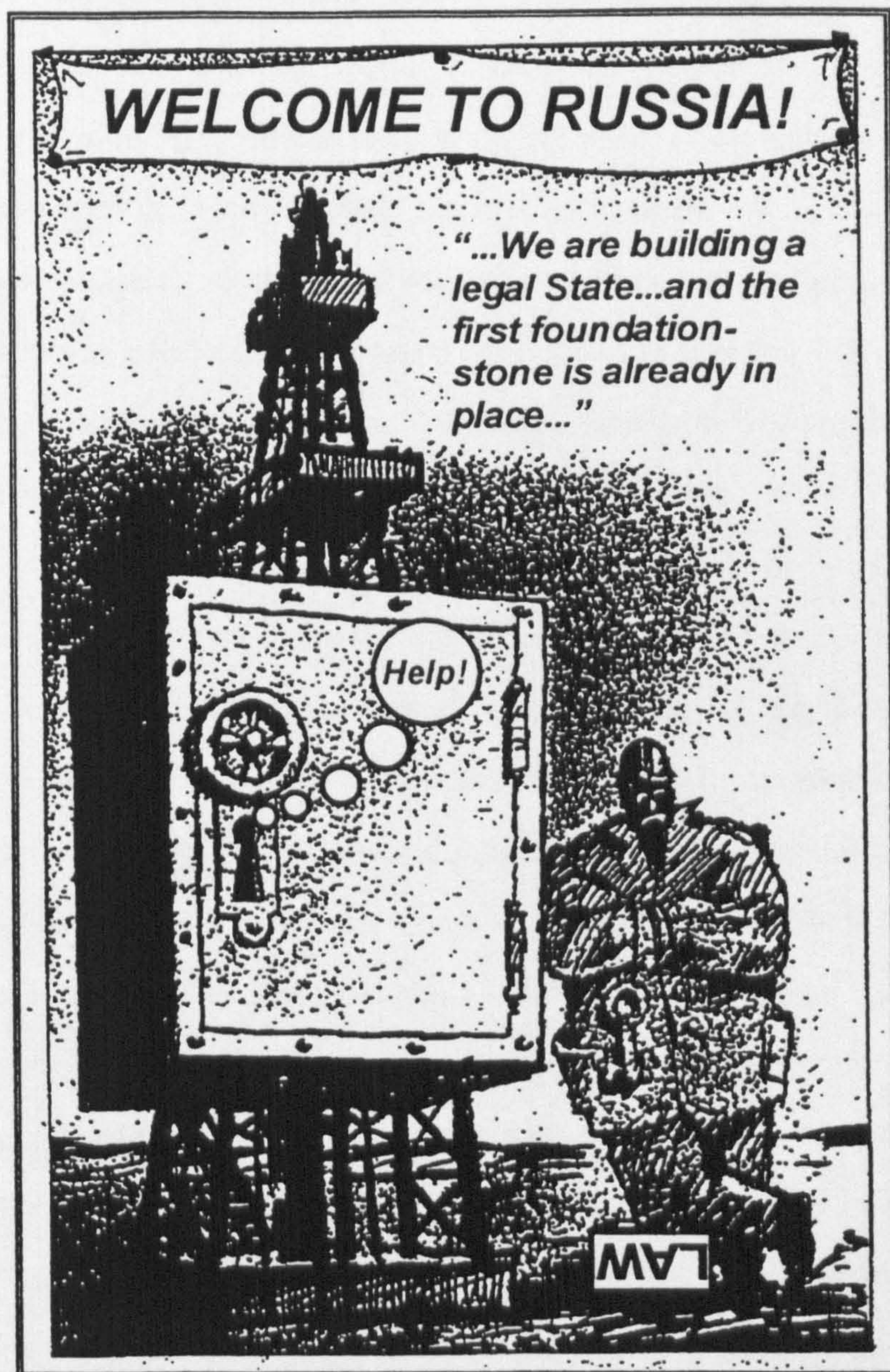
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ABSTRACT

The development of the Foreign Oil and Gas Investment (FOGI) Database permitted a systematic study of all reported upstream projects involving foreign investors throughout FSU, in order to assess the reaction of western capital to the opening up of the FSU's oil industry. While we identified 292 upstream projects either under discussion or development and representing a potential investment of \$231 - \$308 billion, there is a wide dichotomy between the high level of interest and the low level of investment incurred. It is misleading to assess potential levels of investment in the FSU in isolation of global upstream investments which are estimated at \$106 billion per year over the next decade. Of this amount western IOCs are expected to contribute approximately \$55 billion per year. The challenge for the FSU is to attract its share (or increase its share) of global upstream capital expenditures. The latter implies a transfer of productive capacity from elsewhere in the world.

International efforts vis-à-vis the World Bank, IFC, EBRD, OPIC and various export credit agencies have failed to inject substantial credits into the FSU's petroleum industry. Disbursements remain slow and their claimed catalytic role appears to be overstated. As the FSU ranks very poorly on a scale of political/country risk, western commercial banks remain wary of extending credits. We believe the rejuvenation of the FSU's oil industry, particularly outside Russia, is pre-conditional upon the involvement of the 'Major' IOCs who possess the requisite capital and technology to initiate the necessary projects. But, our research indicates that IOCs are pursuing a cautious policy of self-financing and staggered development. Thus the real onus of financing lies with the host-governments to provide the economic, legal and fiscal environment which will permit these projects to earn sufficient profits for reinvestment. Should such conditions be created in Russia, where a large domestic oil industry already exists, then the domestic industry would likely contribute a large portion of the needed investment as they would themselves be in a position to reinvest their own earnings.

There is a strong correlation between levels of potential FDI and the location of known reserves as IOCs seek to minimise geological risk. In Central Asia and the Caspian Sea region where \$55 - \$75 billion in potential upstream investments have been reported, transportation uncertainty is singled out as the most critical impediment to growth. There are no realistic alternatives to the construction of new pipeline capacity which will act as the ultimate regulator of foreign upstream investment. For the time being large volumes of western investment capital remains cautious and beyond the reach of the FSU's petroleum industry.



Courtesy of Prof. Eugene M. Khartukov and Dr. Tatyana P. Kulakova of IPBP, Moscow.

Part I

INTRODUCTION

1. INTRODUCTION

1.1 Statement of Objectives

The principal objective of this thesis is to document, quantify, assess and explain the reaction of western capital to the opening of the former Soviet Union's oil and gas industry.

1.2 Introduction

The former Soviet Union (FSU) is well endowed with large reserves of both oil and natural gas. This simple fact combined with the favourable perception of making additional discoveries makes the region of particular interest to the international oil industry. At the same time, the successor states of the FSU have inherited an operational oil industry in which problems abound; it is inefficient, under-capitalised, heavily taxed, operates at environmental and technical standards well below those found in the West and since its peak production in 1987, overall crude output has declined 40%. The maturing of key geologic provinces (firstly, the Volga-Urals and then Western Siberia) has also been a major factor contributing to the decline in oil production.

The future success of the petroleum industry in the FSU depends on many factors, one of which is the provision of investment capital. Investment capital may either be externally sourced or domestically sourced. With regards to the latter, the state has foregone its historical role of supplier of investment capital through budgetary allocations to the oil and gas industry. Ninety-five percent of Russian commercial bank lending is short-term credits (i.e. maturities of less than one year) which cannot be used to support long-term investment programmes. The weak balance sheet of most domestic oil companies prohibit them from expanding (or even sustaining) capital investment programmes from their own internal resources nor are they capable of borrowing large amounts of capital. However, the apparent lack of domestic investment capital is not the problem itself, at least in the case of Russia where a large petroleum industry exists, but rather a

consequence of structural imbalances, i.e. detrimental pricing and fiscal policies.¹ The presence of a competitive pricing regime and rational tax structure comparable to those found in the West, would undoubtedly permit the domestic industry to generate its own investment capital. But at the present time, this still is still not the case. This naturally leads us to question and indeed examine the potential role of foreign capital development of the FSU's oil industry, and it is this issue which lies at the heart of our proposed research.

1.3 Aims of the Study

The cornerstone of our study is that the availability of investment capital is an essential precondition for the rejuvenation and future growth of the region's upstream oil industry. Without new investment the industry will remain out-dated, inefficient and production will only decline further as new reserves are not brought on-line to offset a maturing production profile. Foreign capital undoubtedly has a role to play in the development of the FSU's oil industry, but its exact role and the modality of western investment are issues that need to be addressed. Do western perceptions of investment mesh with those of the former Soviet Republics (FSRs) or do the East and the West talk at cross-purposes? Who are (and will be) the principal suppliers of foreign capital and how will such funds be channelled from the West to the East? How much interest has been expressed by western companies and where do they intend to invest? What are the principal impediments to the large-scale flow of capital from the West to the East, and can they be realistically eliminated? Any meaningful examination of foreign investment and financing of upstream oil and gas projects will in the main, need to address the preceding questions. But to reiterate, the basic overall aim of this study is to document, quantify, assess and explain the reaction of western capital to the opening of the FSU's upstream oil and gas industry by examining its availability in the context of potential upstream oil and gas investment opportunities. By documenting all known 'press reported' foreign investment proposals we aim to demonstrate that their aggregate amount far outstrips

¹ In general see IEA, Energy Policies of the Russian Federation 1995 Survey, (Paris: IEA/OECD, 1995) and IEA, Russian Energy Prices, Taxes and Costs 1993, (Paris: OECD/IEA, 1994).

levels of investment that will realistically materialise and we seek to explain why this is the case.

1.4 Justification

Financing natural resource ventures by transnational corporations is a well developed subject which has been studied extensively from an academic, legal and business perspective. The same can be said for the legal and fiscal provisions of petroleum development agreements² and specific financing techniques such as project financing. However, much of the financing literature predates the dissolution of the FSU. We are not suggesting that the tried and tested methods of international financing are not applicable. On the contrary one of the challenges facing the FSU is how to utilise and adapt these techniques to suit their own needs. Thus, while financing upstream oil and gas ventures is not a new subject, there is plenty of scope for a re-examination in the present day context of the FSU, including an assessment of foreign investment and associated risks. The fact that FSRs could benefit from western capital and technology in order to rejuvenate their oil industries is a cardinal principal of post-1991 western policy makers and hardly needs restating. But to borrow an expression of Philip Wood's, this thesis represents "my voyage of discovery into what is really going on."³ There is an acute need to look beyond general statements of principle, to observe and assess what is actually happening on the ground.

As far as we are aware there are no studies which have systematically tried to document the potential involvement of foreign oil and gas companies undertaking upstream operations throughout the whole of the FSU. While sporadic individual country reports exist, the absence of a collective approach is a serious flaw. The FSU possesses an over

² The term "Petroleum Development Agreement" is being used rather loosely as there are a number of types of agreements signed between an international oil company and the host government, these include *inter alia*, licence/concession, production sharing contracts, joint ventures, service contracts, and hybrids.

³ Philip R. Wood, Project Finance, Subordinated Debt and State Loans, (London: Sweet & Maxwell, 1995): p vii.

abundance of known but hitherto undeveloped deposits; policy makers, both in the East and the West, tend to be overwhelmed by this profusion of natural resources and often assume that the vast majority of projects will proceed. But this attitude ignores what economists refer as, the 'fallacy of composition' problem.⁴ That is, it is not possible for every company or indeed country to produce the same thing at the same time with a high degree of success. Overproduction will result in falling prices and undermine the market. Therefore, is it realistic to expect all of the investment proposals to proceed? Individual FSRs now compete amongst themselves for inward investment, as does the whole of the FSU compete with other petroleum producing regions of the world. The FSU's oil industry can no longer be considered in isolation to the dynamics of the industry outside its borders. This study attempts to quantify the interest expressed by foreign oil companies which is believed to be a fruitful line of inquiry. Only by doing so may we begin to understand the process which is unfolding and thereby allow us to make an educated judgement about the future role of western capital and companies in the FSU's petroleum industry. This will be of particular interest to policy makers of FSRs who are charged with the responsibility of attracting western investment. While many commentators have picked up on individual 'press reported' investment proposals, aggregate analysis has up to now been lacking in contemporary research. This thesis seeks to address this imbalance by providing such aggregate analysis.

Furthermore, we believe an analysis of the efforts of official sources of financing to catalyse private sources of financing vis-à-vis the multilateral institutions and export credit agencies is needed. It is often assumed that these organisations are capable of overcoming investment risks which private investors or commercial banks are unable to undertake. But is this really the case? We will document the actual lending record of these institutions in the FSU, and then based on the results, assess which commonly held perceptions of these institutions are warranted.

⁴ George Philip, The Political Economy of International Oil, (Edinburgh: Edinburgh University Press, 1996): p 175.

In summary it is our opinion that *Financing Upstream Oil & Gas Ventures in the Transitional Economies of the Former Soviet Union: A Study of Foreign Investment and Associated Risks* is justified as a timely contribution to an area of current debate, uncertainty, and potential. To quote Norman White who wrote in 1978 that "...financing techniques and the international petroleum industry are both dynamic, [and] never static....It will be a long time before the 'last word' can be written about financing and/or the international petroleum industry."⁵ This statement is just as relevant today as the oil and gas industry in the FSU provides new challenges and opportunities for western capital and companies.

1.5 Methodology

1.5.1 Interdisciplinarity

A study of financing and foreign investment in the upstream petroleum industry of the FSU requires that we employ an interdisciplinary approach drawing on technical, economic, legal and political factors. A single discipline study cannot possibly provide a comprehensive understanding of the integration of western capital and companies into the FSU. The evolution of transitional economies is by definition a highly dynamic process influenced by an interplay of forces which traverse traditional academic disciplines with little respect for their boundaries. At times we employ economic arguments at other times legal arguments, but all with the intention of assessing the reaction of western capital to the opening up of the FSU's upstream oil and gas industry. The main benefit of our research lies in fact that it is based on an interdisciplinary approach and this is the correct methodology to employ in such a study. Our decision to penetrate difficult interdisciplinary issues, rather than providing an in-depth analysis of detailed issues under certain disciplines, is based on the need to provide a balanced approach to the subject matter which requires establishing the necessary linkages across academic disciplines.

⁵ White, Norman A. et al. Financing the International Petroleum Industry, (London: Graham & Trotman Ltd., 1978): p xi.

1.5.2 Foreign Oil and Gas Investment (FOGI) Database

We are aware of no studies which have systematically tried to document the potential involvement of foreign oil and gas companies undertaking upstream operations throughout the whole of the FSU. The absence of a collective approach is a serious shortcoming. The *Foreign Oil and Gas Investment (FOGI) Database* was developed by ourselves as a means of recording and tracking the growth of the oil and gas sector projects involving foreign investors throughout the whole of the FSU. It represents an integral part of this thesis contributing to its originality. Moreover, the FOGI Database can now act as a baseline study to support further lines of inquiry and with regular updating provides an ideal medium for continually assessing the evolution of the FSU's oil and gas industry. Further discussion on the FOGI Database is provided in Volume II — Appendix.

1.5.3 Sources of Information

This study is based on a programme of research which was conducted in 1994 through the summer of 1996 at the Centre for Energy, Petroleum and Mineral Law and Policy, University of Dundee. Primary sources of relevant laws, regulations and contracts were obtained from the Centre's own collection and supplemented by requests to Petroconsultants and Barrows Company in addition to various oil companies and law firms. However, all primary and secondary source material is from the public domain and nothing contained herein breaches any form of confidentiality. We took full advantage of the Centre's annual Summer Seminar Programme to meet speakers and delegates from a broad cross-section of nationalities and disciplines which provided us an excellent forum for obtaining firsthand knowledge and acting as a fertile breeding ground for testing new ideas. Initial contacts made at these and other conferences have typically resulted in additional information during follow-up correspondence and meetings. The Centre's growing network of "stake-holders"⁶ in industry represents a unique asset base for augmenting regular academic research. Because this thesis contains a high level of

⁶ "Natural Resources, Energy and Environment Update," Research Newsletter of CEPMLP, No. 3, Jun. 1996, p 1.

industry input, whether in the form of raw data, comments and or criticism, we hope it represents academic writing in its most valuable form; that it is not just a document which satisfies academic qualifications but proves useful to the very industry about which it is written.

Through the Centre's consultancy activities, country visits to Georgia, Azerbaijan and Turkmenistan were made possible. Additional research has been carried out at the OPEC Library in Vienna, Institute of Advanced Legal Studies in London; London Business School; and the Institute of Petroleum also in London.

1.6 Structure

1.6.1 Part I: Introduction

The thesis is divided into four sections. Part I, INTRODUCTION, consists *Chapter 1 – Introduction*; while Part II, BACKGROUND, consists *Chapter 2 - The Soviet/Russian Petroleum Industry: Past and Present*. Part III, FINANCING FOR THE FSU, is subdivided into three chapters: *Chapter 3 - Foreign Direct Investment*; *Chapter 4 - Capital Needs of the FSU: A Global Perspective*; and *Chapter 5 - External Sources of Credit*. Part IV, INVESTMENT RISKS, is subdivided into four chapters: *Chapter 6 - Overview of Investment Risks*, *Chapter 7 - Political Risk*; *Chapter 8 - Transportation Risk and Uncertainty*; and *Chapter 9 - Conclusion*. The current chapter, the *Introduction*, outlines the aim of the thesis, justification for the research, its methodology, structure, and limitations.

1.6.2 Part II: Background

We submit that a historical account of the evolution of the Soviet petroleum industry including its attitude to past bouts of foreign participation provides a useful insight on the potential role of and attitude towards foreign investment today. *Chapter 2 - The Russian/Soviet Petroleum Industry: Past and Present* is intended for this purpose. A historical understanding of the petroleum industry is essential: (a) to grasp the complexities facing the industry today; (b) demonstrate that foreign oil firms and western

capital have played crucial roles in the past; and (c) help assess whether isolationism is a viable option for the FSU's petroleum industry.

1.6.3 Part III: Financing for the FSU

Chapter 3- Foreign Direct Investment centres on an analysis of the FOGI Database to quantify the reaction of western oil companies to the dissolution of the FSU. The profusion of potential projects involving western investors contrasts sharply with known levels of foreign investment to date. We shall examine emerging investment trends in respect of geographical location, potential value and modality of investment (joint ventures versus production sharing agreements). The absence of any similar collective study encompassing the whole of FSU is a flaw of concurrent research efforts which this chapter seeks to redress.

In *Chapter 4 - Capital Needs of the FSU: A Global Perspective* the capital requirements of the oil industry in the FSU, including the potential levels of investment, will be assessed in the context of global upstream oil and gas capital expenditures. We wish to establish what level of investment international oil and gas companies may direct towards the FSU, based on the fact that the FSU is an integral part of the global oil industry and that many of its potential investors are multinational corporations which pursue global investment agendas. The mere existence of an investment opportunity (i.e. the presence of a discovered but undeveloped oil and gas field) does not ensure that such investment will necessarily take place. If every known field in the FSU were to be developed (or the Middle East for that matter) the level of capital investment required would be astronomically high. Instead aggregate FSU investment proposals must be understood in the context of global investment opportunities. Additionally, the implications of employing a staggered approach to development vis-à-vis self-financing and the use of reinvested earnings is also discussed in regards to reducing the call on foreign capital.

Having assessed potential levels and patterns of FDI in the FSU's petroleum industry, *Chapter 5* addresses the availability of *External Sources of Credit*. The analysis

concentrates on official sources of financing, but also touches on why commercial banks have hitherto been reluctant to participate in the process. Acknowledging the high risk environment of the FSU, the orthodox view held by western policy makers, is that official sources of financing will be necessary in the transition period as a means of catalysing private sources of either debt or equity. This view is predicated on the belief that official sources of financing are capable of overcoming the investment risks which commercial sources are unable or unwilling to accept. This chapter questions such reasoning in light of the fact that many official sources of credit are increasingly been driven by commercial criteria. We intend to show that the international financial institutions have in general failed to inject large volumes of credit into the FSU's petroleum industry.

1.6.4 Part IV: Investment Risks

The overall reaction of western sources of capital towards the FSU's oil industry ultimately needs to be explained by an assessment of investment risks. The purpose of our analysis of investment risk and its management is not intended to review the wide body of literature already written on the subject, but rather draw attention to areas which we feel have not yet received adequate attention or where an alternative perspective should be aired. As 'risk' is a wide subject area, we have broken our analysis into three chapters. *Chapter 6 - Introduction to Investment Risks* includes specific treatment of *Geological Risk* and *Environmental Risk* whereas *Chapter 7* deals specifically with *Political Risk* including Russian attitude towards: (a) oil fields discovered during the Soviet era but residing outside of its territory; and (b) the legal status of the Caspian Sea. We draw attention to these subjects as Central Asia and the Caspian Sea region enjoys a disproportional level of interest by IOCs as compared to the rest of the FSU. *Chapter 8 - Transportation Risk and Uncertainty* is just as important in that the bulk of potential upstream investment will only materialise as new export capacity emerges. This physical constraint may in fact transcend all other forms of investment risk.

Chapter 9 - Conclusion summarises the main findings of each chapter and suggests additional lines of inquiry as a basis for future research.

The large amount of data which was amassed as an integral part of this study is reproduced in *Volume II — The Appendix* which contains six sections: *A) Foreign Oil and Gas Investment (FOGI) Database; B) Equity Ownership of Upstream Sector JVs; C) Forecasting Upstream Capital Expenditures; D) Official Sources of Financing for Oil and Gas Projects*, including the Negative Pledge Clauses of the World Bank and the EBRD; *E) Political Risk Ranking of the World's Oil Reserves; and F) Portion of World Oil Production by Western Oil Companies.*

1.7 Limitations

1.7.1 Transition Period

The single biggest obstacle of the proposed research is the transitory nature of the study area. Many scholars, myself included, are reluctant to commit pen to paper during such turbulent times which can quickly change one's perception and make obsolete one's arguments. Notwithstanding the aforesaid, nearly five years have passed since the dissolution of the FSU, providing scholars with an immense wealth of foreign company experience in such a short period of time. Despite the rapid pace of change, it is important to capture this process as it unfolds. Indeed, viewed from the future it is hoped that this study will provide a useful benchmark to judge the progression of financing and foreign investment in the FSU's petroleum industry. Inevitably a certain degree of imperfection will arise as a result of the contemporary nature of this study, but this appears unavoidable.

1.7.2 Domestic Financing

Earlier in §1.2 we acknowledged the issue of domestic financing resources, resources which will grow in the future as the non-payments crisis is resolved, the internal tax situation improves, export bottlenecks are removed, et cetera. Similarly as a healthier banking sector emerges, medium to long-term domestic credit will become available. There exists a sizeable build-up of personal savings in Russia which currently remains inaccessible because of the lack of proper financial intermediation. The continued development of the domestic stock market and instruments such as mutual funds will

improve the accessibility of domestic private savings, but all this will take time. However, the practical problems of actually quantifying domestic financing resources are not easily overcome. First of all, the organisational structure and conditions with which the industry finds itself are highly fluid. Secondly, the level and quality of financial reporting is still far behind its western counterparts. Finally, the author's only limited knowledge of the Russian language prohibits a serious investigation of Russian based financial reporting at least under the auspices of this research agenda. It is for these reasons we have focused our efforts solely on the availability and reaction of western capital to the opening up of the FSU's oil industry. Furthermore, it is not possible to study everything and while domestic sources of financing may in fact transcend external sources of financing over the long-term period — at least in the case of Russia where a sizeable domestic industry exists — the provision of external capital at present requires analysis.

1.7.3 Statistical Reporting

The deficiency of Soviet era statistics, including those pertaining to the energy sector, have been described as a “kingdom of distorting mirrors”.⁷ The fact that oil reserve figures were considered state secrets during the Soviet era highlight the limitations of pre-1992 oil sector studies. Following the dissolution of the FSU there has been an explosion of information available to the West. However inconsistencies are common and again there is a lack of regular reporting on investment statistics of comparable quality to those found in the West, although the situation is improving.

1.7.4 End of Study Period

Whilst the FOGI Database was designed as a medium to continually track the progression of FDI in the FSU's petroleum industry, for the purpose of this thesis, the data contained herein reflects reported projects up to mid-August 1996.

⁷ Igor Zimin, “Discussion,” Energy Policy 19 (1991): p 342.

Part II

BACKGROUND

2. THE SOVIET/RUSSIAN PETROLEUM INDUSTRY: PAST & PRESENT

2.1 Introduction

“The present for him was merely a stage of the past moving quickly into the future. What appeared inconceivable to conventional analysts was always the natural outcome to him.” (Robert Kaplan on the subject of Milovan Djilas, 1993)¹

We purport that a historical analysis of the Soviet/Russian oil industry is useful for assessing the long-term role of western capital. In fact, one could go so far as to say “there are so many precedents, similarities, and coincidences in a study of Russian petroleum that discussion of the present generates a sense of *deja vu*.”² The period during the 1920s following the Russian revolution provides, in our opinion, a germane example of Russia’s need and attitude towards foreign investors in a situation which is not that dissimilar from today.

2.2 Past Cycles of the Soviet/Russian Oil Industry

2.2.1 The Early Years — It’s Caspian Origins

The birth of the Russian oil industry was Baku, on the western shore of the Caspian Sea, in what is today the capital of the independent Republic of Azerbaijan. The area has long been known for its petroleum potential due to the abundance of natural oil and gas seeps. In 1821, a *franchising/leasing system* was set-up for those who wanted to produce and sell petroleum, but since the four year lease was subject to arbitrary revocation with no option for renewal (i.e. no security of tenure) the system was quite unsuccessful.³ In fact, it lead to excessive exploitation and precluded any serious exploration as successful efforts could not be capitalised on during the short period of tenure.

¹ Robert D. Kaplan, Balkan Ghosts A Journey Through History, (London: Papermac, 1994): p 74.

² Marshall I. Goldman, The Enigma of Soviet Petroleum Half-empty or half-full? (London: George Allen & Unwin Ltd., 1980): p 13.

³ *Ibid.*, p 14.

The regulatory regime changed in January 1873, when the Czarist administration, abolished the franchising/leasing system and replaced it with a *public auction system* which permitted the awarding of concessions to the highest bidders.⁴ While a primitive oil industry began to flourish under the presence of competitive private entrepreneurs,⁵ the system still had its limitations as the parcels of land were generally quite small in order to maximise revenue to the Government.⁶ Unfortunately, ingrained bad habits (i.e. wasteful) remained the basic philosophy of Baku oil men despite the change in the regulatory regime. Nevertheless, significant growth took place as compared to the previous system. Of particular relevance to this thesis, is the fact that the industry's growth was dominated by a foreign producer — the Nobel Brothers Petroleum Producing Company (BRANOBEL).⁷ The Nobel family provided not only the necessary seed capital, but also strove to maintain the industry as the most technologically advanced in the world. The incessant drive of Ludwig Nobel to continually innovate and introduce new production, refining and transportation techniques invariably permitted BRANOBEL to stay ahead of its competitors. However, as his innovations proved successful, they also permeated to other producers thus benefiting the region as a whole. Baku's crude oil production quickly rose from 600,000 barrels per annum in 1874 to 10.8 million barrels in 1884,⁸ and 23 million barrels by 1888.⁹ The latter being 80% of the entire American cum world oil production.

4 *Ibid.*

5 Daniel Yergin, The Prize, (London: Simon & Schuster, 1991): p 58.

6 Robert E. Ebel, Energy Choices in Russia, Significant Issue Series (Washington: CSIS, 1994): p 16.

7 A detailed account of the Nobel family's involvement in the early Russian Petroleum industry is found in Robert W. Tolf, The Russian Rockefellers, (Stanford, CA.: Hoover Institute Press, 1976). *See also* A. Fursenko, The Battle for Oil: The Economics and Politics of International Corporate Conflict over Petroleum 1860-1930, Trans. and ed. Gregory L. Freece (Greenwich: Jai Press, 1990).

8 Yergin (1991) *supra* note 5, p 59.

9 *Ibid.*, p 61.

However, Baku's production was limited solely to the Russian market due to geographic constraints — a problem which still persists today! As the market was limited in size, over-production and fierce competition between the different producers led to a significantly deflated oil prices. Access to a new market (i.e. the West) was necessary. Two producers, named Bunge and Palashkovsky, formed a syndicate of investors and under a government concession began to jointly build a 560-mile railway west across the Caucasus to the Black Sea port of Batumi.¹⁰ But construction was only completed in 1883 when a loan from Rothschild saved the cash strapped venture (the Nobel family, which pioneered and virtually monopolised the Baku-Astrakhan-Volga tanker-barge route was not invited to provide assistance).¹¹ The \$10 million loan was secured in exchange for guaranteed shipments of Russian crude at favourable prices (known today as pre-export financing) and mortgages on various oil facilities.¹² The entrance of Rothschild marked the beginning of the second major foreign-owned interest in the early Russian oil industry and was in direct competition with the well established interests of the Nobel Family. With the completion of the railway, Batumi quickly became one of the world's most important oil ports and initiated a long struggle between European, American and Russian oil producers for control of the world's oil market. Competition for exports soon intensified when Nobel completed a 42-mile pipeline in 1889 thereby circumventing the steepest section of the railway which posed as a transportation bottleneck. Despite the economical efficiency of a pipeline covering the entire distance from Baku to Batumi, the Government's vested interests in railway tariffs precluded the completion of the entire pipeline for another 17 years.¹³ These historical accounts, while considerably dated, are nevertheless indicative of today's environment.¹⁴ Access to a secure export route, which

¹⁰ Tolf (1976) *supra* note 7, pp 84-85.

¹¹ Goldman (1980) *supra* note 2, pp 16-17.

¹² Yergin (1991) *supra* note 5, p 60.

¹³ Tolf (1976) *supra* note 7, p 97.

¹⁴ As an anecdotal piece of evidence, it is interesting to note that the present day Azerbaijan International Oil Company (AIOC) responsible for a 3.5 billion barrel oil development in the Caspian Sea has in its headquarters a 1905 study by the London Institute of Economics, entitled Baku: Oil Capital of the

in itself implies regional stability, is one of the essential underpinnings of any petroleum development in the FSU, and labelled in this thesis as Transportation Uncertainty. It is a factor which foreign investors and potential providers of finance will consider carefully. In this regard the control of such facilities is paramount.

One further change took place in the regulatory environment in the pre-Revolutionary phase of the Russian petroleum industry. In 1896 the Czarist government introduced a *combined auction royalty system* designed to provide additional revenues to the treasury. Historically speaking even the maximum capped rates of 40% would seem appealing to many oil companies today, but at the time it marked a substantial deviation from current practice.¹⁵ The result was quite predictable, producers cut back production and scaled down investment — not too dissimilar to the situation today in the Russian Federation with respect to its current fiscal regime.

2.2.2 The Early Years — The October Rebellion

While the detrimental effects of the excessive royalties should not be discounted, they were increasingly being overshadowed by evolving political turmoil and instability. The preceding years of openness towards foreign investment, including the appointment of Count Sergius Witte as Russia's dynamic western-oriented finance minister in 1892,¹⁶ were gradually being replaced by open feelings of hostility. During his term in the late 1890s it was the Nobel family, in particular, the stalwarts of capitalism and foreign investment in Russia, who had benefited from and supported Count Witte's policies.

“Emanuel [Nobel] enjoyed an excellent rapport with the tireless minister, supporting wholeheartedly his successful efforts to stabilise the Russian rouble, put the country on the gold standard, and build the Trans-Siberian rail-road....[F]oreign capital would be attracted to invest in a stable gold-standard economy, engineers, trained technicians, businessmen would

World, which concludes that “Azerbaijan's prospects depend on the regional stability and a pipeline to take the country's black gold westward.” James M. Dorsey, “Consortium Sees Beak in Disputes Clouding Caspian Oil Pipeline,” Wall Street Journal Europe, 26 Apr. 95, p 1.

¹⁵ Goldman (1980) *supra* note 2, p 20.

¹⁶ Sidney Harcave ed. & trans. The Memoirs of Count Witte, (Armonk, NY.: M.E. Sharpe Inc., 1990): p 163.

follow the foreign capital. And that was the cornerstone of Witte's program: the *infusion of foreign capital*. *With the strong support of Tsar Alexander he was able to promulgate such a policy in the face of great opposition* within the State Council and those forces of orthodoxy and reaction working from the shadows of ignorance and inefficiency."¹⁷ (emphasis added)

The dismissal of Count Witte occurred in August 1903, one month after the country's first general strike. While his dismissal was a direct result of his opposition to the Government's Far East policy,¹⁸ his departure from an active role in the Government was a serious blow for foreign investors. His policy of openness was being replaced by that of nationalism. Baku, the centre-piece of Russia's oil industry, and in the eyes of many an example of flagrant western capitalism, became known as the "revolutionary hotbed of the Caspian" as the series of oil worker related strikes, led by none other than Iosif Vissarionovich Stalin, climaxed in the autumn rebellion of 1905. The destruction was so severe that two thirds of all oil wells were decimated; annual production fell by 3 million tons and exports fell by half.¹⁹

In the following years Baku's oil industry continued to be marred by political turmoil and the after-effects of over-production²⁰ as irreversible formation damage pushed the costs of production higher and higher thus making Russian oil less competitive on the world market. For it was the competitive advantage of cheap large scale production which had originally made Russian oil so attractive.²¹ But rising production costs coupled with increased transport tariffs made Russian oil properties less attractive purely from a commercial standpoint without even taking into account anti-foreign sentiment or the

¹⁷ Tolf (1976) *supra* note 7, p 118.

¹⁸ Harcave (1990) *supra* note 16, pp 314-315.

¹⁹ Goldman (1980) *supra* note 2, p 20.

²⁰ The fluid mechanics of an oil field are such that not all of the oil in place can be produced and recovered. The best technology and reservoir management practices of today can only extract up to a maximum of 40-45% of oil in place. In order to do so the production rate cannot exceed the maximum efficient rate (MER) otherwise physical waste in the reservoir would occur (i.e. theoretically recoverable oil is left behind). Thus over-production refers to producing a well at rate greater than MER. The long-term benefit of greater cumulative production is sacrificed for the short-term gain of higher rates of production.

²¹ Yergin (1991) *supra* note 5, p 132.

general political upheaval of the time. Moreover, Russian technology quickly fell behind western advances. In fact by 1912, Rothschild having grown weary of their Russian oil venture, sold their entire interests to Royal Dutch/Shell who were pursuing a strategy of diversification.

The stagnation in production from the Baku region was in part compensated by discoveries in the Grozny and Maikop regions to the north. Less well known than Baku, these regions provide us with another historical example of active foreign participation. This time it was the British, through the use of London-based investment trusts, who poured money into a proliferation of joint stock companies beginning in 1905.²² Without a doubt some of the principle discoveries of the region were again directly attributable to western capital and technology. Perhaps of equal importance was the publication of a prescient guide by the Pall Mall Gazette in 1910.²³ The report warned of the speculative nature of investing in the newly emerging joint ventures. Six years later only five of the original sixty companies were still in business. Perhaps this is a lesson which should not be lost on current day investors.

2.2.3 The Early Years — World War I and the Bolshevik Revolution

Similar to the rebellion 1905, the Bolshevik revolution in 1917, caused another substantial drop in annual production, this time in the order of 2 million tons.²⁴ Moreover, on 1 June 1918 the oil industry was nationalised and all western interests were expropriated. This was in fact not the first time that nationalisation had been contemplated — the conclusion of a specially commissioned study on Baku's oil industry in 1906 to nationalise had been approved by the Duma, but was eventually set aside by the Ministry. The turmoil did not cease there, with the Turks gaining control of Baku in

²² Tolf (1976) *supra* note 7, pp 188-189.

²³ Pall Mall Guide to the Oil Companies, (London: Pall Mall, 1910) as cited in Tolf (1976) *ibid*.

²⁴ Goldman (1980) *supra* note 2, p 21.

September 1918, and the British regaining control in November 1918.²⁵ One of the first things the British did was to reinstate the former property owners causing a flurry of renewed interest by foreign investors — Standard Oil of New Jersey concluded a contract with the independent Government of Azerbaijan which entailed a signature bonus of approximately one third of a million dollars. But upon recapturing Baku the Bolshevik's renationalised the oil industry in May 1920. Renationalisation notwithstanding, Standard Oil of New Jersey purchased half of Nobel's interests in July 1920 thereby gaining control of 33% of all Russian oil output, 40% of refining, and 60% of the Russian internal market.²⁶ This was a huge gamble as it was not clear whether Nobel still possessed legal title to the assets for sale as they had been nationalised. Furthermore, the perennial question of the day was would the Bolsheviks eventually be defeated. To many people's surprise, they were not.

2.2.4 The Early Years — Lenin's New Economic Policy (NEP)

The dire circumstances of the industry, and indeed the economy as a whole, was recognised by Lenin stating that "we cannot by our own strength restore our shattered economy without equipment and technical assistance from abroad."²⁷ The short term production gains made by the brief flurry of foreign investment after the British denationalised the industry, all but terminated with the consolidation of the Bolshevik's power. In fact from 1920 to 1923 practically all drilling ceased; the actual level of drilling was less than one percent of the level in 1900.²⁸ Moreover production further suffered from water in-fill.²⁹

²⁵ Ebel (1994) *supra* note 6, p 17.

²⁶ Yergin (1991) *supra* note 5, p 238.

²⁷ *Ibid.*

²⁸ Tolf (1976) *supra* note 7, p 224.

²⁹ The large volume of salt water which underlies an oil reservoir may be used to drive the oil out. Provided the rate of production is below MER (*supra* note 20) water will enter the reservoir at the same rate as the oil leaves. However at rates above MER in reservoir whose permeability (i.e. the ease at which fluid can flow through the rock) is not uniform water will channel through the least resistive route thus bypassing some of the oil. At some point the water may reach the actual well and further reduce the volume of oil produced, this is known as water in-fill.

Recognising that the Soviet State faced a looming economic catastrophe in light of its weakened stance from years of civil war, famine and blockade,³⁰ Lenin initiated a policy of offering concessions to foreign investors beginning in November 1920, and more formally in March 1921 with the promulgation of the New Economic Policy (NEP). The policy shift legalised private industrial production and trade thereby encouraging foreign capitalists to return to the Soviet Union.³¹ However, not all those in the Soviet Union were supportive of such a policy, and Stalin was perhaps its greatest antagonist warning of the dangers of increased involvement by bourgeois interests on Soviet territory. Lenin's policy prevailed as it was seen to offer the only realistic means of rebuilding the economy. The Soviets by themselves just did not possess the necessary resources of technology, management skills and capital.

For the petroleum industry, the most important quasi-concession (i.e. what would become known as a Technical Assistance Contract) of this period was awarded to the International Barnsdall Corporation of the United States for the renovation of the Baku oil fields. The first contract was signed in October 1921 and was followed by two more in September 1922.³² The significance of these contracts are two-fold. Firstly, being concluded prior to the formal enactment of Lenin's Concession Law of 1923 it was intended that these petroleum sector contracts would entice other hopeful IOCs. Secondly, the work of the International Barnsdall Corporation plus a few other key equipment suppliers rejuvenated Baku's production.

³⁰ Louis Fischer, Oil Imperialism: The International Struggle for Petroleum, 1926 Reprint, (Westport, CT.: Hyperion Press Inc., 1975): p 237.

³¹ Harry Schwartz, The Soviet Economy, (Philadelphia: Lippincott, 1965): pp 12-13. The NEP was also fully applied to Russian electrification via foreign direct investment. Andrei Konoplyanik and F. von Halem, "The Energy Charter Treaty: A Russian Perspective", in The Energy Charter Treaty: An East-West Gateway for Investment & Trade, Ed. Thomas W. Wälde, London: Kluwer Law International, 1996, p 158.

³² Antony C. Sutton, Western Technology and Soviet Economic Development 1917 to 1930, (Stanford, CA.: Hoover Institution Publications, 1968): pp 18-27.

For the previous oil producers, such as Royal Dutch/Shell and Standard Oil of New Jersey, the NEP was a mixed blessing. On the one hand a more favourable business climate for foreign investors was welcomed, but on the other many of the potential oil properties on offer were those which had been purchased by themselves and subsequently nationalised by the Bolsheviks. They both considered the nationalisation of their properties illegal for which no compensation was ever given. When the Soviets finally began to negotiate with western oil firms, the latter's monopolistic demands over oil properties were deemed too severe. The formation of Front Uni, a syndicate of western oil producers, was a concerted effort to boycott Soviet oil production and pressure the Soviets to relent. The basic tenet of Front Uni was that the Soviets would never be able to recover from their difficulties without major assistance from western companies. If Front Uni could preclude that assistance, the belief was that they would be in a strong position to dictate the terms of foreign investment. However, the Soviets, under the astute guidance of their new Commissar of Foreign Trade, Leonid Krassin, "the Count Witte of the Communists"³³ successfully played the eagerly anxious western oil firms off against one another.³⁴ By the time Front Uni collapsed two years after its inception, the influx of new foreign capital and technology had made a dramatic difference. Soviet oil production quickly revived from its dormant period during the first few years of the 1920s,³⁵ and by 1927-28 they were exporting some 2.7 MMtpy to twenty-two different countries.³⁶ The favourable policy towards foreign investment that prevailed in the early 1920s, despite internal opposition, resulted as the state was negotiating from an initial position of weakness and saw little alternative to foreign investment. Ironically the growing confidence of the Soviet economy fed the ever present internal discontent towards foreign investment as the circumstances which had made foreign investment so

³³ Tolf (1976) *supra* note 7, p 218.

³⁴ See Yergin (1991) *supra* note 5, pp 240-243; and Goldman (1980) *supra* note 2, p 24.

³⁵ For a statistical record of Russian oil exports and production from 1881 to 1927 see Fursenko (1990) *supra* note 7, pp 228-231.

³⁶ Tolf (1976) *supra* note 7, p 223.

necessary, began to dissipate. It was not long before the voices of the antagonists were outweighing those of the protagonists. In the words of one official writer at the time:

“Foreign capital...can invest profitably in the Soviet Union. But anyone who imagines that we will surrender even the minutest achievement of the revolution or infringe upon our own economic interests for the sake of attracting foreign capital is grossly mistaken.”³⁷

The importance of technical assistance contracts grew towards the end of the decade at the expense of new concessions.³⁸ At the same time Soviet officials began revoking concessions and by the beginning of 1931 almost all foreigners were once again locked out of the region’s oil industry.³⁹ The failure to recognise the subtle shift in bargaining power has been interpreted by one author as a fatal error of the powerful western oil trusts because they failed to regain their concessions.⁴⁰ Had the oil companies exhibited more flexibility during the early phase of negotiations the outcome may have been much different. With the benefit of hindsight perhaps their rigid stance appears justified in dealing with a regime which would in turn revoke all newly issued concessions as well.

As a producing region, Baku retained its dominance within the Soviet oil industry during this period and up until the end of the Second World War. Production peaked at 22.2 million tons in 1940. But Soviet interest in the area waned in light of new discoveries in the Volga-Urals in the 1950s and 1960s and Western Siberia in the 1970s and 1980s. In fact, Azerbaijan's production in 1940 represented approximately 72% of all oil production in the FSU whereas by 1980 that figure had been reduced to almost 2% and has remained so ever since.⁴¹ From a strategic point of view this shift was critical, in that it took place long before the full petroleum potential of the Caucasus and the Caspian Sea was fully realised. As a result vast deposits of petroleum still remain untapped and the newly

³⁷ Quoted from Fischer (1926 Reprint, 1975) *supra* note 30.

³⁸ Sutton (1968) *supra* note 32, p 9.

³⁹ Goldman (1980) *supra* note 2, p 25.

⁴⁰ Fischer (1926 Reprint, 1975) *supra* note 30, pp 237-238.

⁴¹ Michael Levitsky et al., Azerbaijan Energy Sector Review, Report No. 12061-AZ, (Washington: World Bank, 31 Aug. 1993): p 10.

independent Republics of this region are currently in direct competition with Russia for investment resources and capital.

2.2.5 The Early Years — A Reflection

At this point it is a worthwhile exercise to reflect on the historical account presented so far and assess any bearing it may have for foreign investors at present. For during this period, the world witnessed the abolition of monopoly of control over the oil industry, both tremendous growth and decline, significant participation by foreign interests, anti-foreign sentiment, over-taxation, western advances in technology and the eventual dominance of the Soviet State. At present we must not forget that foreign direct investment had a very prominent role in the early growth of the Russian oil industry. Perhaps the degree of foreign participation became excessive, but nevertheless, the transfer of advances in western technology played a positive role in the growth of production. It seems that anti-foreign sentiment both then and now necessitates a much more balanced approach — any return to foreign domination will be inherently unstable. While current developments in Azerbaijan suggest a very substantial foreign position is emerging, ownership will not be held by just one or two main companies, as was the case with the Nobel or Rothschild interests in the late 19th century. In fact it may be possible to distinguish Central Asia from Russia by the degree of foreign investment each region will permit — this topic will be further expanded in Chapter 3 and Chapter 7.

Additionally, the risks of doing business in the FSU should not be underestimated. Access to a secure route for exports was a problem then and still needs to be reconciled today; excessive taxation in the form of transport tariffs, royalties and auction bidding contributed to the decline in the competitiveness of Russian oil; additionally the political risk of outright expropriation and/or civil unrest may be just as relevant today as it was then. On the other hand the rewards of days gone by are enticing foreign oil companies back into the fold. The potential for high profits, the existence of large undeveloped reserves by today's standards are just as much of an enticement as they were then. The question remains whether companies today are willing to accept the risks like Shell did

when it acquired Rothschild's interest or Standard Oil of New Jersey when it acquired Nobel's interest, knowing the risks today and the track record of the past. Certainly, Shell's involvement today seems to be very cautious and rightly so, its own experience has shown how badly things can go wrong.

Finally, this historical review has presented two periods when there was a concerted effort on behalf of the Government to attract foreign investment. Firstly, during the 1890s under the guidance of Count Witte as Russia's Minister of Finance, and secondly in the 1920s under Lenin's NEP and the efforts of Leonid Krassin. It is critical to recognise that the success of these periods was underpinned by the absolute authority and support by the leaders for these policies. Both Count Witte and Krassin fully understood the capitalist game, and were in significant positions and could influence policy at the highest level. Despite some opposition towards increased foreign investment from certain corners of the Government, the proponents were able to prevail for a time. From a current perspective, foreign investors do not necessarily enjoy the same level of host government support, although one could argue the dominant authority of certain Presidents such as Nursultan Nazarbayev in Kazakhstan or Gaidar Aliyev in Azerbaijan provide a much clearer line of authority as compared with Russia. Historically affirmative foreign investment policies have proved successful when combined with the pervasive support of the authorities. If these conditions are repeated today, the chances for success are good. The positive reception accorded to foreigners seeking concessions in the 1920s appears to be an inverse function of the prosperity of the country and we cannot help but wonder if today there too exists a limited window of opportunity for securing large-scale PSAs.

2.2.6 Post-World War II

Despite the importance of oil to the rest of the world, the Soviet Union was slow to adopt a very pro-oil policy for its own energy mix — hitherto its predominant interest in oil was for export purposes. Indeed as recently as 1959, solid fuels accounted for 65% of primary

soviet fuel production.⁴² But in the late 1950s there was a change in policy due to the realisation of their huge petroleum potential. Initially the petroleum industry expanded into the Volga-Urals and Ukraine in the 1950s and then to Western Siberia in the 1960s.⁴³

Although oil was discovered in the Volga-Urals as far back as 1929, major finds did not take place until 1944, and serious drilling only began in the 1950s.⁴⁴ Output increased year after year until it peaked in the early 1970s. Unfortunately the excessive use of water flooding⁴⁵ proved quite unsuccessful, leading to many problems and inevitably reducing the maximum output of production. If there ever was period in the history of the Soviet's oil industry which could be considered indigenous with the least influence from the outside world, this was it. The height of the cold war precluded the importation of even the most basic components such as drill pipe. As a result, the Soviets were forced to innovate and they did have some notable success — technological innovation was not limited solely to the West. The introduction of the turbo-drill (the pre-cursor of the down-hole motor widely employed throughout the world today) in the 1940s and early 1950s was ideally suited to the hard rock formations of the Volga-Urals and by 1956 it accounted for 85% of all drilling.⁴⁶

With the peak output of the Volga-Urals approaching, another oil discovery was made in 1960 but this time it was in Western Siberia — this subsequently led to the discovery of

⁴² Thane Gustafson, Crisis amid Plenty The Politics of Soviet Energy under Brezhnev and Gorbachev, (Oxford, Princeton University Press, 1989): p 22.

⁴³ *Ibid.*, 23.

⁴⁴ Goldman (1980) *supra* note 2, p 34.

⁴⁵ A secondary recovery method in which water is pumped through a pattern of injection wells surrounding the producing wells (i.e. creating an artificial water drive) which sweeps the moveable oil to the latter. However the MER caveat still applies. *Supra* note 20 and 29.

⁴⁶ Robert W. Campbell, Trends in the Soviet Oil and Gas Industry, (Baltimore, John Hopkins University Press, 1976): p 20. The development of the turbo-drill was as a result of the Soviet's inaccessibility to sufficiently high grade steel pipe needed for rotary drilling. In absence of such steel, the Soviets adapted by developing this down-hole motor which was driven by the flow of mud through the inside of the pipe. The bottom motor turned rather than the whole drill string, thus allowing the Soviets to drill deeper than they would have otherwise been able with their inferior drill pipe using rotary drilling.

the super-giant Samotlor field in 1965 — one of the true oil wonders of the world.⁴⁷ First commercial production began in 1969 and by 1975 it was producing around 87 MMtpy (\approx 1.7 MMbopd).⁴⁸ Samotlor and then Western Siberia became the mainstay of the Soviet oil industry as the rapid increase in production was coupled with decreases in output from the traditional oil producing areas of the Caspian and the Volga-Urals. In contrast to the Volga-Urals, western technology would play a much greater role in Western Siberia, although direct western involvement was still not permitted. The soft rock formations of Western Siberia were ill-suited to the turbo-drill. The Soviet's response was to import vast amounts of high-grade steel drill pipe on a barter exchange in return for future deliveries of oil and gas.⁴⁹ The limit of in-house resources was reached and external assistance in its most constrained form of pure supplier was again necessary.

Any analysis of the gradual shift in oil activity from the Caspian to the Volga-Urals and then to Western Siberia should recognise the following. The Soviets until recently have benefited from the discovery of easily accessible, geologically simple and low cost producing fields as their previous core production areas have entered into irreversible decline. This has allowed them to steadily increase overall production without having to use the most efficient means of technology available in the West. As will be shown in the next section, the sustained decline of Russian oil production since 1987 has been caused by their inability to bring on-line a new suitable production base to replace Western Siberia. The remaining fields are not as large, occur in more remote and technologically difficult areas and in some cases the most promising fields are even located in what are now independent republics.

⁴⁷ Gustafson (1989) *supra* note 42, p 26.

⁴⁸ Throughout the thesis we employ the US Department of Energy approved conversion rates: 1 tonne of crude oil equals 7.27 barrels and 1 cubic metre equals 35.315 cubic feet for natural gas.

⁴⁹ Goldman (1980) *supra* note 2, p 43.

2.2.7 The Origins of the Oil Crises

The dissolution of the USSR in 1991 exacerbated the already growing problems of the Soviet oil industry which became apparent during the latter years of Brezhnev's leadership. The ensuing flow of new information to the West confirmed the previously held belief that the oil industry was in a crisis amid plenty.⁵⁰ The years of neglect and wasteful policies of the communist planners had seriously undermined its productive capabilities. Perhaps the earliest and certainly the most notorious prediction of a bleak future for oil production in the FSU was published by the US Central Intelligence Agency in a series of three reports in 1977.⁵¹ As history showed and subsequent reports documented many of the CIA's predictions were proved profoundly wrong — for one, the CMEA did not become a net importer of crude oil. However, the reports were correct in pointing out that then Soviet oil industry was suffering from severe managerial deficiencies, if nothing else the reports achieved the aim of raising awareness both internally and externally to these problems.

The period from 1970 to 1977 which culminated in the publishing of the CIA reports has been characterised by Gustafson as one of complacency.⁵² With production declining in the Volga-Urals, the reaction of the central planners was to increase their call on West Siberian crude, despite warnings by petroleum engineers highlighting the formation damage that would inevitably result. Furthermore, 75% of drilling in the early 1970s was supporting development, not new exploration. This meant that by 1975 the Tyumen oil industry was for the most part dependent on two or three of its largest fields, namely Samotlor, because of insufficient reserve additions. Clearly long-term considerations were sacrificed at the expense of short-term revenue gains and can only be attributable to

⁵⁰ Gustafson (1989) *supra* note 42.

⁵¹ Central Intelligence Agency, The International Energy Situation: Outlook to 1985, ER77-10240 (Washington, DC.: Apr. 1977); Prospects for Soviet Oil Production, ER77-10270 (Washington, DC.: Apr. 1977); and Prospects for Soviet Oil Production: A Supplemental Analysis, (Washington, DC.: July 1977) Apr. 1977. See also Gustafson (1989) *supra* pp 28-29, 35, 63-64, 115, 229; and Jonathan P. Stern, Soviet Oil and Gas Exports to the West: Commercial Transaction or Security Threat? (Brookfield, VT.: RIIA and Gower Publishing Company, 1987): p 3.

⁵² Gustafson (1989) *supra* note 42, p 22.

a *gross mismanagement on the part of central planning*, particularly as the central planners chose to ignore the warnings and opposition from engineers in the field.⁵³ Lev Tchurilov, the last Oil Minister of the USSR, states in a personal reflection of the Soviet oil industry that

“the very idea of *not fulfilling a production target was taboo*....Instead of waiting for each field to be fully explored, Gosplan and the Council of Ministers decided that all this seemingly endless bounty should be developed as rapidly as possible....Unfortunately, *our haste had negative consequences*. Because we never knew how big a field was when we began development work, our approach was often technically inappropriate. It was ironic that in our obsessively plan-oriented state, *no clear, long-term targets existed for individual oil fields*.”⁵⁴ (emphasis added)

Complacency came to an abrupt end in 1977 when the first Soviet oil crisis (1977-1980) broke. Not only did the CIA publish their condemning report that year, it was the first time that the explorationists failed to meet their planned targets for addition to reserves and the first time that overall growth output of West Siberian crude began to fall.⁵⁵ Despite opposition, Brezhnev managed to implement a programme of dramatically increased oil investment. The immediate crisis forecast by the CIA was averted as oil's share of Soviet industrial investment rose from 9.1% in the first half of the 1970s to nearly 14% in 1980.⁵⁶ Furthermore, the a major initiative to increase natural gas production which began in 1980-81, had the further effect of stabilising the share of hydrocarbons in the Soviet energy balance. In summary the *prime cause of first oil crisis was a deficient exploration policy* — insufficient reserves were being added at a time of increased production.

But it wasn't long before the second oil crisis (1982 - 1986) came into fruition. The past effort of massive increased investment, while safeguarding immediate output targets, did

⁵³ *Ibid.*, p 86.

⁵⁴ Lev Tchurilov, *Lifblood Of Empire: A Personal History of the Rise and Fall of the Soviet Oil Industry*. (New York, NY.: PIW Publications, 1996): pp 108-109.

⁵⁵ Gustafson (1989) *supra* note 42, p 27.

⁵⁶ *Ibid.*, p 28.

little to tackle the principal structural deficiency of the Soviet energy policy (i.e. one driven by supply and seeming oblivious to demand).⁵⁷ Essentially, all the Brezhnev programme had achieved was to delay the inevitable, by transferring productive capacity to Western Siberia. The insatiable appetite for oil within the economy, the increased call on Western Siberia, had pushed up the cost of oil as smaller more remote fields had to be developed. Then in 1982, Tyumen failed for the first time to meet its production target — no longer could the Western Siberian ‘lifeboat’ be expected to save the day. When Tyumen oil production peaked in 1984 and then began to decline two problems were endemic: firstly, an epidemic of idle wells (i.e. one out of every six wells was idle); and secondly the oil industry had quite simply failed to develop new prospects quickly enough.⁵⁸ As a result, the over-dependency on older fields intensified. Opposed to the first oil crisis, *the cause of the second oil crisis was development and production driven.*⁵⁹

Surprisingly, the fall in output was sharply reversed in 1986 and 1987, however the emergency response of the Government was similar to its response to the first oil crisis — a massive capital injection. Oil investment rose by 45% during the first four years of Gorbachev’s leadership, and was, for the most part, directed once again at development drilling.⁶⁰

It is interesting to note that at this point, Gustafson in his analysis, alludes to the likeliness of a third oil crisis,⁶¹ without the foresight of the impending dissolution of the FSU in 1991, but based purely on the sole assumption that historically the Soviet response to oil crises has been to utilise a massive capital injection (i.e. a diversion of investment resources away from other industrial sectors). While such a strategy is easy to

⁵⁷ *Ibid.*, p 41.

⁵⁸ *Ibid.*, p 104.

⁵⁹ *Ibid.*, p 107.

⁶⁰ *Ibid.*, p 119.

⁶¹ *Ibid.*, pp 123-133.

implement and provides short-term relief it does little to alleviate the long-term structural deficiencies inherent in the oil industry. On two occasions the wealth of Western Siberia absorbed such a rudimentary response, but the consequences of *Raubwirtschaft* (i.e. predatory exploitation)⁶² has been severe. As will be discussed in the next section, a third oil crisis did materialise, and was exacerbated by the dissolution of the FSU. The question remains what is the real solution for the oil industry's continuing crisis and does it require the massive injection of capital, which has so often been used in the past.

2.2.8 Summary of Past Cycles

The preceding discussion has spanned 150 years of the Soviet/Russian oil industry, bringing the study to a point in time just before the formal break-up of the Soviet empire. Throughout this period almost every conceivable situation has occurred — growth, decline, private ownership, nationalisation, state ownership, periods of conflict, periods of peace, technical innovation and the use of substandard technology. Anyone who can claim to predict the future should first give due consideration to the turbulent past which the FSU's petroleum industry has hitherto experienced — and looks to be continuing today. Recognising the limitation of making broad-brush characterisations, we would summarise the key historical points as follows:

Firstly, up until 1930, foreign investors played a large role in the petroleum industry of the North Caucasus, namely in the Baku and Maikop regions. While new prolific discoveries played a major role in the region's success, technical innovation through the direct participation of western investors was equally important. Initially, this was spurred on by Nobel in the late nineteenth century and then transferred on an individual concession basis in the 1920s, the most important being the two contracts held by the International Barnsdall Corporation.

⁶² *Raubwirtschaft* is a German word translated as predatory exploitation, that is, producing at rates grossly exceeding MER. Leslie Dienes, Istvan Dobozi and Marian Radetzki, Energy and Economic Reform in the Former Soviet Union, (New York, NY.: St Martin's Press, 1994): pp 48 and 174.

Secondly, in the late 1920s, the Soviet administration, having previously nationalised all oil properties, began to revoke and repeal all foreign oil contracts. By the early 1930s, no foreign companies were left operating in the upstream sector of the Soviet oil industry — a situation which basically remained until the late 1980s.

Thirdly, from the 1930s onwards, the success of the Soviet oil industry was essentially predicated upon the discovery of a new oil province each time the core production area entered into terminal decline. In the 1950s the Volga-Urals oil basin replaced declining production in the North-Caucasus, and then from the late 1960s onwards production in Western Siberia dominated. Much of this growth was based on exploitative practices and despite warnings by field engineers, long-term gains were habitually sacrificed for short-term revenue. While foreign investors essentially played no upstream role, turnkey factories and imports in the 1970s were used to over-come some of the most pressing technological barriers that could not be solved internally. Furthermore, where it was recognised that in-house resources were insufficient, even in the upstream sector, joint development projects were contemplated. For instance the Japanese consortium, the Sakhalin Oil Development Corporation (SODECO), began preliminary work on the development of oil and gas reserves off of Sakhalin Island⁶³ — although the project has still to come to fruition. Table 2.1 summarises the historical participation of foreign investors in the oil industry of the FSU.

Fourthly, while the first oil crisis (1977-1980) and the second oil crisis (1982-1986) were both caused by a poor management of the country's oil resources, the exact area of failure was different. The prime cause of first oil crisis was a deficient exploration policy whereas the prime cause of the second oil crisis was predominantly development and

⁶³ For a discussion on the early history of this project see William T. Onorato, "West-East Foreign Investment in the International Petroleum Sector: the Sakhalin Continental Shelf Oil and Gas Project," *I.C.S.I.D. Rev. - F.I.L.J.* 3 (Fall, 1988): pp 326-337. For an description of the more recent events see Keun-Wook Paik, *Gas and Oil in Northeast Asia: Policies, Projects and Pipelines*, (London: RIIA, 1995): pp 206-255; and Eugene M. Khartukov, "Russian Far East: Oil and Gas Policies, Risks and Rewards." East-West Centre Working Papers. Energy and Mineral Series. No. 4, 1994.

production driven. However, in either case the response of the Government was the same, a large sum of investment funds were transferred into the oil sector at the expense of other areas of the economy. While these emergency programmes may have appeared to solve the problem, in fact all they did was to aggravate the situation further by delaying the natural outcome of *raubwirtschaft* by a few years. In this respect, the third oil crisis (to be discussed below) which evolved during the dissolution of the FSU, owes much of its occurrence to these past legacies. It is unlikely that a simple injection of investment funds would solve the present crisis as this strategy has failed in the past.

Table 2.1 Historical Modalities of Foreign Participation

Period	Type of System	Remarks
1821 - 1873	Franchising/Lease System	-Maximum four year period -No security of tenure
1873 - 1896	Public Auction System	-Awarding of Concession to the highest bidder
1896 - 1917	Combined Action Royalty System	-Concession bidding -High rates of royalty (maximum government take = 40%)
1923 - mid 1930's	NEP ¹ - Pure Concession (Type I)	-No property rights -Royalty payments to the USSR -Foreign firm requested to invest stipulated amount of capital and introduce latest western technology -Firm contract for 20 - 30 years -Profit and capital repatriation warranty e.g. Gouria Petroleum (UK) - Gouria Concession 1923 e.g. Duverger (France) - Baku Concession 1923 e.g. F. Storens (Norway) - Busachi Concession 1925 e.g. Società Minere Italo-Belge di Georgia (Italy) - Shirak Concession 1923
1923 - mid 1930's	NEP - Mixed Company (Type II) Mixed Soviet - Foreign Participation (50:50 and later on 51:49 ownership)	-Soviet Chairman has deciding vote -Foreign Firm provides capital and technology -Soviets provide investment opportunity and specify location -Labour partly imported -Profits split according to equity e.g. Duverger (France) - Emba Concession 1923
1923 - mid 1930's	NEP - Technical Assistance (Type III)	-Soviets purchase of technology or services from foreign companies e.g. International Barnsdall Corp. (US) - Baku Concession 1921-1992
1970's	Joint Development	-e.g. SODECO (Japanese, Sakhalin Island) -e.g. VOSEI 100 (Canadian, Siberia)
late 1970's	Turnkey Manufacturing Plants	-e.g. Dresser Industries (USA): drill bits -e.g. Pressindustria (Italy): non-ionic surfactants -e.g. Deutsche Babcock (FDR): CO ₂ liquefaction -e.g. Struther Wells (USA): CO ₂ liquefaction
late 1970's - mid 1980's		-US Restrictions on Exports of Technology to the USSR
1987 - 1990...	Joint Enterprise ²	-Not equal to the Anglo-Saxon concept of JV -JE had possession, use, & disposition of property. Participant could only retain contribution to charter fund, not their % interest in JE's assets. -Limited legal capacity -Did not enjoy state immunity -Board consisting of representatives of participants

¹ Decree of 8 March 1923 replaced by Law of 21 August 1923 amended in 14 December 1927 and supplemented by special ordinances of 23 May 1926 and 17 April 1928. Sutton (1968) *op cit.* p 7.

² Decree No. 49 dated 13 Jan. 1987.

2.3 Post 1991 — The Current Crisis and An Industry In Transition

By 1991, the oil industry's worst fears had materialised, what had initially been a slow decline in production since a peak FSU output of around 625 MMt in the years 1987 - 1988 was rapidly accelerating into a free-fall; total FSU production dropped 10% in 1991, 13% in 1992 and a further 13% in 1993 (see Figure 2.1). The third oil crisis was well and truly underway. While the subsequent transition process has appropriated much of the blame for the continued decline this is not entirely the case. It is certain that the domestic industry was (and still is) suffering from a lack of capital and equipment,⁶⁴ but in order for these factor inputs to be effective they must be managed properly. Considerable debate was under-taken both by scholars and policy makers as to whether a 1948 Marshall-Aid type programme which was used to rebuild the Europe after the second World War could be reapplied to Eastern Europe and the FSU. The general consensus on this debate, was that the Marshall plan of yesterday would need to be turned upside down in order to meet today's requirements. That is, rather than being long on financial aid and short on technical assistance, western assistance to Eastern Europe and the FSU, should reverse their relative importance,⁶⁵ because it will first be necessary to improve the absorptive capacity of these countries. In the words of one commentator

“with appropriate reform measures, aid will not be needed. Without it, aid will be wasted. Large-scale concessional aid to the Soviet Union is an idea that should be interred before it is revived. It is neither something that the West should promise, nor that those who seek genuine reform in the Soviet Union should be encouraged to expect.”⁶⁶

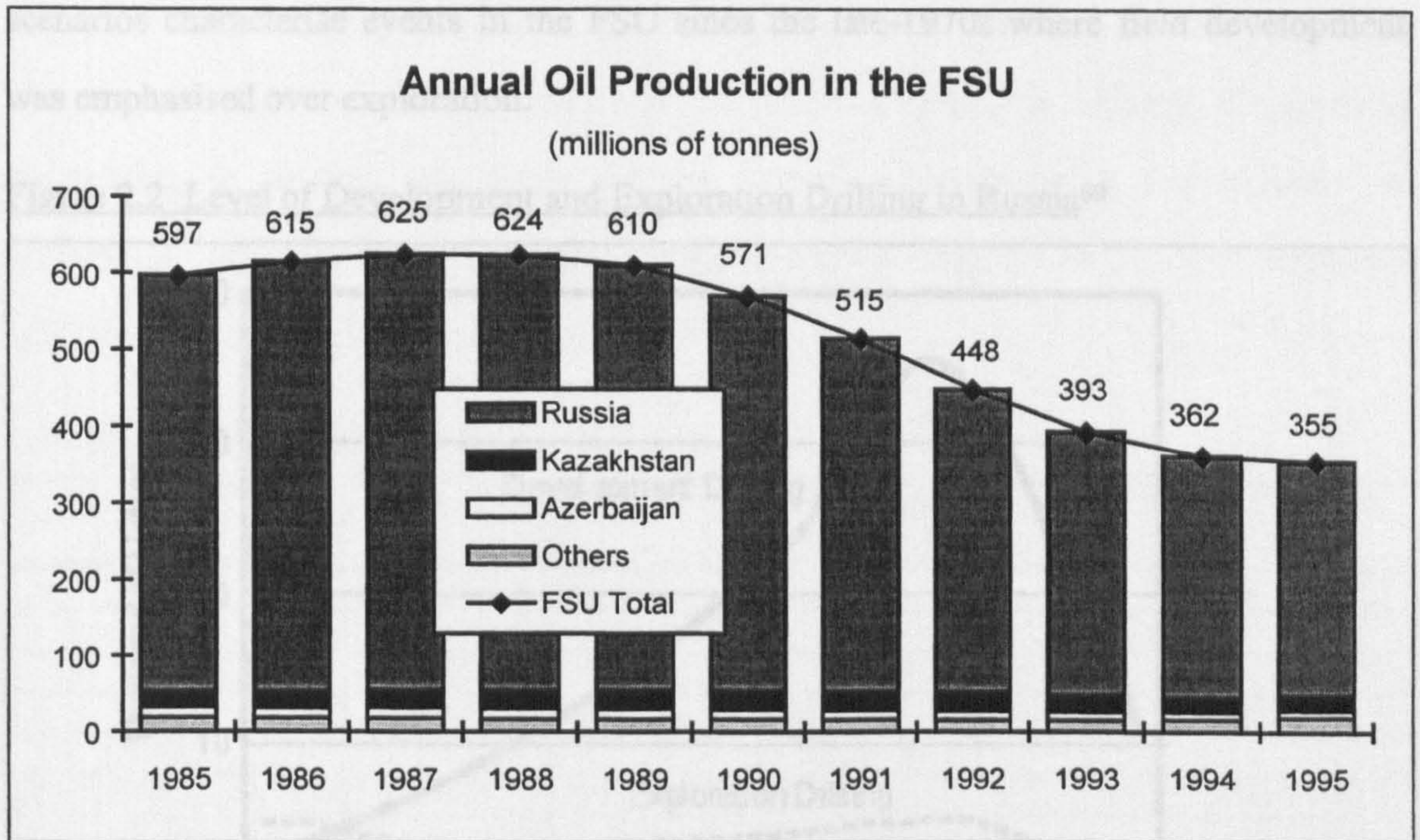
⁶⁴ IEA, Energy Policies of the Russian Federation 1995 Survey, (Paris: IEA/OECD, 1995): p 110.

⁶⁵ P.B.W. Rayment, “Is a ‘Marshall Plan’ Needed for Eastern Europe,” *reprinted* in The Road to Capitalism: Economic Transformation in Eastern Europe and the Former Soviet Union, David Kennett and Marc Lieberman eds. (Orlando, FL.: The Dryden Press, 1992): p 286; and Jack F. Matlock Jr., Autopsy on an Empire: The American Ambassador's Account of the Collapse of the Soviet Union, (New York, NY.: Random House, 1995): p 78. Cf. James R. Millar, “The Economies of the CIS: Reformation, Revolution or Restoration,” in The Former Soviet Union in Transition, Eds. Richard F. Kaufman and John P. Hardt for the Joint Economic Committee, Congress of the United States. (New York, NY.: M.E. Sharpe, 1993): p 53.

⁶⁶ Charles Wolf Jr., Economic Transformation and the Changing International Economic Environment, (Santa Monica, CA.: RAND, 1993): p 28.

In other words the provision of capital and equipment in the absence of macroeconomic reform (i.e. whereby producers are exposed to undistorted market signals) and an accompanying transfer of modern techniques and managerial practices would fail.

Figure 2.1 Annual Oil Production in the FSU



Source: BP Statistical Review of World Energy, 1994, 1995, 1996.

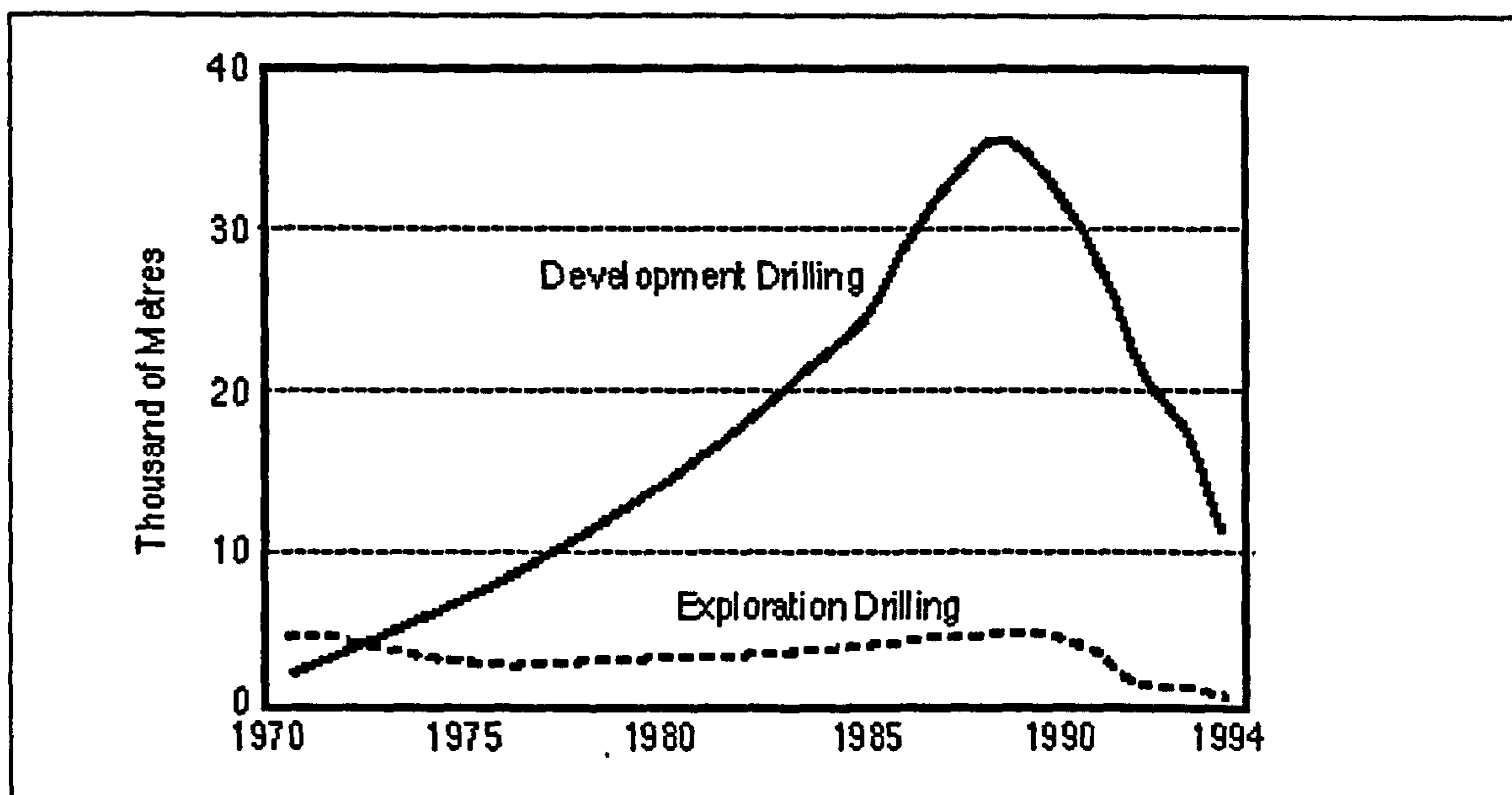
It is incorrect to apportion the blame of the third oil crisis, solely on a shortage of capital, thus one should not look exclusively to the supply of capital as the solution either. This was clearly illustrated during the two previous oil crises — money alone does not solve the underlying problems. Many of the difficulties witnessed today are exacerbated by the transition process, but they have their roots firmly in the past.⁶⁷ The first hang-over effect is that caused by the gross historical planning discrepancy between exploration and production drilling.⁶⁸ An oil company or country must continually carry-out new exploration to replace its depleting reserves if production is to be maintained or increased

⁶⁷ This view finds support from Russian commentators as well: V.A. Nesteov, "The Petroleum Industry and the Future of Russia," Resources: The Newsletter of the Canadian Institute of Resources Law (Summer, 1995): p 1; and Tchurilov (1996) *supra* note 54.

⁶⁸ An exploration well is a well drilled to test a potential but unproved hydrocarbon trap or structure where good reservoir rock and closure combined with a potential source of hydrocarbons. An appraisal well is drilled to confirm the size and quality of a hydrocarbon discovery. A development well is any well drilled in the course of the extraction of hydrocarbon which could either be a production well (i.e. from which hydrocarbons are produced) or an injector well.

in the future. But the probability of successful exploration is less than compared to successful appraisal and development drilling. Therefore a short-term investor or one which discounts the future at a higher rate or one who has an immediate need for revenue will prefer to invest in additional production rather than new exploration. The latter scenarios characterise events in the FSU since the late-1970s where field development was emphasised over exploration.

Figure 2.2 Level of Development and Exploration Drilling in Russia⁶⁹



While development drilling has witnessed a more extreme decline in absolute terms since the late 1980s as compared to exploration drilling, the ratio between the two has actually worsened. Whereas at the peak of development drilling in the late 1990s the ratio of development drilling to exploration drilling was roughly 7:1, in 1995 this ratio had slipped to 9:1⁷⁰ For Azerbaijan the operational bias in 1995 is even more skewed: 69,150 metres of development drilling in comparison to 2,072 metres of exploration drilling (i.e. a ratio of 33:1). Contrast the experience of these two FSRs with another mature production area, but this time outside of the FSU — drilling on the United Kingdom's Continental Shelf (UKCS); while the ratio of production drilling to exploration drilling

⁶⁹ Reproduced from IEA (1995) *supra* note 64, p 110.

⁷⁰ During 1995, 9923.3 km of production wells were drilled and only 1078.6 km of exploration wells were drilled. *Interfax Petroleum Report*, 2-9 Feb. 1996, pp 18-19.

has varied over the past 15 years in the UKCS, it has never exhibited the skewness of FSU operations. In fact in some years exploration and appraisal drilling has actually outpaced production drilling (see Table 2.2). But over the last five years drilling activities in the UKCS have been split equally between exploration and appraisal drilling and production drilling — this is in itself an implicit indicator of the industry's confidence in the North Sea as a future production base despite its maturity. Companies are willing to commit risk funds for the purpose of maintaining future levels of production. An entirely different philosophy prevails within the FSU — the emphasis still remains on immediate production.

Table 2.2 Ratio of Production to Exploration Drilling in UKCS

Year	No. Production Wells	No. Expl. & Appraisal Wells	Ratio of Prod. to Expl. Wells
1980	122	54	2.26:1
1985	133	157	0.85:1
1990	108	206	0.52:1
1991	125	166	0.75:1
1992	140	113	1.24:1
1993	134	96	1.40:1
1994	154	86	1:79:1
Avg. of 1990-94	132	133	≈ 1:1

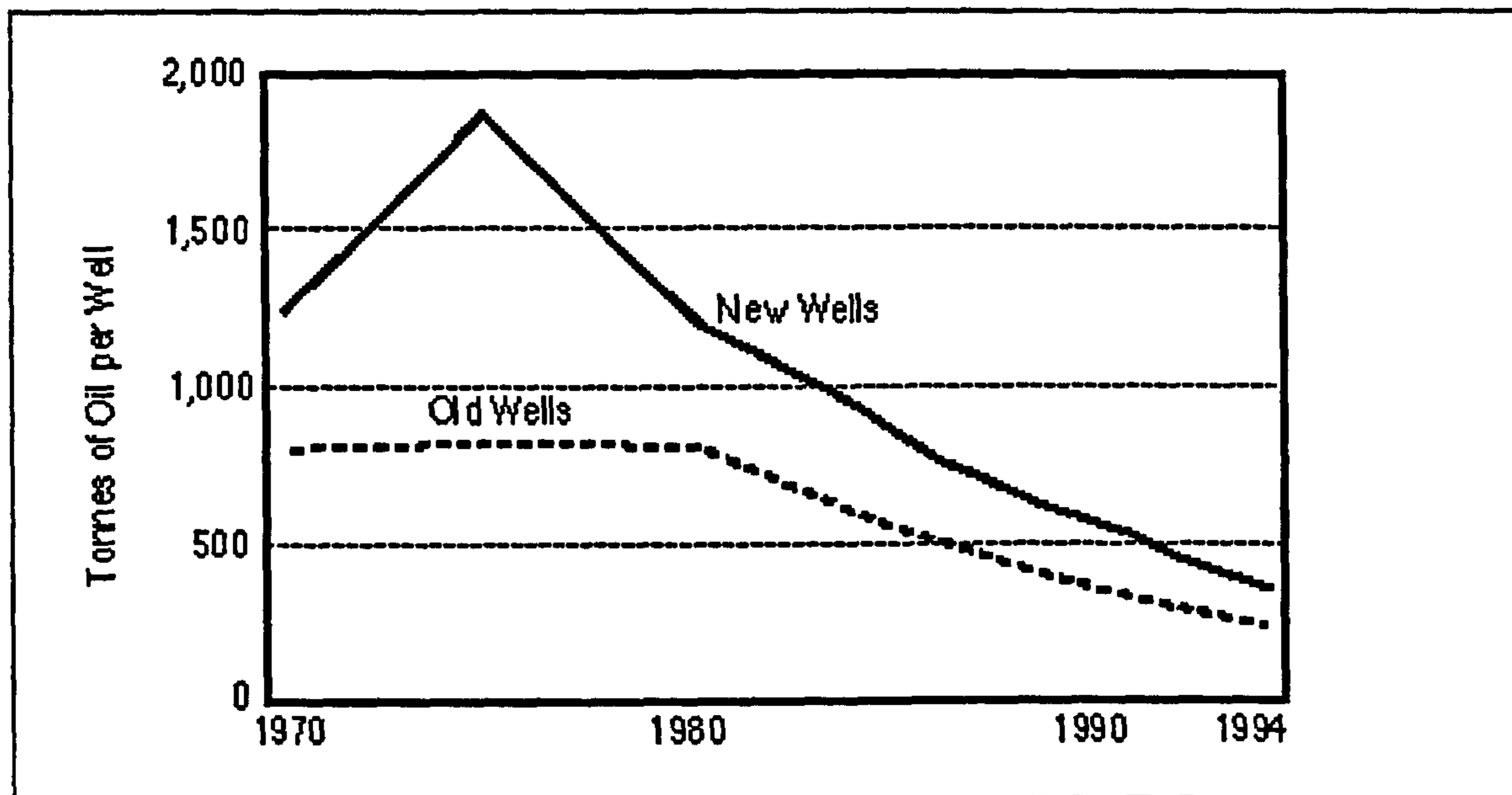
Source: The Institute of Petroleum, "Petroleum Statistics," 1992, 1993, 1994, 1995. A slightly different time series of exploration wells is provided by Petroconsultants as cited in Bryan Land, "Taking Stock of UK Licensing Activity," *O.G.L.T.R.* 13 (1995): p 454.

Figure 2.2 indicates the continued tendency of Russian companies to discount the future at much higher rates. Companies lacking confidence about the future choose short-term benefits (i.e. immediate revenues from development drilling) over the long-term gains from more risky exploration.

Compounded to this problem is the fact that marginal productivity from both new wells and old wells is becoming less and less attractive (see Figure 2.3). This not only represents the natural shift to smaller less prolific fields, but also indicates how historically the giant fields have been over-produced in the past. The result of exceeding a field's MER is a much sharper decline in production in later years. The combination of declining productivity and decreased development drilling make a return to previous peak levels of production highly unlikely in the foreseeable future. The real solution for

Russia and indeed for many other of the oil producing FSRs is to rectify the current imbalance between exploration and development drilling, while at the same time employing more efficient technological and managerial resources.

Figure 2.3 Level of Well Productivity⁷¹



The final hangover effect is the level of idle wells in the FSU. While we have only been able to construct a time series for Russia, this problem is not isolated to Russia. In 1993 the World Bank reported that 2,000 of Azerbaijan's 9,700 onshore wells were inoperative (i.e. 20.6%) while offshore at the Neft Dashlary ('Oil Rocks') Field some 400 out of 1,300 wells (i.e. 30.8%) were idle.⁷² Examining the data for Russia in Table 2.3 it is clear that this problem was well established before the transition period — even as far back as 1985, 16.6% of all wells were idle. Since that time the problem has only worsened — the one exception being in 1993, when the total number of idle wells actually decreased by 1,500 as a direct result of foreign companies involved in well reactivation.

⁷¹ Reproduced from IEA (1995) *supra* note 64, p 109.

⁷² Levitsky et al. (1993) *supra* note 41, pp 14, 16.

Table 2.3 Level of Idle Wells in Russia

	1985	1988	1991	1992	1993	1994	1995
Number of Idle Wells	5,000 ¹	7000 ²	25,000 ³	32,000 ²	30,500 ⁴	33,340 ⁴	38,514 ⁶
% of Idle Wells / Total Well	16.6%	..	20.0% ⁵	22.7%	26.7%

Note: All figures are assumed to be end of year unless otherwise stated.

¹ Gustafson (1989) *supra* note 42, p 104.

² Vice President of Rosneftgaz, cited by Ilya Leshchinets, "Capital Requirements - Domestic and Foreign Investment Opportunities," in Proceedings of 2nd Annual Russian Oil Conference, The Russian Oil Industry: Foreign Investment Opportunities, held by RIIA, PIW and CFIP, London, 11-12 Feb. 1993.

³ US International Trade Commission, Trade and Investment Patterns in the Crude Petroleum and Natural Gas Sectors of the Energy-Producing States of the Former Soviet Union, Investigation No. 332-338 (Washington, DC.: USITC, June 1993): p 3-1.

⁴ PlanEcon Energy Report, Apr. 1995, p 9. In the first nine months of 1993, 1,500 idle wells were reactivated by foreign firms, "On the Wire," R.P.I., Dec. 1993/Jan. 1994, p 25.

⁵ Another source stated that the number of idle wells in Western Siberia was greater than 20% by mid-1991 stood. Dienes et al. (1994) *op cit.* p 53.

⁶ Number of idle wells in Russia as of August 1995. Interfax Petroleum Report, 22-29 Sept. 1995, p 18. Additionally, In the first 3 months of 1995, the number of idle wells in Russia rose by 1,300. Brian Killen, "Oil Industry Blasted for Low Output," Moscow Times International Weekly Edition, 21 May, 1995, p 31. See also B.R.P.M. 12 Jan. 1996, p 10 which states the number of idle wells at the end of Oct. 1995 as 38,800 (26.8%).

In summary, the current and third oil crisis has been the result of inherited inefficiencies: improper balance between exploration and development expenditures; declining well productivity; and the dramatic increase in the number of idle wells. In addition there is the environmental factor, while not directly effecting production, the past damage has been excessive.⁷³ There is no doubt that the transition period has placed further strains on the production of oil in the FSU, investment capital is in short supply, but it has been shown that the industry's problems cannot be solely attributed to the latter. While exacerbating past problems, the present should be interpreted as a necessary period of rationalisation for the oil industry, no matter how painful. It is clear from where the industry has come, the benchmark for the future is most certainly the modern petroleum industry of the industrialised West. Domestic industries must make the successful transformation, there is no returning to the past as that door has already been closed. The largest and most accessible deposits are depleted, without bringing the industry in-line with modern standards there is little hope of achieving adequate reserve replacement to ensure a viable future.

⁷³ IEA (1995) *supra* note 64, p 129.

Although the preceding discussion aimed to discount the transition period as the cause of the third oil crisis, it has undoubtedly affected the industry by enveloping it within the sweeping changes taking place. It is fair to say that while these changes may be painful they are necessary, only the discipline of a market economy provides the incentive to make oil producers change their past habits. But, it is not only the companies themselves that must change — recall it was the engineers in the 1970s who fiercely opposed the government's excessive production targets. The Government must also be transformed. According to Mr. Anatoly Fomin, First Deputy Minister, Ministry of Fuel and Energy of the Russian Federation this means the "Government will have to create all indispensable economic conditions."⁷⁴ Given the correct market signals and the freedom to react to those signals the oil industry will be compelled to act in a manner which should correct the deficiencies of the past. Whether one is an advocate of 'shock therapy' or the gradualist approach no-one questions the far reaching changes that must occur: price liberalisation, promulgation of new regulatory and fiscal frameworks, privatisation including the (re)establishment of new spheres of control both at the corporate level and at the three levels of government (federal / regional / local), shift in sources of investment capital from state credits to private capital and the gradual transnationalisation⁷⁵ of large companies which can successfully compete on the international market with other TNCs. It is a highly complex process exacerbated by timing discrepancies in the achievement of individual goals of reform. In an ideal world one would snap their fingers, and miraculously, a perfect market economy would materialise. But the reality is that many of the changes have yet to run their full course and their outcome is far from predictable. The result is that while oil companies, notably in Russia, now have the freedom to act,

⁷⁴ Scottish Enterprise and Grampian Regional Council, "Market Report: Tyumen Region Western Siberia," Feb. 1995, p 13.

⁷⁵ Transnationalisation implies the expansion of a company's operations beyond its own home country. LUKoil, Gazprom and to a lesser extent Yukos have all initiated aggressive expansion strategies within other FSRs, Eastern Europe and even in the industrialised West in some circumstances. Essentially, one is witnessing the birth of a new generation of oil majors. Consider the changes in PIW's Ranking of the World's Top 50 Oil Companies. In 1994 only two Russian companies (Gazprom and LUKoil) were listed whereas in 1995 seven more Russian companies (Sidanco, Surgutneftegaz, Yukos, Rosneft, Tyumen Oil, Sibneft and Slavneft) were added thereby displacing previously established western firms according to PIW's grading procedure (reserves, production, refining capacity and product sales). See "PIW Ranks The World's Top 50 Oil Companies," PIW — Special Supplement Issue, 18 Dec. 1995, pp 2-4.

their rational decision in an imperfect world of high taxes and uncertainty is biased towards short-termism.⁷⁶

On a more optimistic note it appears that the third oil crisis is stabilising in some regions.⁷⁷ Whether the FSRs can build on this momentum probably depends to what extent they are willing to embrace foreign capital and foreign equity participation in their domestic industries. It is suggested that much of the improvement witnessed hitherto has been the direct result of foreign capital and technology,⁷⁸ and if FSRs have aspirations of (re)joining the club of industrialised countries, then foreign investment has an important role to play. Whether this is politically feasible at the present time is another matter. But statements to the effect that economic success will be achieved with a maximum foreign participation of 10% show an ignorance of global capital flows amongst industrialised nations (see §3.2).

This section began with a discussion on the causes of the third oil crisis, followed by the assumption that although the third oil crisis has been exacerbated by the current transition period, it is a necessary and painful constituent of the process of rationalisation which the oil industry is undergoing. The fact that the third oil crisis in Russia may be starting to

⁷⁶ For example, the continuing emphasis on production rather than exploration (since 1993 the discovery of new reserves has failed to offset production) or instances where the unprofitable export oil is continued just because hard currency customers tend to pay their bills on time as opposed to domestic clients.

⁷⁷ While overall FSU oil production is still declining, although at a lesser rate (i.e. 2% between 1994 and 1995) Uzbekistan has increased oil production, Kazakhstan has slightly increased production, while in Russia some domestic firms have increased production. BP Statistical Review of World Energy 1996, p 6; and R.P.I. Mar. 1996, p 84.

⁷⁸ *E.g.* Tatneft whose oil production was up 6% in 1995 compared with 1994 has been the recipient of \$50 million credit line from a consortium of German Banks led by Deutsche Bank and guaranteed by HERMES. Tatneft operates the Tatex, Tatoilgas and Tatoilpetro JVs with western partners. Kogalymneftegaz, a subsidiary of LUKoil, increased its production by 3% in 1995 over 1994 and is a recipient of World Bank credits. Chernogorneft's oil production in 1995 was 96.2% of 1994 levels representing a significant drop in the rate of annual decline which was 29% in 1994 over 1993. Chernogorneft operates three JVs with western partners (Vanyeganneft, Chernogorskoye and Yugraneft) and has been the recipient of EBRD credits. A high priority for Uzbekistan is achieving energy self-sufficiency. Although its production goal remains small on a regional scale (i.e. 9 MMtpy by the year 2000), Uzbekistan has increased production through the use of oil and gas service contracts with foreign investors. Rupert Wood, "Uzbekistan" in Investing in the Caspian Sea Region: Opportunity and Risk, Martin McCauley eds. (London: Catermill Publishing, 1996): pp 88 and 93.

bottom out suggests increasing exposure to market forces and the positive contribution played by foreign capital hitherto. Before concluding this chapter, a brief discourse on the natural gas industry will be presented. While natural gas is not the prime focus of this thesis, we wish to raise the point of why the gas industry should learn from the mistakes of the oil industry.

2.4 The Natural Gas Industry — A Similar Pattern?

As with the oil industry, the production of natural gas in the FSU is dominated by Russia, but this was not always the case. Central Asia, Caucasus, and Ukraine accounted for 78% of all production in 1970,⁷⁹ but the development of world class gas fields in the Soviet far north completely reversed this position — in 1995 Russia accounted for 84% of all FSU natural gas production.⁸⁰ The late 1970s and 1980s can be considered the glory years of the Soviet gas industry as production rose year after year. But since 1991, overall natural gas production in the FSU has decreased thus breaking with the past trend. Will this trend continue as has been the case in the oil industry or is it only a temporary readjustment? In order to ascertain the answer, one first needs to examine the cause of the drop in output. Is it attributable to a drop in consumption, production problems, or some combination of both? The latter is probably the more likely scenario, but proving this to any extent would be difficult as most gas usage in the FSU is unmetered, so in some ways the gas industry remains more of an enigma.

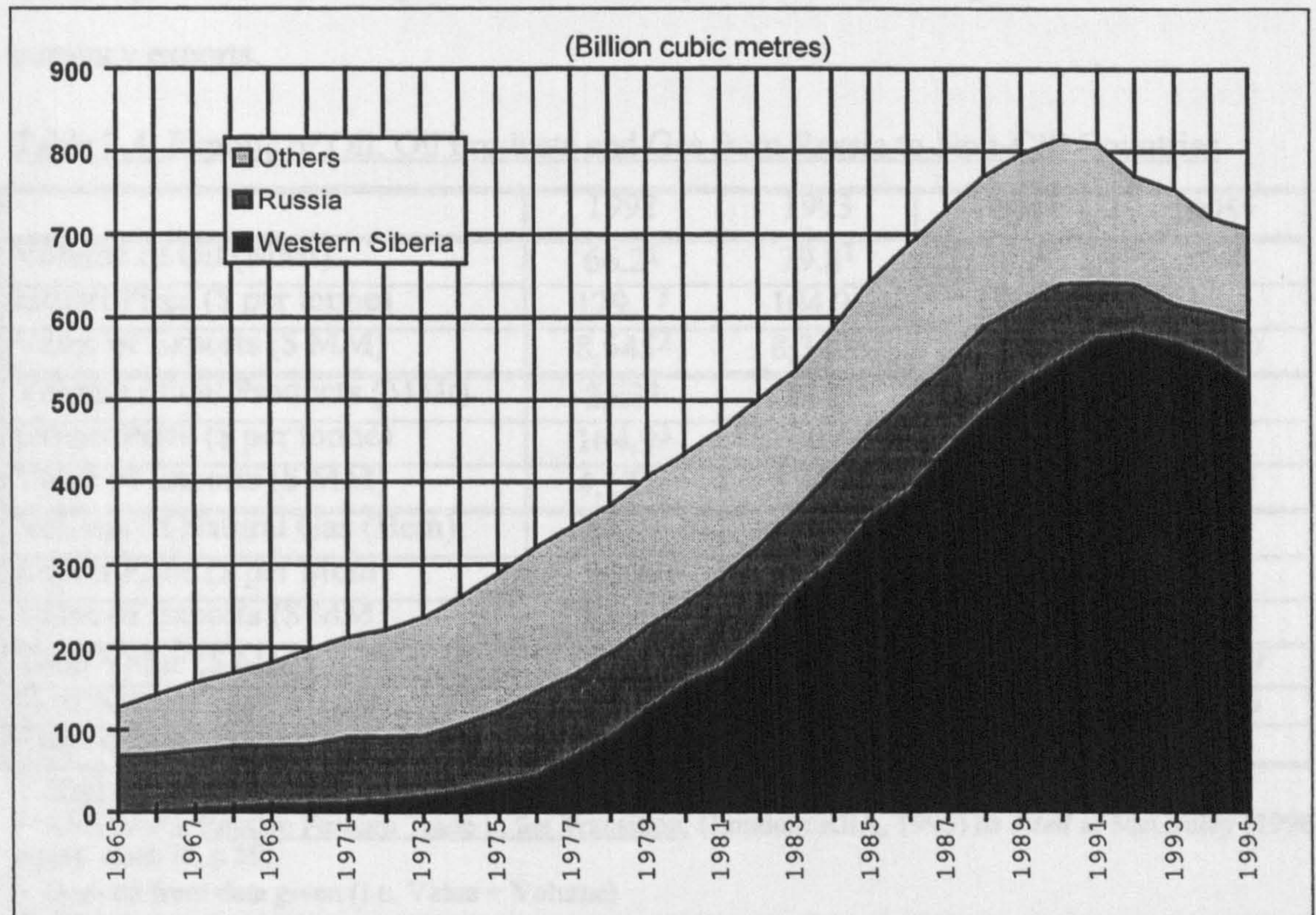
Similar to the oil industry, most FSRs' gas industries have experienced declines in production, only recently have Uzbekistan, Kazakhstan and Azerbaijan managed to increase their production of natural gas whereas the other principal producers Ukraine, Turkmenistan and Russia have sustained further losses. It is highly likely that natural gas production will increase in Central Asia, namely from Turkmenistan and Uzbekistan, but also with the emergence of a new player, Kazakhstan with their planned development of

⁷⁹ Ebel (1994) *supra* note 6, p 49.

⁸⁰ BP Statistical Review of World Energy 1996, p 22.

the huge Karachaganak gas field. Gas production in Azerbaijan has increased by virtue of the offshore gas compression facility completed by Pennzoil and Ramco in 1995 which now captures 3 to 4.3 million m³ of natural gas per day which was previously vented.⁸¹

Figure 2.4 Annual Natural Gas Production in the FSU



Source: Petroconsultants, *CIS Petroleum Map*, 1994, 1996

On the other hand the position of Russia may be more worrying due to their heavy reliance on a few key gas fields.

“Although Yamburg and Urengoy will not dry up overnight, it is uncertain whether they can carry the gas industry until new fields are brought in. In the absence of the capital investment needed to restore reservoir pressure, natural gas flows will continue to decline.”⁸²

This assessment is by no means unchallenged, Jonathan Stern argues that

“[p]roduction capacity [in Russia] can be maintained at 1994 levels by producing gas from deeper horizons of existing fields and developing smaller satellite fields in the Nadym-Pur-Taz region. ... Only as the industry approaches 2010 may new sources of high-cost gas [i.e. Yamal Peninsula], accessed through new high-cost transmissions systems be

⁸¹ Cf. *BP Statistical Review of World Energy 1996*, p 21.

⁸² Ebel (1994) *supra* note 6, p 57.

required; and even this is not certain, given Russia's options to supplement its own supplies with gas from Kazakhstan and Turkmenistan.⁸³

So even among the experts there is a divergence of opinion about the future production capacity of the FSU industry. But what is certain is that in recent years, exports of natural gas have challenged the oil industry as the region's greatest earner of hard currency exports.

Table 2.4 Exports of Oil, Oil Products and Gas from Russia to Non-CIS Countries

	1992	1993	1994 ⁴	1995 ⁴
Volume of Oil (MMt)	66.2 ¹	79.8 ¹	95.4	96.8
Export Price (\$ per tonne)	129.1 ³	104.9 ³	100.6	107.5
Value of Exports (\$ MM)	8,545 ²	8,370 ²	9,597	10,406
Volume of Oil Products (MMt)	25.3 ¹	34.5 ¹	39.1	42.1
Export Price (\$ per tonne)	164.9 ³	100.6 ³	86.2	91.9
Value of Exports (\$ MM)	4,171 ²	3,471 ²	3,370	3,869
Volume of Natural Gas (Bcm)	88.9 ¹	96.0 ⁵	109.6	121.9
Export Price (\$ per Mcm)	84.1 ³	77.5 ³	72.8	80.1
Value of Exports (\$ MM)	7,479 ²	7,443 ²	7,979	9,764
Total Value (\$ MM)	20,195	19,284	20,946	24,039
% of Natural Gas to Total	37.0%	38.6%	38.1%	40.6%
Ratio of Natural Gas to Oil	0.875	0.889	0.831	0.937

¹ PlanEcon Energy Report, Apr. 1995, pp 13, 14.

² Alan Smith, Russian Foreign Trade in the Transition, (London: RIIA, 1995) as cited in McCauley (1996) *op cit.* note 78, p 59.

³ Derived from data given (i.e. Value + Volume)

⁴ Russian Economic Trends 4, no. 4 (1995): pp 83-84.

⁵ Russian Economic Trends 4, no. 3 (1995): p 109.

The value of natural gas exports now accounts for 40% of Russian energy exports, excluding coal. Furthermore the ratio of the value of natural gas exports to crude oil exports has crept up to 0.94 in 1995. If the importance of the natural gas industry is to increase or at least maintain its position, new investment is paramount. Figure 2.4 clearly illustrates that FSU gas production has peaked and will likely decline unless preventative measures are taken. One may argue that the needs of the natural gas industry are neither as complex nor as pressing as the needs of the oil industry⁸⁴, but the former cannot afford

⁸³ Stern (1995) *infra* note 84, p xv.

⁸⁴ Jonathan P. Stern, Oil and Gas in the Former Soviet Union The Changing Foreign Investment Agenda, Post-Soviet Investment Forum, (London: RIIA, 1993): p 16.

to be complacent and should heed the mistakes made in the past by the oil industry.⁸⁵ While there is some debate as to which investments should be pursued, both Stern and Ebel stress the importance of renewed efforts to maintain productive capacity. The uncertainty of the development of the next generation of gas fields in the remote and hostile Yamal Peninsula lies in its timing but not in the goal *per se*.⁸⁶ Furthermore, much of the natural gas pipeline system, like the oil pipeline infrastructure, is ageing and requires maintenance, up-grading and even replacement. Delays in investment today will not be masked by the tremendous growth in gas production and revenues as was the case in the 1980s. If the gas industry is to learn from the mistakes of the oil industry, particularly in Russia, then the expedient flow of well directed investment now is paramount for ensuring a sustainable future. Whether Gazprom can finance these investment requirements is another matter, and the conclusion of one study is that

“...despite the major problem of non-payments by customers, the company is capable of creating sufficient resources for investment from sales revenues to sustain high production levels. It is far less certain however, that the company will be able to mobilise sufficient resources from internal sources to carry out enormous projects for the development of new giant gas fields.”⁸⁷

2.5 Conclusion

This first part of this chapter presented a history of the oil industry in the FSU. Up until the 1930s, foreign companies played a significant role in the industry's development. Western firms were instrumental in transferring technology and acting as a source of investment capital. Even in the 1920s when there was considerable opposition to foreign participation, the Soviets showed themselves to be quite pragmatic when balancing ideology and commercial requirements. With production restored, foreign companies

⁸⁵ Stern (1989) *supra* note 51, p 8.

⁸⁶ *E.g.* the Barents Sea, Kara Sea including the Yamal Peninsula, East Siberia, Lena-Tunguska, and Sakhalin. For recent discussion on the implications of the Yamal gas project for Western Europe see Jonathan P. Stern, The Russian Natural Gas Bubble: Consequences for European Gas Markets, (London: RIIA, 1995); Roelof D. Visser, “Yamal - Key to a Free Gas Market in Europe,” in Energy Charter Treaty: Selected Topics, Thomas W. Wälde and Katherine M. Christie eds. (Dundee: CEPMLP, 1995): pp 5.1 - 5.12; and Thane Gustafson and Vadim Eskin, “Can Russian Gas Compete in the New Century?” CERA Private Report - FSU Energy, Jan. 1994.

⁸⁷ Valery Kryukov and Arild Moe, The New Russian Corporatism? A Case Study of Gazprom, Post-Soviet Business Forum, (London: RIIA, 1996): p 27.

were then expelled from upstream operations in the FSU's oil industry from the 1930s onwards. With the exception of some key turnkey manufacturing plants the situation remained as such until the 1980s. However the growth witnessed by the Soviet oil industry was predicated by the discovery of a prolific new basin each time the preceding area of core production entered into decline. Their prolific oil fields amply compensated for their lack of modern technology. However, the planning targets set by Gosplan consistently exceeded the maximum efficient rate of production, and as a result oil fields were terminally damaged and entered into a sharper decline than would have otherwise been the case. The production boom enjoyed by the Soviet's was based on a false premise of *Raubwirtschaft* — an entirely unsustainable form of reservoir management. The occurrence of three oil crises (1977-80, 1982-86, and 1990-95/6?) provide ample evidence of the destructive nature of this policy. The Soviet response to the first two crises was the same — a massive infusion of investment capital to the oil industry. However, as production targets reigned supreme, drilling activity remained biased towards production, a trend that still continues today. As capital alone did not solve the first two oil crises, we must not believe that capital alone will be the solution to the third ongoing crisis. It is essential that a substantial transfer of technology and management skills accompany any large flow of capital. Foreign investment, through the participation of IOCs, can satisfy all three requirements. Equally though, the onus is upon the host governments to provide an favourable environment which permits their industries to prosper and freely act according to undistorted market signals.

Finally, we briefly touched on the natural gas industry which is relatively healthier than its oil industry counterpart, but cannot afford to be complacent and should heed the mistakes of the latter. The fact that the oil industry is undergoing a painful process of rationalisation is a blessing in disguise. The natural gas industry, in particular Gazprom, continues to enjoy an absolute monopoly, and has yet to be exposed to the same market forces as the oil industry. Without the financial discipline of the market the gas industry risks repeating the experiences of the oil industry.

Part III

FINANCING FOR THE FSU

3. FOREIGN DIRECT INVESTMENT (FDI)

3.1 Introduction

The previous chapter traced the evolution of foreign investment in the pre-Soviet and Soviet oil and gas industry, and then drew attention to some of key challenges facing the industry today. During periods of history when foreign investment was permissible the beneficial effects were forthcoming. Not only did foreign investors play a significant role in developing Baku's oil industry in the late 19th century, the concession granted to the Barnsdall Corporation was instrumental in reviving the region's production in the aftermath of the Bolshevik Revolution.¹ The Barnsdall Corporation provided investment capital and facilitated access to the latest standards of modern technology and oil production techniques. These are still considered to be among the principal benefits and justification for FDI.²

The purpose of this chapter is to review the status of FDI in the upstream petroleum sector of the FSU, bearing in mind prevailing host country attitudes to such activity. We shall quantify the interest expressed by IOCs and identify any existing trends. The dissolution of the FSU created a heterogeneous grouping of newly independent sovereign states whose values and needs are not necessarily the same. Therefore, we postulate that foreign investment even in marginal deposits is now possible, though this would not have

¹ The analysis given by Antony C. Sutton, Western Technology and Soviet Economic Development 1917 to 1930, (Stanford, CA.: Hoover Institution Publications, 1968): pp 16-44 gives greater weight to the contribution of foreign firms in the economic recovery of the Caucasus oil fields which then represented the core of Soviet oil production, than does the account by Louis Fischer, Oil Imperialism: The International Struggle for Petroleum, 1926 Reprint (Westport, CT.: Hyperion Press Inc., 1975): pp 110-111 and 121. Although the latter study does acknowledge the existence of such improvements.

² The amount literature which has been written about FDI is immense. Interested readers are directed to the list of references contained in UNCTAD, World Investment Report 1995: Transnational Corporations and Competitiveness, (New York, NY.: United Nations Publications, 1995).

been the case when such deposits were considered as integral parts of the whole USSR. This chapter draws heavily upon the Foreign Oil and Gas Investment (FOGI) Database which was developed for this purpose and is outlined in Appendix A.

3.2 Trends of Foreign Direct Investment in General

The level and structure of long-term financial flows to developing countries has changed dramatically over the past decade. In 1987 when the total of long-term financial flows stood at \$68.5 billion, official development assistance (ODA) accounted for 63.4%, net private loans of 14.3%, FDI of 21.3%, and portfolio investment of 1%.³ By 1994, when long-term financial flows had reached \$227.3 billion, ODA only accounted for 23.9%, net private loans of 24.4%, FDI of 34.3%, and portfolio equity investment of 17.4%.⁴ In absolute terms FDI has increased by a factor of 5 whereas portfolio equity investment has increased by a factor of 50.⁵

Table 3.1 shows a break-down of global FDI inflows according to developed countries, developing countries and Central & Eastern Europe. While the latter enjoyed healthy growth in the early part of the 1990s, their share of global FDI has remained small at approximately 3% of the total. Clearly there is room for expansion. If we are to assume that Russia is to become the prosperous and modern economy of the 21st century to which it aspires,⁶ then it must be willing to accept a high level of foreign investment.

³ World Bank Annual Report 1995, p 214.

⁴ *Ibid.*

⁵ *Ibid.*

⁶ Vis-à-vis Russia efforts to become a member of the G-7 industrial group of nations. Cf. Czech Republics accession to OECD in Dec. 1995.

Xenophobic statements by nationalists who feel that Russia can succeed in becoming a developed country, but in isolation of western capital, seem to ignore the fact that developed countries still consume over 60% of global inflows of FDI.

Table 3.1 Global FDI Inflows, 1982-1994

Year	Developed Countries (\$US Bn)	Developing Countries (\$US Bn)	Central & Eastern Europe (\$US Bn)	All Countries (\$US Bn)
1982-1986	43	19	0.02	61
1987-1991	142	31	0.60	174
1989	172	29	0.30	200
1990	176	35	0.30	211
1991	115	41	2.50	158
1992	111	55	4.40	170
1993	129	73	6.00	208
1994	135	84	6.30	226

Source: UNCTAD (1995) *supra* note 2, p 14.

But it has not been Russia with its vast endowment of natural resources which has captured the bulk of the FDI inflows to the Central & Eastern European region, but rather countries such as Czech Republic, Poland and Hungary. While Russia's presence is now noticeable in absolute terms, its record pales in comparison to Eastern Europe or the Baltic States on a per capita basis. For instance, as of June 1995 the cumulative inflow of FDI for European transitional economies stood at just over \$21 billion (\$64 stock per capita), including the Baltic States at \$938 million (\$122 stock per capita), Czech Republic at \$3.8 billion (\$365 stock per capita), Hungary at \$7.4 billion (\$717 stock per capita) and Russia which attracted just under \$4 billion (\$27 stock per capita).⁷ Overall Eastern Europe still accounts for three quarters of cumulative inflows of FDI. From the perspective of net inflows (i.e. the difference between inflows and outflows) Russia's position is even more worrisome as it has for the most part been a source of net outflows

⁷ UNECE, Economic Bulletin for Europe 47 (1995): p 100.

rather than inflows (see Table 3.2). Perhaps the comparison with the transitional economies of Eastern Europe is a little unfair as their reform process has been underway for a longer period of time, but this is not the case for the Baltic States of Estonia, Latvia and Lithuania who only reasserted their independence in 1991. Even these smaller countries have outperformed Russia with respect to net inflows of FDI, particularly on a per capita basis.

Table 3.2 Flows of Net FDI into European Transition Economies

	1990	1991	1992	1993	1994	January - June		FDI flow per capita 1994
						1994	1995	
Eastern Europe	443	2303	3066	4522	3247	1269	1709	30
Czech Republic	120	511	947	1094	749	206	388	72
Hungary	311	1459	1471	2328	1097	495	464	106
Poland	10	117	284	580	542	291	336	14
Others	2	216	364	520	859	277	521	18
Baltic States	N/A	N/A	109	242	398	270	194	52
European CIS	-400	-100	95	887	0	115	84	0
Belarus	N/A	N/A	7	7	10	5	5	1
Moldova	0	0	0	0	12	5	7	3
Russian Federation	-400	-100	-112	682	-173	64	-2	-1
Ukraine	N/A	N/A	200	198	151	41	74	3
Total	43	2203	3270	5651	3645	1654	1987	11

Source: Calculations based on selected entries from UNECE, *Economic Bulletin for Europe* 47 (1995): p 95; and "Investing in Central and Eastern Europe," *Financial Times Survey*, 15 Apr. 1996.

As far as formulating a judgement on other members of the CIS we are hampered by the lack of reliable statistics, and any attempt by ourselves to assign a quantitative value would be very speculative. Generally speaking the observation that FDI has hitherto been limited and well below expectations appears justified, particularly in contrast to the proliferation of joint venture registrations. The latter provide us with a barometer of the high level of interest expressed by foreign investors in the region. In Russia, the number of registered JVs increased from less than 1000 at the beginning of 1990 to more than

16,000 by the beginning of 1995.⁸ Similarly, in Kazakhstan the number of registered JVs increased from 8 in 1989 to 500 in 1992 to 1509 by mid-1994.⁹ These numbers are not a true indicator of FDI as they take no account of JVs which fail to start-up or are subsequently liquidated and not removed from the official registers,¹⁰ nevertheless they establish the fact that the number of foreign companies contemplating investment is high. But this is in sharp contrast to low levels of FDI flows and stocks actually observed. In other words, the CIS region as a whole, and in particular Russia, has hitherto failed to crystallise the interest of prospective foreign investors into a commensurate degree of actual investment. In summary, there continues to be a wide disparity between the low level of investment and the high level of interest.

These general comments can be extended to the petroleum sector of the FSU, where foreign investors have expressed the most enthusiasm. In Russia, the proportion of total FDI in the fuels and energy complex increased from 16% in 1993 to 50% in 1994.¹¹ In countries such as Azerbaijan and Kazakhstan these percentages are likely to be higher due to the prospect for the petroleum industry to play a larger role in their domestic

⁸ Statistics on the number of registered JVs tends to be erratic often exhibiting discrepancies among sources. Although time series may differ, all indicate a proliferation of registrations. See Yevgenia L. Yakovleva, "Trends in Foreign Direct Investment," in Foreign Investment in Russia: Salient Features and Trends, Second Report, Alexander Z. Astapovich Ed., (Moscow: INFOMART Agency, 1995): pp 27-46; and UNECE, Economic Bulletin for Europe 46 (1994): p 130.

⁹ See "Facts & Figures: JV's Mushroom in Kazakhstan," Delovie Lyudi – The Letter, No. 29, 16 Dec. 1992, p 1; and Paul Thomas, Kazakhstan: Investment Opportunities in the Energy Sector, (London: Financial Times Energy Publishing, 1995): p 29.

¹⁰ Data for the CIS as a whole show that in 1992 and the first three quarters of 1993 the percentage of registered JVs which were operational was only 52% and 65% respectively. Yakovleva (1995) *supra* note 8, p 38.

¹¹ Russian Economic Trends 4, no. 1 (1995): p 118. An alternative estimate based on the first three quarters of 1994 is as high as 70%. Yakovleva (1995) *supra* note 8, p 45.

economies. Our analysis now turns specifically to foreign investment in the upstream oil and gas sector of the FSU.

3.3 Why is the FSU attractive to IOCs?

The dissolution of the FSU brought with it the opportunity for IOCs to theoretically access the region's petroleum resources. Based purely on a judgement of known recoverable reserves the FSU, is comparatively speaking, not as attractive as other parts of the world (see Table 3.3). The FSU's share of global oil reserves has been steadily declining over the past twenty years as has been the case for Europe, Asia and Australia, and more recently North America. In this respect the FSU currently only ranks fifth (i.e. 5.5% of the total) dropping from second in 1975 and third in 1985. All the while the Middle East continues to dominate global distribution of oil reserves.

Given that over 60% of the world's oil reserves are "closed" or "off limits" to western IOCs, even the FSU's relatively modest level of reserves are attractive.¹² But, what really counts in long-term exploration and development strategies is not so much the current level of known reserves, but rather the possibility of additional reserves as a result of further investment. Because the FSU possesses 37% of the world's sedimentary basins, compared to North America (2%) and the Middle East (11%),¹³ the perception of making further discoveries is highly favourable when compared to the mature petroleum producing regions of North America and Europe.

¹² This concept is further elucidated in §5.4.2 which ranks the world's oil reserves according to political/country risk ranking.

¹³ Marshall I. Goldman, The Enigma of Soviet Petroleum Half-empty or half-full? (London: George Allen & Unwin Ltd., 1980): p 127.

Table 3.3 Regional Distribution of Reserves

Region	Proved Oil Reserves at Year End			
	1975 (%)	1985 (%)	1995 (%)	1995 (Bn bbls)
Middle East	55.2	56.1	64.9	659.5
North America	8.5	13.1	8.5	86.6
S. & Central America	3.9	4.9	7.8	78.9
Africa	9.8	8.0	7.2	73.1
FSU	12.1	8.6	5.5	57.0
Asia & Australasia	6.2	5.3	4.4	44.1
Europe	4.3	4.0	1.7	17.7
Total	100%	100%	100%	1016.9

Source: BP Statistical Review of World Energy 1996, p 4.

A rough approximation of the ability to add reserves in any given country is provided by the density of drilling (i.e. the more wells that have already been drilled the less likely are the chances of making further discoveries). While it would be desirable to know the total number of wells drilled per square kilometre in each and every petroleum basin, a simplification is to just compare the total the number of wells drilled to-date divided by the region's share of the world's sedimentary basin. A 1994 publication indicates that the cumulative number of wells drilled in North America is in excess of 3.2 million, in the Middle East less than 50,000 and in the FSU approximately 600,000.¹⁴ Thus, exploration and development activity in North America amounts to approximately 1.6 million wells per 1% of the world's sedimentary basin, in the FSU approximately 16,200 wells have been drilled per 1% of the world's sedimentary basins, and in the Middle East 4,500 wells have been drilled per 1% of the world's sedimentary basins. These calculations are only an approximation, but they do demonstrate the favourable geological potential of the FSU, compared to North America which has the highest density drilling.

¹⁴ Daniel Johnston, International Petroleum Fiscal Systems and Production Sharing Contracts, (Tulsa, OK.: PennWell Publishing Company, 1994): p 205.

Opinion on estimates of the FSU's ultimate recoverable oil & gas reserves differ, but some commentators suggest that the FSU's possible oil & gas reserves are twice as great as Saudi Arabia's known reserves [sic].¹⁵ Such optimism is perhaps not unwarranted, provided it is treated cautiously. Witness the contrasting response of the Kazakh Government versus those of IOCs towards the results of a seismic survey carried out in the north-east quadrant of the Caspian Sea. While the former believed the results indicated possible reserves of 10 billion tonnes and 2.5 Tcm, western oil companies involved in the project estimated the region's potential at 4 billion tonnes of oil with the corresponding caveat that no wells have yet been drilled.¹⁶ To put these estimates in perspective, 10 billion tonnes exceeds Russia's known oil reserves by 50%. For our purposes, the absolute value of any of the foregoing estimates is of limited practical use. What is fundamental to our analysis is the favourable perception held by IOCs of making additional discoveries, regardless of what the exact level may or may not eventually be. This, combined with the possibility of gaining access to previously discovered but hitherto undeveloped deposits, has resulted in a high level of interest by IOCs.

3.4 Upstream Investment Trends / Forecast for the Future

Beginning in the 1990s foreign interest in the oil and gas resources of the FSU accelerated. Our research indicates the existence of 292 upstream projects either under discussion or development within the FSU, that involve foreign investors. Furthermore,

¹⁵ This exercise is not strictly speaking correct as it compares Russia's position taking into consideration likely future additions to oil and gas reserves without allowing the same for Saudi Arabia. As was indicated in the text of our discussion density drilling is actually lower in the Middle East than compared to the FSU, thus it seems logical that more additions to oil and gas reserves may be made in the Middle East as opposed to FSU, not the other way around. Robert A. Gray, "Investment in the FSU Oil and Gas Industry: A Financial Advisor's Perspective," Oil & Gas Guide to the Former Soviet Union, (London: The CIS Technical Publishing Institute, 1993): p 43.

¹⁶ "Kazakhstan Reports Huge Offshore Oil Reserves," OMRI Daily Report, No. 125, Part I, 27 June 1996.

we believe this to be a conservative estimate as it excludes expressions of intent to cooperate and fail to identify a particular deposit.¹⁷ Our total also excludes secondary supply and services contracts (i.e. sub-contracts) associated with a given project, as their inclusion would cause the erroneous multiple counting of the same project.¹⁸ Table 3.4 provides a summary of all upstream projects involving foreign investors as recorded in the FOGI Database.

Upstream projects are segregated into two principal categories: firstly, Classic Upstream which includes exploration, exploration and development, and development projects; and secondly, well rehabilitation, workovers and enhanced oil recovery (EOR) type projects. As the only real difference between well rehabilitation and well workovers is in the name in which they are reported, and the fact that they are often combined with EOR, we combine all three into one category for summary purposes making no distinction between them. The data in Table 3.4 reveals a number of salient trends.

¹⁷ In fact, if we were to include such expressions of intent made by companies and/or governments which fail to mention a specific deposit the total number of proposals rises to 336. See Appendix A.2: FOGI Database: Upstream, p UpSumm.1.

¹⁸ For instance the FOGI Database includes 12 secondary contracts with foreign companies associated with Conoco's Polar Lights Project in Russia, but the project itself only counts as one single entry.

Table 3.4 Summary of Upstream Projects Involving Foreign Investors

By Country

Country	Classic Upstream				Subtotal	Rehab/EOR Wkover	Total	Potential Investment		Average (\$ per Capita)	Population (Millions)
	E&D		Dev					Low (\$ MM)	High		
	Expl	E&D	Dev	Dev							
Armenia	1	0	0	0	1	0	1	\$15	\$15	\$4	3.7
Azerbaijan	1	7	12	12	20	6	26	\$16,200	\$17,405	\$2,240	7.5
Belarus	0	0	0	0	0	0	0	\$0	\$0	\$0	10.4
Estonia	0	0	0	0	0	0	0	\$0	\$0	\$0	1.5
Georgia	0	5	2	2	7	0	7	\$78	\$103	\$17	5.4
Kazakhstan	7	15	21	21	43	6	49	\$36,336	\$55,258	\$2,776	16.5
Kyrgyzstan	0	5	0	0	5	2	7	\$70	\$120	\$21	4.5
Latvia	0	1	0	0	1	0	1	\$500	\$1,000	\$300	2.5
Lithuania	1	1	1	1	3	0	3	\$135	\$135	\$36	3.7
Moldova	0	1	0	0	1	0	1	\$100	\$150	\$29	4.3
Russia	8	30	92	92	130	38	168	\$175,092	\$230,444	\$1,369	148.1
Tajikistan	0	0	0	0	0	0	0	\$0	\$0	\$0	5.8
Turkmenistan	2	8	1	1	11	2	13	\$630	\$730	\$174	3.9
Ukraine	1	1	7	7	9	1	10	\$454	\$469	\$9	51.3
Uzbekistan	0	1	5	5	6	0	6	\$1,763	\$1,763	\$78	22.5
Total	21	75	141	141	237	55	292	\$231,373	\$307,592	\$924	291.6

By Geopolitical Regions

Geopolitical Region	Classic Upstream				Subtotal	Rehab/EOR Wkover	Total	Potential Investment		Average (\$ per Capita)	Population (Millions)
	E&D		Dev					Low (\$ MM)	High		
	Expl	E&D	Dev	Dev							
Baltic States	1	2	1	1	4	0	4	\$635	\$1,135	\$115	7.7
Central Asia	9	29	27	27	65	10	75	\$38,799	\$57,871	\$909	53.2
Russia	8	30	92	92	130	38	168	\$175,092	\$230,444	\$1,369	148.1
Transcaucasus	2	12	14	14	28	6	34	\$16,293	\$17,523	\$1,019	16.6
Western CIS	1	2	7	7	10	1	11	\$554	\$619	\$9	66
Total	21	75	141	141	237	55	292	\$231,373	\$307,592	\$924	291.6

By other Geographic Regions

Geographical Region	Classic Upstream				Subtotal	Rehab/EOR Wkover	Total	Potential Investment	
	E&D		Dev					Low (\$ MM)	High
	Expl	E&D	Dev	Dev					
Caspian Sea	4	7	4	4	15	3	18	\$15,610	\$16,757
Western Siberia	1	5	37	37	43	27	70	\$36,866	\$57,145
Volga-Urals	1	6	10	10	17	3	20	\$8,780	\$8,805
Russian Far East	1	4	3	3	8	0	8	\$21,279	\$24,879
Timan-Pechora	0	3	20	20	23	1	24	\$19,201	\$28,901

Firstly, the majority of *potential* projects is located in Russia (i.e. 58% by number and 75% by value). This is to be expected as Russia accounts for 86% of the FSU's known oil reserves and oil production.¹⁹ Furthermore, there exists a strong correlation between the value of potential projects and the known level of reserves in each country. A correlation of the average potential level of investment with known level of reserves and current production, produces correlation coefficients of 0.991 and 0.986 respectively.²⁰

Azerbaijan which possesses 2% of the FSU's oil reserves, is attracting 8% of projects by number and 6-7% of projects by value, similarly Kazakhstan with 9.3% of the FSU's oil reserves is attracting 17% of projects by number and 16-18% of projects by value. This correlation is partially explained by the fact that investment estimates are dominated by projects based on explored reserves. Companies do not forecast and report investment plans (except in the case of pure exploration) in the hope of discovering future reserves but rather on the existence of known reserves. Investment estimates contained in the FOGI Database are dominated by development plans of known reserves.

Secondly, while there exists a correlation between the distribution of reserves and potential projects, a bias towards Central Asia and the Transcaucasus (including the Caspian Sea) is emerging. In this region the number and value of projects is proportionately greater than the amount of known reserves, whereas in Russia the same figures are proportionally less. The bias towards Central Asia and the Transcaucasus becomes even stronger if we exclude rehabilitation projects and only consider our classic

¹⁹ BP Statistical Review of World Energy 1996, p 6.

²⁰ See Appendix A.2: FOGI Database: Upstream, p UpSumm.3.

upstream operations. Using such criteria Central Asia and the Transcaucasus accounts for 39% of potential projects by number and 24% by value, whereas Russia only accounts for 55% by number and 75% by value. Presumably the perception that the former region may contain much more oil than is currently known combined with an easier sense of doing business than hitherto experienced in Russia, are two of the most important factors contributing to this trend.

The third important feature is the predominance of rehabilitation projects in Russia accounting for 70% of the reported total. Furthermore, of this amount 71% of Russian rehabilitation projects are located in Western Siberia, a region which accounted for 69% the country's production in 1995.²¹ The strong correlation between existing production and the location of rehabilitation projects needs little explanation, obviously this is where such projects would occur. However, the predominance of Western Siberia rehabilitation projects can be explained by the fact that of Russia's mature petroleum basins, overall depletion rates in Western Siberia are the lowest,²² although for some particular fields the depletion rate are much higher than the average. In other words rehabilitation projects in Western Siberia are likely to yield the highest incremental production per unit of investment compared to other regions and explains why World Bank and EBRD credits for rehabilitation projects have focused on this region. The advantage of rehabilitation projects is that they can offer a very high financial rate of return within a short payback period (see §5.2.1.3.1).

²¹ CIS Petroleum Map, (Geneva: Petroconsultants, 1996).

²² According to estimates by the Russian Ministry of Fuel and Energy the Volga-Urals region is 68% depleted, the North Caucasus 83% depleted, Komi Republic (part of the Timan-Pechora Basin) is 48% depleted, and Western Siberia is only 40% depleted. IEA, Energy Policies of the Russian Federation 1995 Survey, (Paris: OECD/IEA, 1995): p 108.

Fourthly, the bulk of potential foreign investment will focus on “classic’ upstream operations. Overall it will account for 81% of potential projects by number, and potentially more than 99% by value. The potential dominance by value is caused by two factors. Firstly, of the rehabilitation projects underway, investment estimates are often not reported and thus are not recorded in the FOGI Database. In this sense our database suffers from under-reporting of smaller activities. Secondly, if and when such investment figures are reported, they pale in comparison to the potential capital investments of the mega-projects under consideration. Clearly, IOC’s are focusing on projects where the perception of making significant additions to their own reserve base is highly favourable, thus the long-term emphasis on classic upstream operations. The pure exploration category still plays a relatively minor role due to the preponderance of existing yet hitherto undeveloped deposits. We observe that of the 237 classic upstream projects only 21 (i.e. 9%) are pure exploration accounting for less than 2% (\approx \$4 billion) of potential investment by value. Although IOCs believe the region is favourable from an explorationist’s point of view, prudence suggests that within a high risk business climate, foreign investment should concentrate on projects which utilise known assets. Such a strategy meshes with a staggered or staged approach to investment, hence the existence of projects which combine an element of exploration alongside the development of known reserves. Exploration and Development projects account for 32% of potential upstream projects by number and 31 - 34% by value (i.e. \approx \$79 - 95 billion). Finally potential development projects account for 60% of the total by number and 63 - 67% (i.e. \approx \$146 - 207 billion) by value of the total. It seems logical that if foreign investors are not capable of developing a known deposit then their chance for success of pursuing grassroots

exploration through to development is even less likely. This theory may not be watertight as it is arguable that a newly found discovery may not attract the same degree of domestic opposition as the foreign investor is seen to be creating new wealth as opposed to exploiting known wealth. Furthermore, a greenfield project obviates the risk of inheriting problems associated with a pre-existing project or deposit (e.g. environmental liability for past damage, unsuitable labour force, entrenched bad working practices, etc.).

Our fifth observation concerns the attraction of foreign investment into FSRs other than the principal oil producing FSRs (Azerbaijan, Kazakhstan and Russia). For the other republics which collectively account for 2.6% of FSU's known oil reserves, the correlation between value of projects (1.6%) roughly holds, but the relationship by number (16%) breaks down. Collectively these other republics will not be able to attract a disproportionate value of investment compared to the three principal oil producing FSRs, but they may be able to attract a proportionately greater number of projects albeit of a smaller nature. Had the FSU maintained its unity it is inconceivable that foreign investors would have seriously considered upstream projects in the Baltic States, Armenia or Moldova, because they would have been low priority for the Union as a whole. But after the break-up, each sovereign state is seeking to attract investment tailored to their own national interests. This implies maximising the use of indigenous hydrocarbon resources despite the fact that they may be insignificant compared to a neighbouring country's. While a 2,000 bopd field is of little significance to Russia which in 1995 collectively produced 3.2 million bopd, such a field would be of paramount importance to Georgia. The obvious qualification being that the cost-benefit analysis of a project (i.e. the economic return to society as a whole as opposed to the financial return of

the project itself) must be greater than the alternative of importing 'competitive' sources of energy. As Russia has eliminated highly subsidised exports of crude oil, the indigenous development of even marginal deposits outside of the principal three oil producers is viewed favourably. Clearly, the collective value of such upstream investments will not, on a proportional basis, exceed the value of investments elsewhere in the FSU as the potential investment is a function of the level of reserves to be developed. Nevertheless, there exists the opportunity for companies to undertake smaller projects in countries where the bulk of the FSU's reserves are not located. All that is required is for the republics in question to offer terms and conditions which are tailored to the geologic circumstances at hand (i.e. the fiscal terms will need to reflect the fact that many such deposits are likely to be marginal). The corollary is that a minor petroleum producing country should not blindly import the fiscal terms relating to exploitation of hydrocarbons from one of the principal petroleum producing FSRs.

Finally, the population distribution within the FSU will to some extent influence the impact proposed foreign oil and gas projects may have on their national economies. Should all the 'press-reported' investment take place, the whole of the FSU would be host to \$924 of upstream oil and gas investment per capita. Foreign investors have expressed the greatest interest in Russia, but on a per capita basis foreign oil and gas investment may only total \$1,369. On the other hand Azerbaijan and Kazakhstan may enjoy a higher average per capita investment of \$2,240 and \$2,776. Thus foreign oil and gas operations are likely to have a much greater impact on the local economies of Azerbaijan and Kazakhstan than in Russia. Conversely, if Russia wished to obtain the same effect from foreign oil and gas operations then they would need to attract 40 times the level of

investment in Azerbaijan or 9 times the level of investment in Kazakhstan, something which is unlikely to occur. Whether the proposed levels of investment are realistic or not is another matter and Chapter 4 will examine this issue in the context of global oil and gas capital expenditures forecasts.

In summary, we conclude by restating the five emerging investment trends based on the information collected in the FOGI Database: a) there is strong correlation between the level of known reserves and the value of upstream projects being considered; b) the bulk of rehabilitation projects occur in Russia, of which Western Siberia is the focus; c) without prejudice to point (a) there appears to be a slight bias towards Central Asia and the Transcaucasus (including the Caspian Sea); d) given the preponderance of existing yet hitherto undeveloped deposits, pure exploration represents a small portion of upstream projects being considered; and e) even FSRs with marginal petroleum deposits are capable of attracting smaller foreign oil companies to undertake development projects. Our discussion now turns away from reported levels of potential investment to the modality of that investment.

3.5 The Modality of Foreign Investment

3.5.1 Joint Ventures

Joint Ventures (JVs) are the most widespread mechanism of FDI in the FSU because of their ease of formation and the fact that they were the first formal mechanism of entry into the FSU permitted by law. The foreign partner typically contributes cash (or access to financing) and technology while the domestic partner's contribution consists of its

existing assets including licences to explore and produce hydrocarbons.²³ In Russia, roughly 2,000 wholly or partly foreign-owned oil and gas ventures were registered as of March 1996,²⁴ implying that less than 12.5% of all registered JVs in Russia are in the oil and gas sector.²⁵ As to what proportion of these are undertaking upstream operations we are less certain. The FOGI Database records the existence of at least 145 JV based projects in the upstream oil and gas sector of which 89 are in Russia, 26 in Kazakhstan, and 9 in Azerbaijan.²⁶ What is more important however is the number of JVs actually producing oil. As for Russia, only 38 JVs were producing oil at the start of 1994 increasing slightly to 40 by the first quarter of 1995.²⁷ With respect to Kazakhstan only eleven out of the twenty registered joint ventures to undertake upstream operations were actually operational.²⁸ If one is to draw any conclusions from the above is it is that investment *qua* operations is falling well short of both investor and host country expectations.

Within upstream oriented oil and gas JVs, our research indicates that the 50:50 equity ownership is the most common (see Figure 3.1). Outside of this central grouping, there is

²³ Christopher Osakwe, "Model Joint Venture Foundation Documents for a Russian-American Joint Stock Company," Russian Oil & Gas Guide, 3, no. 3 (1994): pp 2-19. Further examples of JV documents and Model JV Agreements are reproduced in Barrow's Russia & NIS Basic Oil Laws & Contracts Series.

²⁴ Interfax Petroleum Report, 29 Mar. - 5 Apr. 1996, p 10.

²⁵ *Supra* note 8.

²⁶ A "JV based project" implies that a JV may be undertaking one or more projects. E.g. The FOGI Database records for the Tatex JV in Russia three separate projects (Romashkino field well stimulation, Onbyskoye field development, and the Almet'yevsk vapour recovery project).

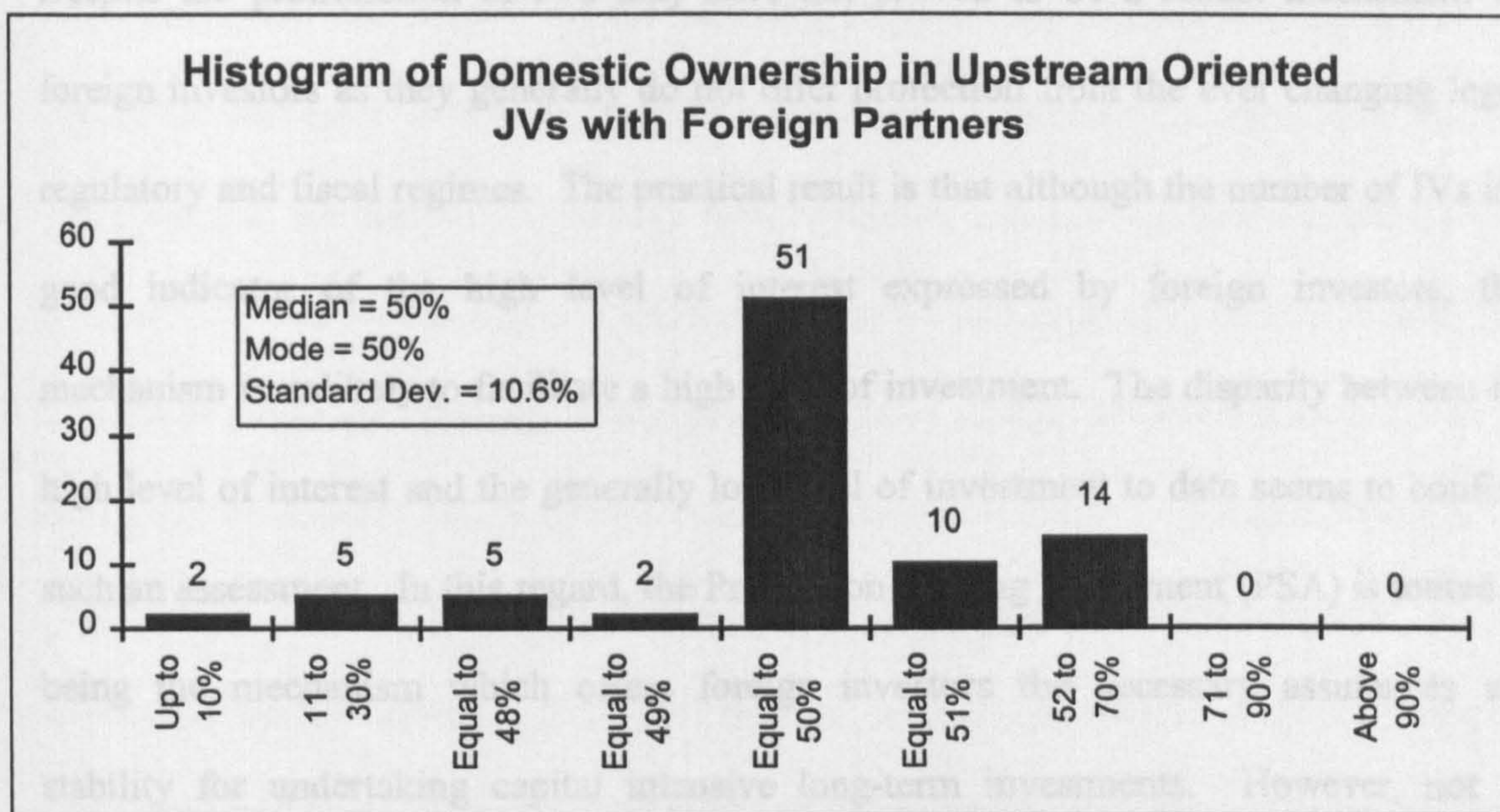
²⁷ "Russia's Trouble Joint Ventures Enjoy Tax, Export Relief," P.I.W., 29 May 1995, p 4; and "Theory and Practice," R.P.I., July/Aug. 1994, p 23.

²⁸ Interfax Petroleum Report, 8-15 Mar. 1996, p 12.

a slight bias towards domestic majority (e.g. $\approx 51\%$), even if only for symbolic reasons and the western partner maintains de facto management control vis-a-vis appointment of board members etc.

3.5.2 Joint Ventures versus Production Sharing Agreements

Figure 3.1 Histogram of JV Ownership



Source: JV entries from FOGI Database for which ownership data is available. A table version including the JV's name and host country is reproduced in Appendix B.

Provided domestic majority is not mandated by law, domestic participation can theoretically reach 0% at which point the venture would become a wholly owned foreign enterprise. At the other end of the spectrum it is extremely rare to find domestic ownership in a JV greater than 70%. This is a direct consequence of early legislation governing foreign activity and taxation which granted incentives to foreign investors contributing more than 30% of JV's statutory capital. Such provisions included the right

for the JV to freely export its product without a licence²⁹ and the granting of tax holidays.³⁰

3.5.2 Joint Ventures versus Production Sharing Agreements

Despite the proliferation of JVs they have not proved to be a robust mechanism for foreign investors as they generally do not offer protection from the ever changing legal, regulatory and fiscal regimes. The practical result is that although the number of JVs is a good indicator of the high level of interest expressed by foreign investors, this mechanism is unlikely to facilitate a high level of investment. The disparity between the high level of interest and the generally low level of investment to date seems to confirm such an assessment. In this regard, the Production Sharing Agreement (PSA) is touted as being the mechanism which offers foreign investors the necessary assurances and stability for undertaking capital intensive long-term investments. However, not all commentators necessarily agree. It has been speculated that at least in Russia, where there exists large and experienced domestic oil companies

“...the form of a joint venture — with the Western partner taking a minority and transitory role — is much more likely than the production-

²⁹ E.g. Art 25 of the Russian Law on Foreign Investment,” dated 4 July 1991; Art. 25 of the Azeri Law on the Protection of Foreign Investment,” dated 15 Jan. 1992; and Art. 16 of the Turkmen Law on Foreign Investment,” dated 19 May 1992.

³⁰ E.g. Russian Presidential Decree No. 1004 “On Certain Issues of Tax Policy,” states that if the paid up charter capital of an enterprise, comprising at least 30% foreign investment, is greater than \$10 million, then the enterprise is exempt from profit tax for two years provided that the production activity is more than 70% of the total annual income. Art. 16 of the “Turkmen Law on Foreign Investment,” dated 19 May 1992, exempts a foreign investor who has paid more than 30% of the charter capital in freely convertible currency an exemption from paying tax on dividends and profit tax for the period of recouping their investment. See also “Turkmen Law on Free Economic Zones,” dated 8 Oct. 1993. Art. 20 of the Kazakh Law on Foreign Investment, date 7 Dec. 1990 (as amended 8 Apr. 1993) provided a five year tax holiday from profit tax and a reduced profit tax by 50% for the next five years if the share of the foreign investor exceeded 30%. While the latter has been superseded by the Law of the Republic of Kazakhstan Concerning Foreign Investments, dated 27 Dec. 1994, Art. 6 of the new law provides a stabilisation guarantee against changes in legislation for a period of 10 years. See Elena Kirillova et al., Production Sharing in the Former Soviet Union, (London: McKenna & Co., 1996).

sharing, service and concession contracts that currently prevail in many producing countries.”³¹

In contrast, in the southern FSRs of Central Asia, it is argued that the production-sharing contract, with IOCs taking the leading role behind a veil of national ownership may be more appropriate and prevail.³² This reasoning plays heavily on the existence of a strong nationalist sentiment in Russia and that the southern republics of Central Asia and the Transcaucasus are naturally weaker in both economic and political terms in comparison to Russia. While we can appreciate this reasoning we find such arguments unconvincing. It is not so much the minority or majority position of foreign interest which is so crucial but rather the stability which accompanies such interest. Figure 3.1 demonstrated that the 50:50 JV is a perfectly acceptable structure, even a slight domestic majority is not considered unreasonable.³³ Foreign investors are not opposed to majority domestic ownership, but they do require assurances that their business venture will be managed prudently, and that the rules and regulations governing the investment are reasonably predictable. However, any opportunity initially enjoyed by Russia for utilising the JV as a long-term mechanism for supporting foreign investment in its upstream petroleum sector, has likely been lost due to the poor track-record of such investments to date. While problems associated with JVs are not the preserve of Russia alone (*Cf.* Turkmenistan’s treatment of JVs, see §7.3.3), the Russian experience has tarnished their reputation throughout. As a result such JVs have not translated into large investments, nor do the bulk of potential foreign investments still contemplate the use of JVs. There

³¹ Thomas W. Wälde, “Foreign investment in CIS oil and gas and its implications for other countries,” *OPEC Bulletin*, July/Aug. 1994, p 19.

³² *Ibid.*

³³ *E.g.* ARCO’s intention to form a 46:54 JV with LUKoil, under which the latter would provide \$3 billion in financing over a ten year period. See entry in *FOGI Database*.

appears to be two emerging trends: firstly, the increasing use of a PSAs *a priori* ; and secondly, the use of a PSA in conjunction with an earlier JV agreement. In the latter case, we have recorded the existence of at least 15 such arrangements, and within Russia, 11 foreign investors currently involved in JVs have expressed their intention to transfer their operations to a production sharing format. This is on top of the application of domestic oil companies within Russia to shift more than 500 fields, groups of adjacent fields and blocks to PSAs.³⁴ In Russia, of the reported potential upstream projects under consideration by foreign investors, \$82-\$117 billion are expected to occur under the production sharing mechanism. The comparable reported figure for JVs is only \$18 billion, which in hindsight, given the poor performance of this mechanism, should now be considered overly optimistic.

This does not necessarily mean that PSAs are the only answer. Comparable figures for Kazakhstan are \$10-28 billion for PSAs and \$25 billion for JVs. In this case the proportion of potential PSA/JV investment is only 2.5-1.1:1 as opposed to the average of 4.5-6.5:1 in Russia. The difference between the Russian and Kazakh experience is explained by the dominant position of the TengizChevroil JV in Kazakhstan which expects to invest \$20 billion over the project's life. However, a reading of the TengizChevroil JV documents reveals that they are considerably different from their counterparts in Russia. In particular, the Presidential Edict of Kazakhstan dated 8 Apr.

³⁴ From this list Roskomnedra, the committee on Geology and the Use of Underground Resources, eventually, submitted 200 entries for consideration by the Duma. "On the List," R.P.I., Apr. 1996, p 29. However, the Russian Duma has yet to approve any list and in all likelihood the final list will be substantially reduced.

1994³⁵ guarantees the tax and royalty terms set-out in the foundation agreements of the TengizChevroil JV.³⁶ Thus, even though Chevron and Kazakhstan chose to utilise the JV format, Chevron secured the fiscal stability which a PSA purports to provide. In the case of Azerbaijan the ratio of potential investment using PSA structure to JV structure is almost 120:1, indicating the preference for the PSA mechanism by foreign investors and the willingness of the host government to accept such a formula. This is in part due to the fact that Azerbaijan has yet to enact a modern petroleum law.

We believe there is a good deal of truth behind the prediction that “foreign investment in the FSU will increase, but much slower and in a much less dominant role than originally envisaged.”³⁷ It is not, however, because of a transitory and minority foreign position as is suggested but rather that the high risk business climate of the FSU requires a staggered investment approach. It is equally certain that such investment will not occur unless the foreign partner who is supplying capital and technology receives adequate investor protection. As indicated in the case of Kazakhstan, this need not necessarily be a PSA. After all, three-quarters of the world’s countries and fiscal systems continue to be governed by concession-style arrangements.³⁸ Any mechanism which maintains and

³⁵ “On Approving TengizChevroil Joint Venture (Guarantees Terms and Fiscal Provisions)” dated 8 Apr. 1994, Russia & NIS Basic Oil Laws & Contracts, Supp. 16, 1995, p 71.

³⁶ Art. 6 and 7, “Chevron Joint Enterprise Foundation Agreement (Tengiz),” dated 18 May 1991, Russia & NIS Basic Oil Laws & Contracts, Supp. 18, 1995, pp 38-50.

³⁷ Wälde (1994) *supra* note 31.

³⁸ Gordon H. Barrows, “World Review: Fiscal Incentives for Exploration & Exploitation 1990-1995,” Paper presented to CEPMLP’s International Oil and Gas Investment Policies Seminar, St. Andrews, Scotland, 20-22 Sept. 1995. Cf. Pedro van Meurs, World Fiscal Systems for Oil, (New York, NY.: Barrows, 1995).

guarantees a balance of interests³⁹ over time will suffice. It just so happens that the current momentum of the international oil and gas industry is towards PSA. Within the FSU, PSAs have been concluded in Azerbaijan, Kazakhstan, Georgia, Russia, Turkmenistan and Ukraine.

In Russia the PSA mechanism is far from tried and tested. The issue is not whether the PSA will eventually be used, but rather how long will it take Russia to make all the necessary amendments to its legislation to guarantee the workability of the PSA framework in its entirety. Judging from experience, this will take longer than expected and when it does occur, one should not expect the high estimates of potential investment established herein to be suddenly translated into actual investment. There will be no 'opening of the flood gates'. Even foreign investors having concluded PSAs will proceed with caution and employ a staggered or stepped approach to investment — a theme which is examined in more detail in §4.4.3.2.

It may well be that the cumulative share of foreign investment in Russia's oil and gas industry will remain comparatively small given the pre-existence of a large domestic industry with well established vested interests. If foreign investors are not afforded the level of investor protection and stability which they require, then FDI will remain small by choice. But, could this role be transitory as suggested above? This too is unlikely unless the domestic oil industry is capable of remaining technologically competitive from within. If we speculate that sufficient FDI takes place to modernise and transform

³⁹ ✓ Alfred C. Boulos, "Mutuality of Interest Between Companies and Governments — Myth or Fact?" in Energy Law '90: Changing Energy Markets — the Legal Consequences: Proceedings of the

Russia's oil industry, then the domestic industry would need to carry and maintain the momentum by itself, if the role of FDI were to be transitory. However, in order for FDI to occur in the first place (i.e. transfer of capital, technology and management resources) foreign investors will need to be assured of more than a transitory role. The use of JVs has to date failed to transform potential investment into actual investment at least on the scale initially envisioned. Moreover, the reputation of JVs as a viable mechanism for FDI in the upstream oil and gas sector has been seriously undermined.

In order for the petroleum sector of the FSU to become a modern, competitive and efficient industry of the 21st century, the FSRs must first provide a sufficient form of investor protection and guarantees to attract the investment which will play an integral role in that transformation. As suggested above, this need not be a PSA, but it seems equally certain that it now cannot be a JV (that window of opportunity has passed), and given the effort expended on PSAs, it makes sense to pursue this avenue which is gaining in familiarity and popularity in other parts of the FSU.

3.5.3 Portfolio Investment and Privatisation

A third vehicle to support foreign investment is the purchase of equity in privatised domestic companies.⁴⁰ Whilst Russia witnessed a speculative boom in portfolio

Advanced Seminar on Petroleum, Minerals and Energy Resources Law, IBA Series. (London: Graham & Trotman, 1990): pp 3-31.

⁴⁰ On Russia's privatisation process in general see Richard C. Schneider Jr. "Privatisation in One Country: Foreign Investment and the Russian Privatisation Dynamic," Hastings Int'l. & Comp. L. Rev. 17 (1994): pp 697-740. In regards to the oil industry see Irena Agalliu, "Privatisation of Petroleum Industry in Russia," Unpublished paper submitted to Transnational Investment Law Course, CEPMLP, University of Dundee, Dundee, Scotland, 20 Jan. 1995; Catherine Locatelli, "The Reorganisation of the Russian Hydrocarbons Industry," Energy Policy 23 (1995): pp 809-819; Valeriy Kryukov, "Russian Oil Companies," O.G.L.T.R. 13 (1995): pp 389-394; and Arild Moe and Valeriy Kryukov, "Observations on the Reorganisation of the Russian Oil Industry," Post-Soviet Geography 35 (1994): pp 89-101.

investment in 1994 following mass privatisation,⁴¹ this only involved short-term investors seeking quick profits by bidding up prices on the secondary market and hardly constituted the long-term investment which the oil industry requires. But in order for long-term strategic investors to take a stake in a privatised domestic company two basic conditions must be met. Firstly investors must be assured of the integrity of their basic shareholder rights and secondly investors must believe these companies can prosper in the economic and political climate of the future. Undoubtedly, on the first count, shareholder rights in Russia's nascent stock market are improving and the 15% limit on foreign ownership in Russian oil companies that existed since December 1992 has now been eliminated.⁴² The most notable investment to date has been ARCO's purchase of 8% of LUKoil through two convertible bond issues.⁴³ Alternatively, American investors may choose to purchase American Depository Receipts (ADRs) whereby a custodial bank purchases shares on behalf of an investor and issues in return an ADR evidencing the underlying share to the investor. In this manner the ADR bank acts both as a depository and stock transfer agent. Thus far LUKoil and Chernogorneft are the only Russian oil companies to have issued ADRs, but Tatneft and Purneftegas are apparently negotiating with the US Security and Exchange Commission to do the same. Regardless of the actual method employed in purchasing stock, a western investor becomes exposed to the very commercial risks that they have been so reluctant to assume in the past. If this had not

⁴¹ Russian Economic Trends 4, no. 1 (1995): p 127.

⁴² Cf. Law of the Russian Federation No. 208-FZ "On Joint-Stock Companies," dated 26 Dec. 1995 and effective 1 Jan. 1996. [Accessed through the Internet: <http://www.inforsis.nnov.su>]. See also Debevoise & Plimpton, "The New Russian Joint-Stock Company Law," 28 Mar. 1996; and Clifford Chance, "Russian Joint Stock Company Law," Newsletter: Russian and the Other States of the CIS, Feb. 1996, pp 1-4.

⁴³ CS First Boston. "LUKoil The Power of Ten." Equity Research - Russia. 29 Mar. 1996, p 14.

been the case, IOCs would have pursued investment under the JV mechanism without waiting for a suitable PSA framework. In other words the value of an equity investment is conditional upon the domestic company being able to generate profits and pay dividends. But this is a tall order in the current uncertain business climate of excessive taxation, continuing non-payment and rising transportation charges, etc. The fact is that Russia's oil industry continues to be hampered by many systemic problems which adversely effect the commercial operations of foreign IOCs and domestic companies alike. A foreign IOC reluctant to proceed without a suitable PSA framework is equally unlikely to purchase large-blocks of Russian oil company stock either. For this reason we believe large-scale flows of FDI in the form of a long-term strategic purchase of domestic equity will not be forthcoming until the commercial viability of the domestic industry is assured.

3.6 Conclusion

Over the past decade we have witnessed an increasing trend towards private sector financial flows and away from official development assistance. The dissolution of the FSU represents a new opportunity for FDI. At present Eastern Europe and the FSU are only receiving 3% of total FDI inflows to developing countries. Ironically, it has not been Russia with its massive reserves of natural resources which has attracted the bulk of FDI but rather countries like Hungary, Czech Republic and Poland which have proven more successful. While foreign investors have expressed a high degree of interest in the FSU vis-a-vis the proliferation of JVs, investment has remained small. This observation for the economy as a whole can be extended to the petroleum sector where potential projects worth \$231-\$308 billion have been reported. There is a strong correlation between the location of explored reserves and potential investment, but a slight bias

towards Central Asia and the Transcaucasus exists among foreign IOCs. This is likely caused by the easier sense of doing business in the region as opposed to Russia and the favourable perception of making additional discoveries. Even FSRs possessing minor geological reserves are now capable of attracting FDI into their oil and gas sector. Projects involving the development of existing reserves dominate reported projects with pure exploration projects only accounting for 7% of the total by number. Rehabilitation projects are concentrated in Russia and in particular Western Siberia.

Overall foreign investment in the upstream sector of the FSU's petroleum industry is occurring at a much slower rate than many would have hoped, partially due to the incapability of the JV mechanism to ensure the necessary protection and stability which foreign investors require. PSAs offer the best means forward, not because alternatives do not exist. Had the FSU opened up before the mid-1960s, concessions would have likely been espoused as the way forward. Today, it is the PSA which is in fashion, and a great deal of effort has hitherto been expended by all parties to establish this mechanism as the premier means of facilitating the flow of investment capital into the upstream petroleum sector of the FSU. While portfolio investment offers another means of channelling foreign capital into Russia's oil industry, we believe IOCs will be reluctant to wholeheartedly embrace this technique until the commercial viability of the domestic industry is assured.

Our analysis of FDI trends has been based upon the potential level of investment associated with reported projects. But are such figures realistic and over what time frame may the investment occur? The next chapter is an examination of the financial

requirements of the FSU's oil industry and reported proposed projects in light of its international setting. The FSU's oil industry is becoming ever more inter-linked with the global oil industry and no longer should the two be considered in isolation. IOCs will evaluate upstream prospects in the FSU as an integral part of a diversified global portfolio.

4. CAPITAL NEEDS OF THE FSU: A GLOBAL PERSPECTIVE

4.1 Introduction

The global oil industry, characterised as the “world’s biggest and most critical industry,”¹ is associated with up-front capital intensive investments. The immense scale of aggregate investment can overwhelm casual observers. A typical reaction, while not within the lexicon of the professional economist, is an impassioned warning of an impending capital shortage.² But to believe that insufficient funds will be available to meet the industry’s needs is misconstrued. Capital will always be available for those projects which are well conceived, tightly structured and economically viable.³ In other words, if an investor confidently believes that a project will generate an adequate rate of return,⁴ then the project should proceed at least on an economic basis. After all an adequate rate of return is the rate of return which provides an appropriate supply of capital and the function of a market is to allocate scarce investment resources. Currently the FSU faces a ‘localised’ shortage of investment capital due to the high level of risk. Investors account for this risk by applying a discount factor to cash flow forecasts. The higher the risk, the higher the discount factor and rates of 30% are not atypical for FSU project appraisals.

The purpose of this chapter is to illustrate that the capital requirements of the oil industry as a whole is not of a concern, rather the uncertainty lies in the allocation of the

¹ Anthony Samson, The Seven Sisters, (Kent, Hodder & Stoughton Ltd., 1993): p 1.

² The Institute of Petroleum Conference On Financing the International Oil Industry: An Impending Problem, London, 13 Feb. 1995; Andrew C.E. Hilton, “Oil, energy and capital: A coming crunch?” Energy Policy, 20 (1992): pp 963-972; Edgardo Curcio, “Investment Requirements in the Oil Sector up to the Year 2000, Are there Sufficient Capitals?” Paper presented to the IAEE 15th Annual International Conference, Tours, France 18-20 May 1992; Wiebe Goslinga, “Capital Shortage in Financing Oil Projects?” Paper presented to the Oil & Money Asia & The Pacific Conference, Singapore, 11-12 May 1992; and Patrick Connolly, “Day of Reckoning: Global Energy and Capital in the 1990s,” CERA Private Report, Mar. 1991.

³ Terry Newendorp (President of Taylor-Delongh), “Private sector takes charge,” FIRST Magazine, vol. 9, no. 3 (1995).

⁴ This assessment paraphrases the conclusion of a much earlier study which examined, among other things, a perceived capital ‘crunch’ or ‘squeeze’. Jermone E. Hass, Edward J. Mitchell and Bernell K. Stone, Financing the Energy Industry, (Cambridge, MA.: Ballinger Publishing Company, 1974): p 29.

investment. In this sense a competition for capital does exist.⁵ A country wishing to attract a larger portion of the world-wide capital investment pool must adjust its combination of acreage and terms such that their offer is better on a risked rate-of-return basis than these presented by other countries.

We commence with a review of historical levels of capital expenditure and demonstrate the strong positive correlation between investment and oil prices. Next we compare five published forecasts of capital expenditures for the global oil and gas industry over the next decade. As there is little consensus among the forecasts we cross-check the results via a regression of oil prices and historical levels of capital investment. Our overall aim is to provide a perspective on how the industry as an aggregate is expected to invest over the next decade. Will it be \$25 billion per year, \$50 billion or \$100 billion per year? Only by establishing such a figure can we realistically address potential levels of investment in the FSU. Next we compare published forecasts of capital requirements of the FSU and aggregate investment proposals as recorded by the FOGI Database to global upstream capital expenditures and in the context of six internationally recognised forecasts of FSU crude production. Furthermore the crucial but often understated role of reinvested earnings is discussed as means of limiting the call on external sources of financing. Finally, we highlight the contribution of the 'Major' IOCs in funding global upstream activities because the level of risk in the FSU necessitates the involvement this select group of companies.

4.2 Historical Capital Requirements Oil & Gas Industry

World-wide upstream capital expenditures by western IOCs has consistently been above \$40 billion per year since 1978 and rose to a maximum of \$111 billion in 1984. It subsequently fell to \$45 billion after the oil price collapse in 1986 and since 1991 has

⁵ Petroleum Finance Company and Price Waterhouse World Petroleum Industry Group, Competition for Capital in the International Oil & Gas Industry, (New York, NY.: PIW Publications, Nov. 1995); Andrew Seck, Review of Competition for Capital in the International Oil & Gas Industry, by PFC and Price Waterhouse, O.G.L.T.R. 14 (1995): pp 325-326; Petroleum Finance Company, Competition for Capital in the International Oil & Gas Industry, (Washington, DC.: PFC Ltd., Aug. 1993).

fluctuated between \$50-60 billion per year (see Table 4.1). It is important to note that the figures reflect a survey of some 250 IOCs which unfortunately excludes many of the key state oil companies.⁶ In this respect the survey considerably underestimates world-wide upstream capital expenditures because it does not capture the contribution of OPEC or FSU producers, or for that matter companies such as PEMEX in Mexico or CNPC in China or Petrobras in Brazil. In §4.3.2 we shall return to this issue and apply an approximate correction factor. Nevertheless, this survey is of great relevance to our study as it captures the bulk of capital expenditures by IOCs whose role is likely to strengthen due to the worsening financial situation of many traditional oil producing countries (e.g. OPEC members).⁷ The ability of these countries to continue to use self-generated financing is becoming more problematic and they are likely to seek external sources of capital either through additional borrowing or IOC equity participation.⁸ Comparatively speaking, the financial health of the FSU is much worse than OPEC member states. We believe IOCs possess the pool of technological resources and capital (or a conduit for such capital) which can be called upon to meet the requirements of the petroleum industry in the future. Not only are state-owned companies being privatised, IOCs are being asked to carry out upstream operations in areas that were previously off-limits (e.g. FSU, Venezuela, Vietnam, China's Tarim Basin etc.).⁹

⁶ Companies such as OMV (Austria), Statoil (Norway), Petro-Canada, Elf Aquitaine (France) and Repsol are included, but more significantly the key national oil companies of OPEC member states are excluded, for example ARAMCO, National Iranian Oil Company, Iraq National Oil Company, Kuwait Petroleum Company, etc.

⁷ Ibrahim A.H. Ismail, "Raising oil output in major producing regions: the financial implications." OPEC Bulletin 26, no. 10 (1995): p 17.

⁸ Henry T. Azzam, "Competing For Capital: Financing OPEC's Capacity Expansion," Paper presented to the 15th Annual Oil & Money Conference, London, 17-18 Oct. 1994.

⁹ Sugit Das, "Democratisation and World Petroleum Trade in the Year 2000," Energy 19 (1994): pp 783-793.

Table 4.1 World-wide Upstream Capital Expenditures by IOCs versus Oil Price

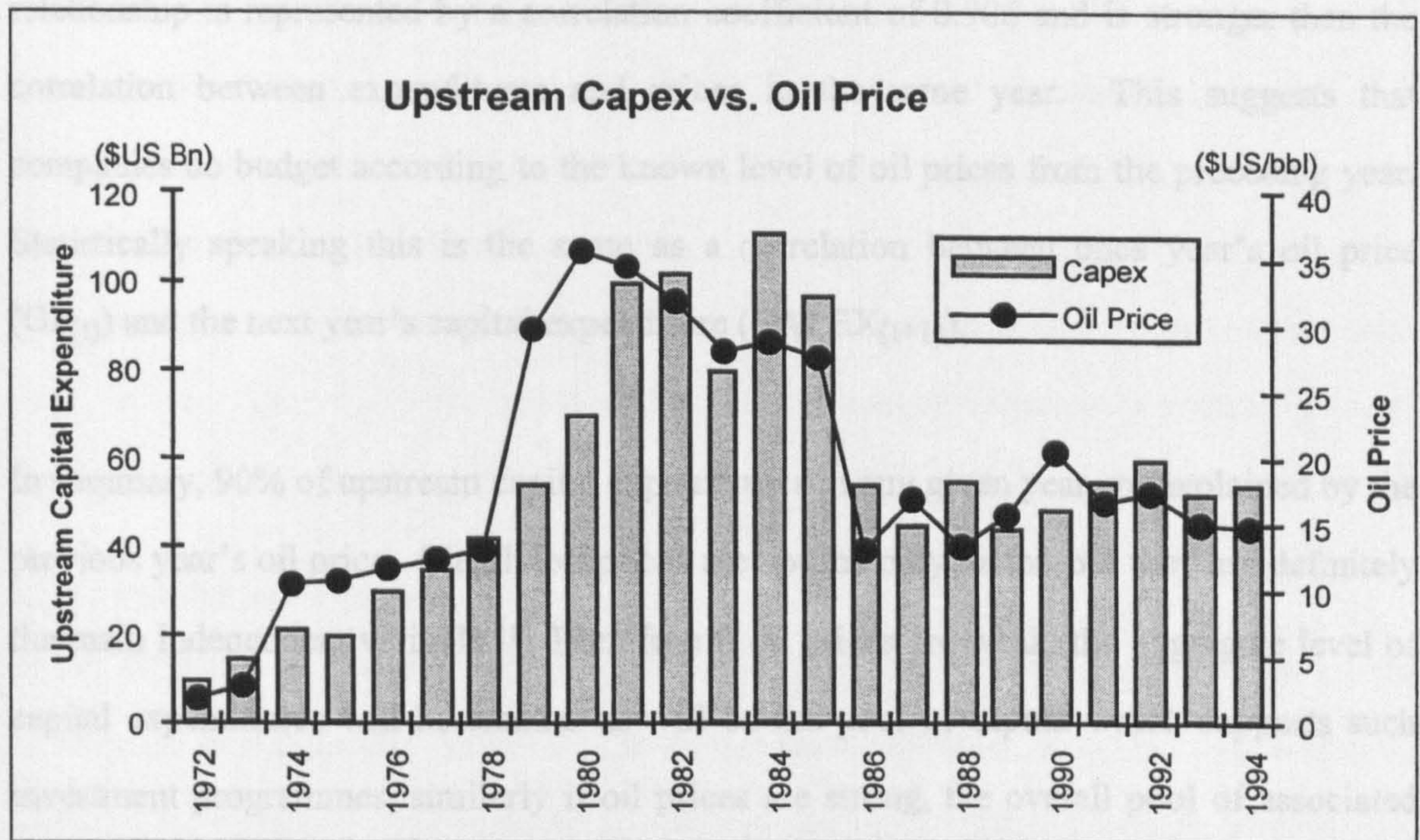
Year	Oil Price ¹ Arabian Light/Dubai (\$ US / bbl)	Total Upstream CAPEX ² (\$ US billions)
1972	1.90	10
1973	2.83	15
1974	10.41	21
1975	10.70	20
1976	11.63	30
1977	12.38	35
1978	13.03	42
1979	29.75	54
1980	35.69	70
1981	34.32	100
1982	31.80	102
1983	28.07	80
1984	28.78	111
1985	27.53	97
1986	12.97	54
1987	16.92	45
1988	13.22	55
1989	15.69	44
1990	20.50	48
1991	16.56	55
1992	17.21	60
1993	14.90	52
1994	14.76	54

¹ 1972-1986 Arabian Light, 1986-1994 Dubai. *BP Statistical Review of World Energy 1995*, p12.

² Salomon Brothers, Chase Manhattan and PFC as cited in *PFC&PW (1995) op cit.* note 5, p 38.

The capital expenditures time series when viewed in a graphical format (see Figure 4.1) suggests a possible correlation between upstream expenditures and oil prices. In order to test this hypothesis properly we conducted a number of mathematical correlations. A correlation of oil prices (OP) and upstream capital expenditures (CAPEX) over the period 1972 to 1994 produces a positive correlation coefficient of 0.865 which suggests a very strong correlation between capital expenditures and oil prices. This implies that 86.5% of upstream capital expenditures in any given year can be explained by the current price level, but this is intuitively somewhat surprising given the long-term planning horizons of the international oil and gas business. In order to examine this issue in more detail two more correlations were conducted.

Figure 4.1 World-wide Upstream Capital Expenditures versus Oil Price



In the first case $CAPEX_{(t)}$ was correlated with $OP_{(t+1)}$ and in the second case $CAPEX_{(t)}$ was correlated with $OP_{(t-1)}$. The results are reproduced in Table 4.2. When $CAPEX_{(t)}$ was correlated against the future oil price $OP_{(t+1)}$ the correlation coefficient dropped to 0.639 suggesting that the relationship between capital expenditure in any given year and realised future oil prices is not as strong as the relationship with actual level of oil prices in that particular year. In fact IOCs may adjust their budgets during the year according to oil prices as they unfold. Salomon Brothers latest annual survey of world-wide oil and gas exploration and production expenditures supports this assessment.¹⁰

Table 4.2 Correlation of Capital Expenditure (CAPEX) and Oil Price (OP)

CAPEX	OP	Time Period (t)	Correlation Coefficient
t	t	1972-1994	0.86517
t	t+1	1972-1993	0.63859
t	t-1	1973-1994	0.90580
t+1	t	1972-1993	0.90580

¹⁰ If Brent oil prices were to average \$20 per barrel in 1996, 57% of all companies which responded would increase exploration and production spending by 15-20%, conversely 51% of the companies indicated that they would reduce spending if the average price of Brent was \$14 per barrel in 1996. See Salomon Brothers, "Survey and Analysis of 1996 World-wide Oil and Gas Exploration and Production Expenditures," 2 Jan. 1996, p13.

On the other hand the correlation between $CAPEX_{(t)}$ and $OP_{(t-1)}$ is more revealing — the relationship is represented by a correlation coefficient of 0.906 and is stronger than the correlation between expenditures and prices in the same year. This suggests that companies do budget according to the known level of oil prices from the preceding year. Statistically speaking this is the same as a correlation between one year's oil price ($OP_{(t)}$) and the next year's capital expenditure ($CAPEX_{(t+1)}$).

In summary, 90% of upstream capital expenditures in any given year are explained by the previous year's oil price. Clearly oil prices are not the only factor, but they are definitely the main independent variable.¹¹ Therefore if oil prices are weak, the aggregate level of capital expenditures will be smaller as will be the pool of capital which supports such investment programmes, similarly if oil prices are strong, the overall pool of associated capital will be larger. The challenge for the FSU is to attract its share (or increase its share) of this capital irrespective of the size of the overall pool of capital available for upstream capital expenditures. But, given the additional risk premium currently being applied to FSU ventures, this task is made more difficult during a period of low oil prices. As to the future level of oil prices it is anybody's guess and experience has shown our inability to predict oil prices with a high degree of prescience. Our discussion now turns to published forecasts of future capital expenditures, but we shall return to relationship between oil prices and capital expenditures as a means of cross-checking published estimates.

4.3 Future Investments by the International Oil & Gas Industry

During the oil crisis of the 1970s many countries went to great lengths to diversify their energy supply and reduce their dependency on foreign oil. World oil consumption, which peaked in 1978, fell to a low of 57 MMbopd in the year 1983, and has been, by and large,

¹¹ This conclusion is also supported by Salomon Brother's annual survey of capital expenditures in which 68% of world-wide respondents cited energy prices as a key factor for determining capital budgets — others factors were attractive drilling prospects, operating cash flow, availability of capital, drilling success and operating costs. *Ibid.* p 12.

increasing ever since.¹² The average annual growth in oil consumption of 5.4% in South East Asia since 1985 has been partially counterbalanced by the 12.5% average annual decline in FSU oil consumption since 1990.¹³ Overall world oil consumption rose at an average annual rate of 1.4% from 1985 to 1995. Between 1990 and 2010 experts predict that oil consumption should rise at 1.5% per annum reaching a total of 89 MMbopd.¹⁴ This translates to approximately one million barrels of incremental oil production each year. We will now try to assess whether there is a general consistency regarding future projections of capital expenditures by the oil industry to meet this growing demand.

4.3.1 Published Forecasts

Three estimates of international oil and gas capital expenditures until the turn of the century are reproduced in Table 4.3. Given that each survey is carried out over a slightly different time period, we calculated an average yearly expenditure in each category for ease of comparison. For the ABN AMRO study, the yearly expenditures are calculated as the average of the high and low case scenarios. The most salient feature is that few of the figures agree but an aggregate investment of \$1-1.5 trillion over the next decade is forecasted. The average yearly aggregate figure varies from approximately \$130-140 billion to a maximum of \$265 billion. The fact that total expenditures are of the same order over slightly different time periods suggests that the exact timing of future capital expenditures is also uncertain.

¹² BP Statistical Review of World Energy 1995 and 1996.

¹³ The average annual percentage change is calculated as the average compounding figure not the more common but misleading method of calculating the percentage change over the whole time period and dividing by the number of years. *Ibid.*

¹⁴ US Department of Energy, Energy Information Agency, International Energy Outlook 1995, (Washington, DC.: US GPO, May 1995): p 25.

Table 4.3 Published Forecasts of Global Petroleum Capital Expenditures

Oil & Gas Investment Sectors \$ US Billions	IAEE ¹		ABN AMRO ²			United Nations ³	
	(1991 - 2000)		(1995 - 2000)			(1993 - 2000)	
	Est.	Avg./Yr	Min.	Max.	Avg./Yr	Est.	Avg./Yr
Upstream	750	75	250	500	63	250	31
Downstream - Refining	240	24	230	270	42	250	31
Marketing & Distribution	190	19	300	400	58	340	43
Pipelines, LNG, & Tankers	180	18	270	400	56	200	25
Total	1360	136	1050	1570	219	1040	130

¹ IAEE Study cited by Curcio (1992) *op cit.* note 2.

² ABN AMRO Study cited by John E. Martin, "International Equity as a source of Finance for the Oil Industry," Paper presented at The Institute of Petroleum Conference on Financing the International Oil Industry An Impending Problem? 13 Feb. 1995, London, p 5; and Jan R. Prins, "Energy Finance in the Emerging Markets," Paper presented at the CEPMLP Financing International Oil and Gas Operations - A Business Seminar, St. Andrews, Scotland, 18-19 Sept. 1995, p 1.

³ United Nations Study cited by Rojer Benedict, "United Nations Sees \$1 Trillion Oil Spending in 1990s," The Oil Daily, 13 July 1992, pp 1-5.

The Upstream category is most relevant to us as we are concerned with the availability of capital to increase the productive capacity of the FSU's oil industry. The IAEE study provides an estimate of \$75 billion per year (i.e. 55% of total expenditures); ABN AMRO gives an estimate of \$63 billion per year (i.e. 29% of total expenditures); and the United Nations forecast that upstream expenditures will be only \$31 billion per year (i.e. 24%). Accordingly these studies imply that upstream expenditures, until the turn of the century, will be somewhere between \$31-\$75 billion per year and account for 24-55% of the industry's total capital expenditures. Thus, there is a wide divergence among forecasts of capital expenditures and none should be interpreted as being overly precise. Additional studies conducted by the Petroleum Finance Company and Price Waterhouse (PFC & PW) seem to reinforce this assessment (see Table 4.4). What is surprising is the extent to which the forecasts presented in Table 4.4 vary over the space of two years. Presumably as the PFC was involved in both studies a higher level of methodological consistency would have been maintained than is likely to be the case with studies carried out by different organisations. Yet upstream capital requirements vary from \$59 billion per year in the 1993 study to \$70 billion per year in the 1995 study.

Table 4.4 Forecasts of Capital Expenditures from PFC & PW Study

Oil & Gas Investment Sectors \$ US Billions	PFC ¹			PFC & PW ²		
	(1993 - 2005)			(1995 - 2005)		
	Min.	Max.	Avg./Yr	Min.	Max.	Avg./Yr
Upstream	594	943	59	572	960	70
Downstream - Refining	200	277	18	173	230	18
LNG Projects	25	150	7	25	120	7
Privatisation	30	50	3	30	55	4
Total	849	1420	87	800	1365	99

¹ PFC (1993) *op cit.* note 5, p 21.

² PFC & PW (1995) *op cit.* note 5, pp 22-23.

Combining this data with the previous three studies and ignoring both the highest and lowest cases, we calculate a composite forecast of \$64 billion per year. Despite having derived a consensus figure the comparative exercise has highlighted the considerable ambiguity among forecasts. We believe this to be caused by methodological differences and/or that each study employs a slightly different sectorial coverage (i.e. they are not actually measuring the same thing). In particular, it is not certain to what each study has tried to incorporate the expenditures of state oil companies in key OPEC member States. Again given this lacunae, it appears that such surveys are once again underestimating the true level of global upstream capital expenditures. Nevertheless, we ultimately wish to ascertain what portion of the \$64 billion per year (or another similar figure adjusted upwards) will be realistically allocated to the FSU, but first our analysis will proceed by cross-checking these figures based on projected figures derived from historical investment patterns.

4.3.2 Forecasting Capital Expenditures Using Regression Analysis

Recalling the historical levels of capital expenditures reproduced in Table 4.1 or Figure 4.1, a forecast of \$64 billion per year does not seem unreasonable nor is it atypical of the industry. In this manner we strongly disagree with those who speak of an impending capital 'crunch' based on forecasted levels of investment. If oil prices drop there will be a natural down-grading of investment plans, on the other hand if oil supply tightens new investment will be encouraged. The oil industry is a cyclical industry.¹⁵ Given the

¹⁵ "The flow of capital to the petroleum industry follows the industry cycle. The cyclical upturn creates a ready pool of new capital available for investment in exploration and production. This flood of new capital derives from both the rising cash flow associated with production from existing capacity and

strong correlation of oil prices and capital expenditures we conducted a simple least squares regression using oil prices lagged by one year as the explanatory variable in order to determine the dependent variable CAPEX. The full results of this exercise are reproduced in Appendix C.1 and for those readers not familiar with their interpretation, Appendix C.2 explains the most salient parameters. The resultant equation is

$$\text{CAPEX}_{(t)} = 2.526 * \text{OP}_{(t-1)} + 9.830, \text{ where}$$

R-Square is 0.820,¹⁶ F-Ratio is 91.397 and t-statistics are 9.560 and 1.790 respectively.

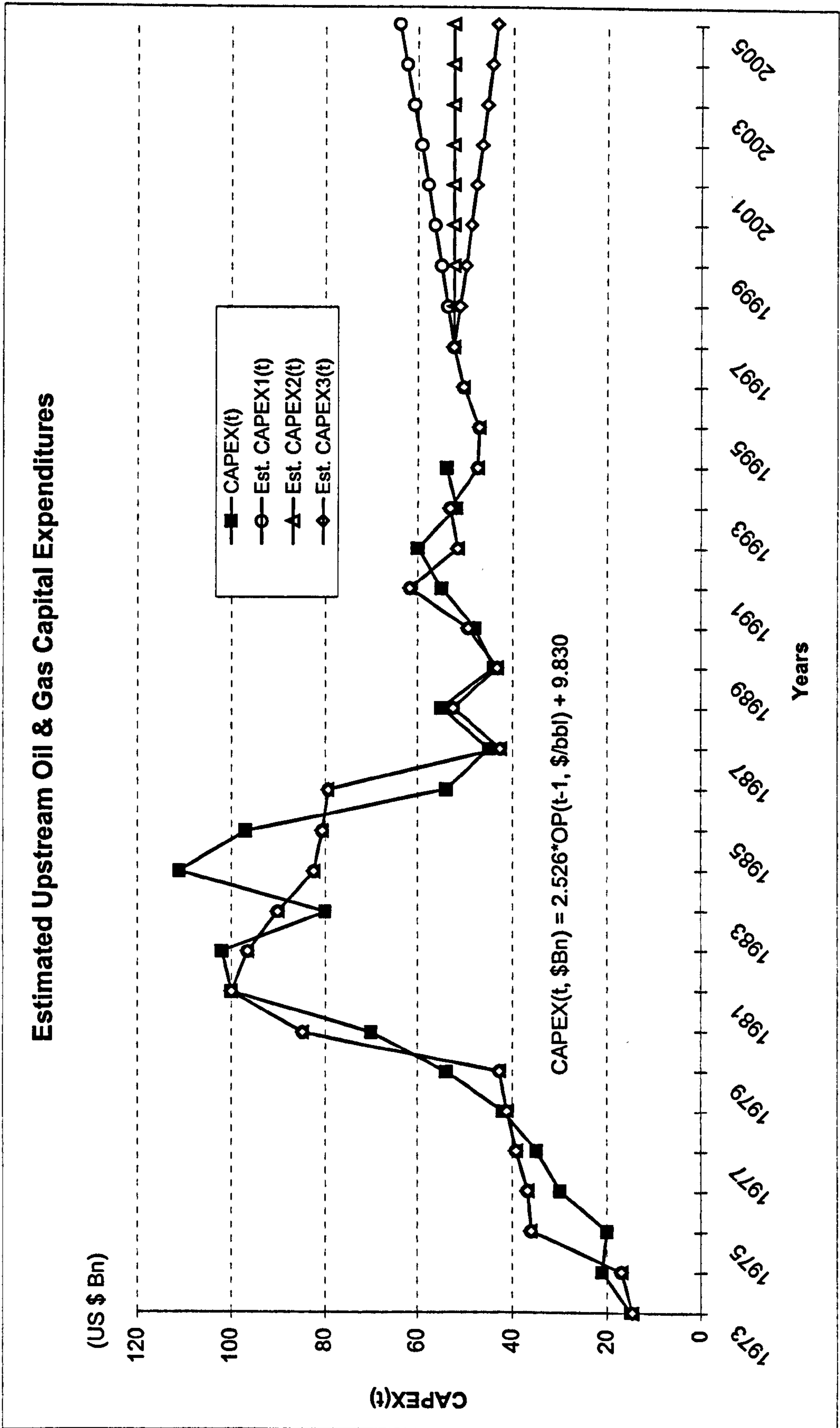
Capital expenditure is in billions of US dollars, oil price of Arabian Light/Dubai is in US dollars per barrel, and time (t) represents the year in question and all currency figures are in current dollars terms (i.e. not adjusted for inflation). This equation provides a rudimentary means of cross-checking the previously published forecasts. Knowing that the average spot price of Dubai Light was \$16.09/bbl in 1995 and \$16.89 in the first six months of 1996,¹⁷ we chose three price scenarios over the next decade to estimate potential capital expenditures (see Figure 4.2). A flat oil price of \$16.89 for the remainder of the next decade would result in an estimated total upstream capital expenditure of \$570 billion over the period 1995-2005 (or an average of \$52 billion per year). A 5% annual increase would result in total capital expenditures of \$619 billion (or average of \$56 billion per year, but rising to \$64 billion by the year 2005); whereas a 5% annual decrease would result in total capital expenditures of \$527 billion (or an average of \$48 billion per year). These calculations are reproduced in Appendix C.3.

from external capital markets." PFC, World Petroleum Markets, 1988, World Bank Tech. Paper No. 92 as quoted in Economics of World-wide Petroleum Production, by Fraser H. Allen and Richard D. Seba, (Tulsa OK.: OGC Publications, 1993): p 67. See also Elisabeth L. Robinson, "Finance for a cyclical industry," Resource Policy 17 (1991): pp 124-132.

¹⁶ The square root of R-square, known as Multiple R or the Correlation Coefficient, is 0.906. This is the same value which was calculated in Table 4.2.

¹⁷ BP Statistical Review of World Energy 1996, p 14; and "Updated Price Scorecard For Key World Crudes," P.I.W. - Special Supplement Issue, 29 July 1996, p 2.

Figure 4.2 Forecast of Upstream Oil & Gas Expenditures Based on Oil Prices



Whether one accepts a forecast of \$52 billion per year or \$56 billion per year or any other figure thereabouts, all are well within the range of previously published forecasts. However, the discrepancy suggests that we do really need to apply a correction factor to account, for the fact that none of the surveys are truly estimating global upstream capital expenditures because of their failure to account for key state petroleum companies.

4.3.3 Estimating the “True” Level of Global Upstream Capital Expenditures

We approached the aforementioned problem, by first estimating the percentage contribution of western oil companies operations to global oil production. This was achieved by tabulating the 1995 global oil production profile as published by the Oil and Gas Journal.¹⁸ Then by utilising the breakdown of company specific production information contained therein we estimated the contribution of western oil company operations to each country’s production profile. While the results reproduced in *Appendix F, Portion of World Oil Production by Western Oil Companies*, are only an approximation, they suggest that western oil companies are in fact only responsible for only 43% of the world’s oil production. This means that instead of a forecasted global upstream capital expenditures in the order of \$52 to \$56 billion per year over the next decade the true figure is likely to be of the order of \$126 billion per year which far exceeds any of the published forecasts as well.

To investigate this matter further, we made a simple calculation based the cost of finding and developing enough new production to satisfy the global demand for oil while maintaining a reserve to replacement ratio of exactly one. Using an average finding and development cost figure of \$5.12/bbl¹⁹ and a current production rate of 68 MMbopd, we

¹⁸ It should be noted that this data series does not produce the same figures as those used in BP Statistical Review of World Energy, however, they have the advantage of breaking down a country’s production by company. “World wide Production: OGJ Special,” Oil and Gas Journal, 30 Dec. 1996, pp 42-73.

¹⁹ This is based on using the average finding and developing cost for the years 1985-1993 of \$5.12/BOE. The finding and development costs for Amoco, ARCO, BP, Chevron, Exxon, Kerr-McGee, Mobil, Phillips, Royal Dutch/Shell and Texaco were taken from two studies. See Michael Mayer, Exploration and Production Results: A Comparative Analysis, 1987-1991, 2nd Ed. (New York, NY.: Wertheim Schroder, The Energy Group, May 1992): p 23; and Petroleum Intelligence Weekly and price Waterhouse World Petroleum Industry Group, Ranking the World’s Top Oil Companies, (New York, NY.:

derived an expenditure forecast of \$127 billion per year. The fact that our two calculations produce similar figures is encouraging, however, it is probably incorrect to extend the average cost of finding and developing oil based on western company performance to the world as a whole, particularly as such companies are presently excluded from the largest and lowest cost reserve base in the world, the Middle East.²⁰ Therefore, as a final downward correction we apply a finding and development cost figure equal to half the figure for western oil companies to the Middle Eastern oil producing states.²¹ Thus, our final estimation of world-wide upstream capital expenditures becomes \$106 billion, of which western oil companies contribute roughly \$55 billion per year.

We believe these latter figures are the suitable global benchmarks when considering potential FSU investment plans. The issue of capital expenditures is then reduced to the question of its geographical allocation. This can be metaphorically described in the following manner. There exists pool of capital which will be allocated to the upstream sector each year, the actual level of the pool is highly and positively correlated with oil prices. In order for capital to reach a project in a given country a channel must be made which connects a potential investment project and the pool of capital. The straighter the path the more easily the capital will flow. In this respect the channel represents a country's legal and fiscal framework. The straighter and deeper the channel the more transparent and investor-friendly the country's foreign investment regime. Capital will easily flow to those projects which are linked by a well constructed channel. But, unfortunately many of the pathways to the FSU are shallow, meandering, and are often blocked — despite the geological attractiveness of the area. Consider the world as being a collection of countries distributed about a metaphorical watering hole. Some are close,

PIW Publications, 1995): p 24.

²⁰ See discussion in Chapter 5 at §5.4.2.

²¹ Thus we assume that for Saudi Arabia, Iran, Kuwait, Iraq, UAE, Qatar, Libya and Algeria (i.e. roughly 75% of OPEC production) an average finding and development cost of only \$2.31/boe applies.

some are far away, some are located on an uphill slope (geologically unattractive), others are located downhill (geologically attractive). The ultimate goal of any country is to attract its share of investment capital — some may be able to provide this by themselves, but this situation is less than certain. Whereas the financial situation of many OPEC member states is becoming strained, the NIS are experiencing a severe drought. Therefore our world consists of a collection of unequally endowed countries who are in competition for investment funds. Those countries which offer a transparent and stable legal and fiscal framework stand a much better chance of receiving a flow of investment capital. In this sense there is a very real competition for capital, but not a shortage of capital at the aggregate level *per se*. The industry will always find enough capital to support its needs although regionalised shortages may exist. In times of high oil prices, our pool of capital will be over-flowing perhaps even enough to overcome the most tenacious of barriers, on the other hand during a period of weak oil prices the level of capital in our pool is lower. In the latter circumstance, countries wishing to maintain or increase their share of investment funds will need to improve their mechanisms for assisting that flow. Investment incentives (i.e. a pump) may need to be installed.

It is from this perspective, that one may now correctly assess the capital requirements of the FSU's petroleum industry. Speaking of tens or even hundreds of billions of dollars is meaningless without being able to benchmark such expenditures against what is normally spent by the international oil and gas industry. Having established a benchmark of \$106 billion per year, our study will now turn to estimates of upstream capital requirements of the FSU's oil and gas industry and discuss them in light of global requirements. Given the continued integration of the FSU's oil industry with the international industry it is no longer sufficient, nor correct, to analyse the two in isolation.

4.4 Capital Requirements of the Upstream Oil Industry in the FSU

The purpose of this section is to assess whether published estimates of the capital requirements of the FSU's petroleum are realistic. If every known deposit in the FSU

were to be developed, the investment required would indeed be astronomical, but is such a scenario is likely? We commence with a review of published forecasts.

4.4.1 Published Forecasts

When assessing the capital requirements of the FSU's oil industry there has been a tendency among analysts to choose a historical point in time as a benchmark and then estimate the amount of capital required to re-establish this level of production. Ironically, even Western analysts, whom have long criticised Soviet planners for their fixation on the supply side of the equation, appear to have adopted a similar strategy for their own forecasts. Consider any of the following:

“It is estimated that Russia's crude petroleum sector alone needs an initial investment of \$25 billion and then capital injections of \$6-7 billion annually to regain its 1988-89 production levels by the year 2000.”²²

“Estimates of the capital required to restore oil production in the FSU to its peak level of 12.5 MMbopd [627 MMtpy] and to ensure that gas production continues to rise range from \$50 billion to \$100 billion over the remainder of the next decade. An estimated \$30 billion is required to simply stabilise production at current levels of 9.2 MMbopd [462 MMtpy] in the FSU as a whole and 7 MMbopd [351 MMtpy] in Russia specifically.”²³

“Maintenance of oil and condensate output at an annual level of around 440 million tonnes between 1993 and 2000 will require a total investment expenditure of \$70 billion, or some \$8 billion per year (constant 1990 money). Raising output by another 50 million tons per year will augment investment expenditure much more than proportionately.”²⁴

Each of the above assumes a return to the past. At best this methodology provides a benchmark for potential capital expenditures, but it is far from certain that a return to the past is feasible or desirable. Chapter 2 emphasised that the tremendous growth in FSU production in the latter half of the 20th century was based on exploitative practices which emphasised short-term production increases in lieu of maximising long-term output. The FSU is still suffering the consequences of this misguided policy. It is unlikely that the

²² Deutsche Bank Research, “Focus: Eastern Europe,” 6 Jan. 1993, p 4. as cited in Trade and Investment Patterns in the Crude Petroleum and Natural Gas Sectors of the Energy Producing States of the Former Soviet Union, USITC, (Washington, DC.: USITC, Jun. 1993): p 3-1.

²³ PFC (1993) *supra* note 5, p 4.

²⁴ Leslie Dienes, Istvan Dobozi and Marian Radetzki, Energy and Economic Reform in the Former Soviet Union. (New York, NY.: St. Martin's Press, 1994): p 8.

region will emulate such growth ever again, particularly if one is to conduct operations in “accordance with good international petroleum industry practice.”

Furthermore such forecasts tend to treat the FSU in isolation, that is, they take no account of the level of oil production outside of the FSU. Earlier we proposed that world-wide upstream oil and gas capital expenditures would be of the order of \$106 billion per year over the next decade. Irrespective of the actual source of this capital (e.g. debt, equity or internal cash flow of IOCs), it will be an integral part of the total world-wide upstream capital expenditures. One approach is to assume that the FSU can expect capital investment in proportion to its share of global oil production. In 1995 the FSU accounted for 10.9% of the world’s oil production including Russia which accounted for 9.4%. Should the FSU maintain its share of global oil production then annual capital expenditures of \$11.5 billion are theoretically possible. However, \$11.5 billion of externally financed investment — at least by IOCs — would imply a complete substitution of domestic oil company production by foreign oil company production, a highly unlikely scenario, particularly in the case of Russia.²⁵ In other words, the level of upstream capital expenditures that western IOCs may commit to the FSU will be, to a great extent, limited by the future percentage of a country’s production profile that foreign companies will be permitted to control. But, since 60% of FSU oil production is presently consumed domestically, it is only natural that a high portion of the total capital expenditures will have to be met domestically. This tendency is likely to be reinforced by the preference of domestic companies to exploit reserves within their own country. Whether the economic and fiscal circumstances permit domestic companies to generate profits sufficient for reinvestment is another matter and there is plenty of evidence to suggest that domestic companies are having to seek external sources of financing. If we assume that western IOCs may be permitted to control 40% of the region’s oil production then annual capital investments in the region of \$4 to \$5 billion per year may in fact be possible, but this presupposes that the domestic industry is capable of satisfying the

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See discussion in Chapter 7 at Table 7.1 and Figure 7.2.

remainder. If this is not the case, then the argument can be made that IOCs could increase their FSU investment profit, provided it is politically feasible to do so. But, because IOCs will maintain geographical diversity within their world-wide investment portfolios, a disproportionate channelling of investment towards the FSU is unlikely. After all \$4 to \$5 billion per year would represent almost 10% of global upstream capital expenditures by western oil companies, and the only way in which this percentage can be realistically increased is if western oil companies increase their share of global oil production or they transfer their production operations from elsewhere in the world to the FSU.

In sum the level of externally financed upstream investment is conditional upon degree to which foreign oil companies are permitted to contribute to a country's production profile. The greater percentage of future production to be carried out by IOCs then the greater the level of external financed upstream capital investment may occur. Ultimately the overall level of investment both domestic and external is a function of the FSU future share of global oil production. However, none of our estimates of future investment foresee an initial lump sum capital injection to stabilise production as is suggested in the forecasts of capital requirements of the FSU's oil industry — the process will be gradual.

Perhaps the most incredulously estimates of capital expenditures emanate from wishful officials of the FSU. Take for instance the case of Kazakhstan. While Kazakhstan has concluded natural resource contracts valued at an estimated \$90.5 billion in investment under 20 year licences (including \$30.6 billion for oil, \$46.8 billion for gas, and \$2.7 billion for gas condensate), the Government has stated that another \$600 billion is still needed.²⁶ \$600 billion approximates our forecast of total world-wide upstream capital expenditures by western IOCs expenditures over the whole of the next decade! A recent report by Wood Mackenzie stated that oil and condensate production could increase from

²⁶ Serikbek Daukeyev, the Kazakh Minister for Geology and Protection of Mineral Resources, quoted in Interfax Petroleum Report, 2-9 Feb. 1996, p 5.

0.4 MMBopd to 1.4 MMBopd by the year 2010 from existing fields alone, but only at a cost to foreign investors of \$35 billion.²⁷ But as a 1994 US Congressional Report pointed out, even if Kazakhstan reaches its production target of 1.65 MMBopd by the year 2005, this would only account for 2% of the US DOE forecast of world production capacity.²⁸ In this context slightly over \$2 billion per year is perhaps a more realistic figure. Hitherto, foreign companies have invested \$1.51 billion in the country's oil and gas sector (i.e. only \$300 million per year).²⁹

In summary there is a wide discrepancy between published forecasts of the capital requirements of the FSU's oil industry and investment that will likely take place. Furthermore, this position is formulated without even taking into consideration the breadth of investment risks facing foreign investors. While we have couched our analysis in terms of a competition for investment capital, the fundamental competition is in fact over global oil output. Capital is only needed to produce this output and if the FSU is to attract a larger share of global upstream capital expenditures, then this presupposes that the FSU will end-up producing a proportionately larger share of global oil output. If FSRs wish to increase their share of global upstream capital expenditures then they will need to provide conditions which permit the transfer of productive capacity to the FSU from other areas of the globe. Cited estimates of the capital requirements of the FSU's petroleum industry share the following characteristics: all vary with respect to the actual amount; each is difficult if not impossible to verify as supporting calculations are rarely provided;³⁰ every forecast is subject to many uncertainties; but all estimates are large and

²⁷ Report by Wood Mackenzie dated 22 Nov. 1995 as cited in E.E.E. Report, Nov. 1995, p 5.

²⁸ US General Accounting Office, International Trade: Kazakhstan Unlikely to be Major Source of Oil for the United States. Report to Congressional Requesters. GAO/GGD-94-74. Washington, DC.: US GAO, Mar. 1994, p 2-3.

²⁹ Interfax Petroleum Report, 8-15 Mar. 1996, p 12.

³⁰ This is not the case for the forecast provided by Dienes, Dobozi and Radetzki (1994) *supra* note 24.

likely overestimate the level of actual foreign investment that will take place. In this regard, we now specifically turn to forecasts based on proposed level of investments.

4.4.2 Forecasts based on Proposed Level of Investments

Our analysis of the FOGI Database in the previous chapter revealed that foreign investors have expressed an interest in 292 upstream projects involving \$231 - \$307 billion in investment; of these, 168 projects (\$175 - \$230 billion) are located in Russia. But aggregate 'press-reported' investment figures of such magnitude are misleading. Clearly, the FSRs do not have access to such capital and external sources of capital will be necessary. But proposed levels of investment do not assure us of their eventual execution nor the time frame over which the investment will occur. The existence of petroleum reserves *per se* only concerns the supply side of the equation not the demand side — global energy markets would have to absorb the resultant increases in production which at a present is only expected to grow at approximately 1 MMBopd per year. Forecasts based on aggregate project proposals overestimate the FDI that is likely to occur.

The opening up of the FSU is commensurate with a gold/petroleum rush which characteristically takes place surrounding any new bonanza. Once new prospective acreage is known or opened up, investors rush to stake as much as possible. In the petroleum industry, this process begins by securing 'exclusive negotiating rights' to a given deposit. With that in place, investors will then embark on the arduous process of obtaining full rights to explore, develop and produce petroleum. But, there is a big difference between a proposal to invest 'X'-amount of dollars and actually doing so. Furthermore, 'contract announcement' investment figures are often promoted by governments for internal political reasons as opposed to representing a legal commitment to invest that amount. Consider the Government of Kazakhstan's reported contract announcements totalling \$33 billion worth of oil and condensate investment. Such a level of investment suggests finding and developing 6.5 billion barrels of oil,³¹ which is

³¹ *Supra* note 19.

equivalent to producing 1 MMbopd for 18 years. Although, geologically possible, the feasibility under the current economic and political conditions is altogether another matter.

The other uncertain variable to be assessed is the time frame over which the investment will occur. In the case of Kazakhstan, the \$33 billion worth of concluded oil and condensate contracts utilised a 20 year licence period (i.e. an average of \$1.7 billion per year). Viewed from this perspective, the expenditures do not seem as unrealistic as first assessed. Conversely, the potential aggregate investment figures for the whole of the FSU derived from the FOGI Database suggest an average annual investment of \$11.6 - \$15.4 billion based on a twenty year time frame. But if we are correct in assuming that foreign oil companies will not be permitted to completely supplant domestic oil companies and a more realistic level of foreign investment may be of the order of \$4-5 billion per year. It then takes a time frame of 50-60 years to reduce the proposed aggregate investment figures to an annual level which we believe is realistically feasible. Therefore statements to the effect that another \$600 billion worth of contracts are needed or that western firms may undertake projects worth \$231-307 billion are meaningless without an accompanying time frame.

4.4.3 Tempering Capital Expectations

Estimates of capital requirements or aggregate investment proposals give the impression of massive flows of western sourced capital. But, having established that western IOCs are likely to invest globally \$55 billion per year out of a total of \$106 billion over the next decade, any factors which reduce the call on foreign based capital make it more likely that the demands of the FSU can be more easily accommodated within the context of global upstream investment. We believe that *(Un)Realistic Production Forecasts* and *Staggered Development & Reinvested Earnings* are two factors which will mitigate the call on foreign capital.

4.4.3.1 (Un)Realistic Production Forecasts

Evidenced by the three published forecasts shown in §4.4.1 we believe the pre-occupation of forecasters to return to previous levels of production tends to cloud the issue of estimating the capital requirements of the industry. Indeed, there is dearth of evidence supporting the perception that the FSU will ever return to its 'golden age'.³² As far as discoveries are concerned the period 1968 to the early 1980s is likely to remain unrivalled, and it is after all, new discoveries which support increases in production. Let us examine the results of six internationally recognised production forecasts for EE&FSU.

Table 4.5 Forecasts of Oil Production for EE&FSU

(MMbopd)	1994 Actual		1995 Actual		2000		2010	
	EE&FSU	RF	EE&FSU	RF	EE&FSU ⁴	RF	EE&FSU ⁴	RF
IEO95					446.8		572.4	
IEA					386.6		537.2	
PEL					386.6		471.9	
PIRA					427.7			
DRI					406.7		502.1	
NWS					386.6			
Average	375.5 ¹	317.8 ¹	≈ 369.5 ¹	306.8 ¹	406.7		520.9	
RF MFE-1		317.9 ²		306.4 ²		320.0 ²		350.0 ²
RF MFE-2						310.0 ³		320 - 350 ³

¹ BP Statistical Review of World Energy 1995, p 4; BP Statistical Review of World Energy 1996, p 6.

² Russian MFE as cited in "Oil Industry in Russia Remains in Deep Crisis Due To Shortages of Cash and Investments," *Interfax Petroleum Report*, 29 Dec. 1995 - 5 Jan. 1996, p 12.

³ Inter-Agency Commission for the Co-ordination of Programme Development, "Energy Strategy For Russia," dated 7 Dec. 1994 in *Energy Policies of the Russian Federation 1995 Survey*, (Paris, OECD/IEA, 1995): pp 287-289. For a discussion on an early draft see "Back to Basics," *R.P.I.*, Apr. 1994, pp 9-11.

⁴ US Department of Energy, Energy Information Agency, *International Energy Outlook 1995*, DOE/EIA-0484(95) (Washington DC.: GPO, Jun. 1995): p 23 citing Energy Information System World Energy Projection System (IEO95), International Energy Agency (IEA), Petroleum Economics Ltd. (PEL), Petroleum Industry Research Associates (PIRA), DRI/McGraw Hill (DRI), and NatWest Securities (NWS).

³² Lev Tchurilov, *Lifblood of Empire: A Personal History of the Rise and Fall of the Soviet Oil Industry*, (New York, NY.: PIW Publications, 1996): p 108.

Interpretation of the above can be approached from two points of view. Firstly, at the aggregate level. The consensus view of the six internationally recognised forecasts is that a recovery of total EE&FSU production to 406.7 MMt is possible by the year 2000, and a further 20% increase in production to 520.9 MMt is expected by the year 2010. Critically though, none of the above six production forecasts foresee a return to the peak levels witnessed in the latter half of the 1980s on which the published capital requirement forecasts were based, even by the year 2010. The whole idea of estimating the capital required to stabilise and return production back to historical levels appears to be conceptually flawed. Why must the FSU production return to previous levels, is this in fact possible, and on what time frame will this occur? We believe the three forecasts of capital investment shown in §4.4.1 overestimate the level of funding which the West will be called upon to support, because a return to such production levels is unlikely. By downgrading forecast levels of production the call on external financing is equally reduced.

The data in Table 4.5 should also be examined from the point of view of Russia being the region's largest oil producer. During the 1980s, Russia accounted for approximately 88% of total FSU oil production. Since 1992 its position has slipped slightly to 85%. If we were to assume that Russia will continue to account for 85% of total FSU production; the six international forecasts suggest that oil production in Russia will be 346 MMt and 443 MMt in the year 2000 and 2010 respectively. Yet the Russian MFE predicts future production levels of only 310-320 MMt in 2000 and 320-350 MMtpy in 2010 depending on the price scenario used to generate the forecast. Combining the MFE forecast with the consensus forecast, Russian oil production may decline to 79-76% of total FSU production by the year 2000 and slip further to 67-61% of total FSU production in 2010.

This conclusion is quite startling when considering the allocation of capital expenditures. It suggests that despite the size of Russia's oil industry, other regions of the FSU will enjoy proportionately more growth. The MFE forecast implicitly suggests that Russia

will be unable to attract the level of investment which they desire. On the other hand, if we assume that Russia will maintain her proportionate share of FSU production, not an unreasonable assumption given Russia's stranglehold on export infrastructure, then clearly the six international forecasts are overestimating the recovery of FSU production. Either interpretation suggests that the overall level of investment by IOCs will be lower than expected. Perhaps the final word on unrealistic production forecasts as a benchmark for capital expenditures is best expressed by a former Russian Oil Ministry.

“Oil output may be in decline, but I'm sure that Siberia has not yet had the final word. *True previous, peak production levels may never be attained again*, but I think an annual flow of some 250- to 300- million tons is a realistic goal.” (emphasis added)³³

Undoubtedly the FSU needs external capital, but estimates of capital requirements based on the precept of returning to peak levels of production are fundamentally incorrect. The 'golden age' of discoveries has passed, at least in Western Siberia, and the exploitative practices of the past which led to such high production rates are unlikely to be repeated. Apart from down-grading most production forecasts, a staggered approach to investment and the use of reinvested earnings will also reduce the call on foreign sourced capital.

4.4.3.2 Staggered Development & Reinvested Earnings

Given the volatile and unpredictable nature of the FSU, most companies are not willing to commit up-front the capital needed to complete a development project in its entirety. Companies will employ a staggered approach to development and make full use of reinvested earnings as a means of funding future development.

4.4.3.2.1 White Nights JV

The experience of the White Nights JV³⁴ between Phibro Energy Production Inc. (US), Anglo-Suisse (US) and Varyeganskneftegaz (RF) attests to the risks of not pursuing a

³³ *Ibid.* p 133.

³⁴ For background information on the White Nights JV see: Peter S. Adam, “Joint Ventures in Russian Oil Production,” *Oil and Gas Quarterly* 42 (1994): pp 451-452 and 461-462; Igor K. Lavrovsky, “Case Study of Joint Ventures in the Oil Sector of Russia,” OTA Contractor Report, Aug. 1993, pp 29-32; Phibro Energy Production Inc., Company Information Pamphlet, N.d.; “White Nights Contract of 12 Oct. 1990 (Phibro Energy / Anglo-Suisse),” English Translation *reprinted* in *Basic Oil Law's Russia & NIS*, Vol. 1, p 321 *et seq.*; and “The White Nights Contract: Selected Excerpts,” *P.I.W.*, 5 Aug. 1991, pp 1-8.

'self-financing' strategy. Between September 1990 and the first half of 1992, Phibro's initial debt and equity investment totalled nearly \$120 million.³⁵ This consisted of \$80 million of equity and \$40 million of debt (i.e. a debt equity ratio of 1:2 which is unusually low). From a shareholder's point of view the risks of committing such a high level of up-front capital has been realised as the project has been beset by problems relating to Russia's unstable legislative, fiscal and regulatory regime. Despite having generated gross sales proceeds of \$46 million in 1993 (from exporting 3.2 MMbbls), \$52 million in 1994 (from exporting 3.6 MMbbls), and \$60 million in 1995 (from exporting 3.8 MMbbls) the JV has still to make a profit. In fact, from 1 January 1992 to end of 1994, the company paid a total of \$33 million in export taxes alone, although effective from 1 Sept. 1994 the JV did finally receive an exemption from the onerous \$5/bbl export tax. The export tax exemption combined with increased oil production has allowed the JV to cover its operating costs and on-going capital expenditures, but thus far only \$16.8 million of current and prior interest plus \$1.1 million in principal has been repaid to Phibro. Combined with a \$20 million write-down in 1993, Phibro's exposure to the White Nights JV stood at \$47 million at the end of 1995 versus \$58 million at the end of 1994. Investors wary of the 'White Nights' experience are reluctant to externally fund development projects in their entirety whether in the form of debt or equity. Therefore investors, as Phibro has been doing since the latter half of 1992, now pursue a 'self-financing' strategy for their projects. While 'self-financing' does not strictly reduce the capital requirements of the FSU's petroleum industry, it does have a direct impact on the call of externally sourced financing. While western investors may be willing to support a project initially, and 'get it off the ground', the real onus is upon the host countries themselves to provide a legal, fiscal and regulatory environment that will permit such ventures to earn a profit from which earnings can be reinvested to support further development. For instance, a project which entails a capital expenditure of \$100 million should not be interpreted as meaning that the call on the IOCs will be \$100 million, although domestic partners and governments may hope this to be the case. Instead, IOCs

³⁵ Salomon Inc., Annual Report 1994, p 19; and Annual Report 1995, pp 13-14.

will seek a minimum level of exposure and in turn use reinvested earnings for the remainder. This applies to not only to the smallest of joint ventures but also to mega-projects. The only exception being pure exploration which is always financed by risk capital. Consider any of following examples.

4.4.3.2.2 Bula Resources (Holding) plc

Bula Resources (Holding) plc is a small oil and gas exploration company based in Ireland with oil reserves in Russia. Its entry began with its purchase of an option to acquire 51% in the West Siberian company Aki-Otyr in November 1994. Aki-Otyr holds production licences to the Lower-, Middle-, & Upper-Shapinskoye, and Ryamnoye Fields whose combined recoverable proven and probable oil reserves are 525 MMbbls.³⁶ This option was exercised in the autumn of 1995 when Bula also acquired a 25% interest in Mir Space International ("Mir") whose main asset is a 50% interest in a joint venture with the open joint stock company Khantymaniyskneftegasgeologia which holds the licence to the western section of the Salymkoye oil field estimated to contain proven and probable recoverable oil reserves of 585 MMbbls.³⁷ Bula has an option to acquire the remaining "Mir" stock which would increase its stake in the Salymkoye oil field from its current level of 12.5% to 50%. As a result of Bula's fund raising activities in 1994, the company has sufficient resources to carry-out the intermediate development of the Middle- and Upper-Shapinskoye fields. However, the development of the Ryamnoye, Lower-Shapshinskoye and Salymkoye fields are expected to cost \$851 million, of which \$689 million will be financed from cash flows generated by the oil fields.³⁸ That is, 81% of the development costs will be covered by cash flows or reinvested earnings. With regards to the remaining \$162 million, Bula intends to arrange this funding through new debt, equity and disposal of core assets.

³⁶ Bula Resources (Holding) plc, Annual Report & Accounts 1994, p 5-7.

³⁷ Bula Resources (Holding) plc, "Interim Report 1995."

³⁸ Bula Resources (Holding) plc, Annual Report & Accounts 1994, p 4.

4.4.3.2.3 Dana Petroleum plc

Dana Petroleum plc is another Irish based independent oil production company whose main interests are three projects in Western Siberia.³⁹ Dana was created with the acquisition of T.M. Oil in August 1994 who had been conducting studies of various oil fields in Western Siberia in conjunction with domestic companies.⁴⁰ From this preliminary work, Dana formed in November 1994 the 50:50 YoganOil JV with Yogan-neft, whose participants include LUKoil, Kogalymneftegas, Megionneftegazgeologiya and the Siberian Oil Corporation. The principle activity of the YoganOil JV is to develop the South Vat-Yaganskoye field estimated to contain proven and probable recoverable reserves of 34.72 MMbbls.⁴¹

According to the YoganOil Founders Agreement, the principal obligation of Dana (Cyprus) is to “...provide or arrange loan finance, up to a maximum of US \$20,000,000.00, for YoganOil until it is able to finance project activity from its own resources.”⁴² While the agreement has not specified the extent of total development costs required, an earlier report of T.M. Oil’s plans by Petroconsultants cited a total capital expenditure of \$42 million, and total operating expenses of \$185 million to develop the South Vat-Yoganskoye Field.⁴³ Even without knowing the proportional split between CAPEX and OPEX for the first \$20 million, clearly external resources will only be expected to cover a maximum 50% of the total capital expenditures, the rest will be self-financed. While this analysis represents our best estimate given the available

³⁹ While the project described herein, represents Dana’s most advanced undertaking, the company is also pursuing 30% interests the Sortymskoye Field estimated to contain proven and probable recoverable reserves of 44.46 MMbbls and the north eastern part of the Mamontovskoye Field estimated to contain proven and probable recoverable reserves of 72.39 MMbbls. As of the publication of Dana’s Annual Report for 1994 on 13 July 1995, neither the respective SortymOil or YuganskOil JVs for these additional projects had been formed.

⁴⁰ Dana Petroleum plc, Admission to the Official Lists of the London Stock Exchange and Irish Stock Exchange: Placing, Open Offer and Intermediaries Offer, Dec. 1995, p 10.

⁴¹ *Ibid.*, p 11.

⁴² *Ibid.*, p 25; *see also* Dana Petroleum plc., Annual Report and Accounts 1994, p 21.

⁴³ Petroconsultants, “Addendum 2: CIS Contract Terms,” in Foreign Scouting Service, Jan. 1995, p 34.

information, YoganOil Founders Agreement states that “in order to determine the extent of financing required...Dana and Yogan-neft will agree a plan estimating the total finance required until YoganOil is self-financing (up to a maximum of \$20,000,000).”⁴⁴ Furthermore, the release of such funds will be carried out in tranches conditional upon the progress of development.

Dana’s second project, the development of the Sortymskoye oil field, is far less advanced. The SortymOil Founders Agreement pursues a similar strategy in that Dana and its Russian partners will estimate and provide the financing for the JV (up to an agreed maximum) until SortymOil is able to finance its activity from its own resources.⁴⁵

4.4.3.2.4 TengizChevroil JV

While the above examples are representative of relatively small JV projects, the ‘self-financing’ analysis applies equally to mega-projects as well. On 6 April 1993 Chevron formed the 50:50 TengizChevroil JV in Kazakhstan to develop the Tengiz and Korolveskoye oil fields estimated to contain between 6-9 billion barrels of recoverable oil. Chevron reckons that it will invest \$20 billion over the project’s 40 year licence; by the end of 1994 almost \$1 billion had been invested. However, Chevron frustrated with its inability to expand export capacity in Russian controlled pipelines, reduced its capital expenditure programme from \$500 million per year down to \$50 million per year in February 1995.⁴⁶ Chevron stated that this action was a direct result of “not being able to realise the revenues we had anticipated” and was “consistent with our original plans to *reduce risk by making the project self-funding.*”⁴⁷

⁴⁴ Dana Petroleum plc. (Dec. 1995) *supra* note 40, p 25.

⁴⁵ *Ibid.*, p 27.

⁴⁶ “Minor Leagues,” R.P.I. Apr. 1995, p 42.

⁴⁷ Espy Price (Vice President of Chevron) as quoted in “Chevron Slashes Outlays for Kazakhstan Oil Field,” World Energy Update, Mar. 1995, p 7. Similarly, Frank Duffield (President of Sakhalin Energy Investment Company Ltd.) speaks of ‘phased development’. See “Progress made on Sakhalin Deal but Snags Remain,” E.E.E.Report, May 1996, p 1.

4.4.3.2.5 Staggered Development & Reinvested Earnings Summary

The lessons learned from the early experience of the White Nights JV has not been lost on subsequent investors. In hindsight the confident approach of Phibro was overly optimistic, but their actions were representative of the prevailing attitude of foreign investors immediately following the dissolution of the FSU. Just as Phibro opted for a 'self-financing' strategy since the latter half of 1992, subsequent investors appear to be utilising such a policy from the start. The outcome of our analysis is consistent with the results of a 1970 study on the financing of foreign subsidiaries.⁴⁸ The study indicated that the

“...parent in a Small MNE [Multinational Enterprise] is less likely to expect to invest additional funds in a subsidiary once that subsidiary has started. ... Rather the smaller enterprise expects its subsidiaries to grow through their own borrowings and retained earnings.”⁴⁹

The staggering of development in line with reinvested earnings minimises exposure to investment risks. Although it does not change the actual capital requirements of the FSU's petroleum industry, it alters our perception of where the financing burden lies. The concept that the global oil and gas industry is facing an impending capital crunch because of the needs of the FSU's oil industry is misplaced. Undoubtedly, both capital and technology are being sought from the West, but the experience of foreign investors indicates that IOCs, even the largest, are unwilling to fund entire development projects up-front. The corollary is that considerable onus is placed upon host governments to provide the requisite regulatory, legal and fiscal regimes to permit these ventures to earn a profit which can then be reinvested. While statements to the effect that the FSU's upstream petroleum industry require \$50 - \$100 billion over the next decade, one must not interpret this to mean that the international financial community along with IOCs will supply such funds. Much of the financing will come from reinvested earnings or not at all. Before concluding this chapter we wish to highlight the pre-eminent role of the largest IOCs in funding global upstream oil and gas expenditures.

⁴⁸ Robert Stobaugh Jr., “Financing Foreign Subsidiaries of U.S. Controlled Multinational Enterprises,” *J.I.B.S.* (Summer, 1970): pp 43-64.

⁴⁹ *Ibid.*, p 51.

4.5 Financing the Global Oil Industry — The Role of the Majors

Recalling our historical time series of upstream oil and gas capital expenditures presented in Table 4.1 and Figure 4.1 it is paramount to recognise the dominant role of the largest IOCs. Table 4.6 presents a time series of upstream expenditures of the nine largest western oil companies versus total western upstream capital expenditures since 1990.⁵⁰ The contribution of this select group of companies has accounted for 45-56% of total upstream capital expenditures by the western world.

Table 4.6 Contribution of Majors to Upstream Oil & Gas Expenditures

(\$US Bn)	1990	1991	1992	1993	1994	1995e	1996e
AGIP	1.750	2.588	2.841	1.980	1.521	2.110	2.155
Amoco	2.344	2.498	1.850	1.850	2.194	2.495	2.695
BP	4.047	4.148	3.747	3.000	2.498	2.900	3.400
Chevron	2.271	2.400	2.432	2.570	2.700	2.700	2.875
Elf Aquitaine	2.150	2.685	3.530	2.930	2.560	2.486	2.438
Exxon	4.874	5.457	5.605	5.180	4.213	4.871	5.132
Mobil	2.259	2.547	2.100	2.100	2.150	2.500	2.770
Royal Dutch/Shell	4.984	5.861	5.496	5.199	4.950	5.660	6.405
Texaco	1.969	1.963	1.790	1.718	1.585	1.920	2.290
Sum of Majors	26.648	30.147	29.391	26.527	24.371	27.642	30.160
World Total	48.000	55.000	60.000	52.000	54.000		
% of Majors	56%	55%	49%	51%	45%		

Source: Individual company figures from various issues of Salomon Brothers, "Survey and Analysis of World-wide Oil and Gas Exploration and Production Expenditures," 1991, 1992, 1993, 1994, 1995, 1996. Data from Annual Surveys 1983-1996 supplied courtesy of Geoff B. Keiburtz and Stephen D. Gengaro of Salomon Brothers.

This simple fact should not be lost on those FSRs which are seeking FDI. It is not to belittle the role of all the other companies whether independents, small exploration and production companies, or indeed other substantial IOCs, such as UNOCAL, Total, ARCO, Pennzoil, Statoil, etc. whose aggregate contribution make up the other 50%. But, from the point of view of attracting oil and gas related FDI into the FSU, it is imperative that investment conditions which satisfy the needs of the 'Major' IOCs be created.

The reason for highlighting this select group of companies is their financial wherewithal. Should these companies choose to invest in the FSU they have access to large sums of internally generated cash flow and if external debt is necessary, then their balance sheets

⁵⁰ Excluding the state-owned oil companies of the non-western world, *supra* note 6.

will permit them to raise financing without necessarily having to resort to the most expensive option of project financing. It is not our intention to discount the role of external financing as the oil and gas industry has established itself as premier use of external capital in international financial markets.⁵¹ But the FSU is and will remain for the foreseeable future an inherently risky target for inward investment. Any source of external finance in which the lender is exposed to additional risks beyond the regular credit worthiness of the borrower will naturally attract a cost premium. It is not that smaller companies cannot successfully finance an economically sound project, but it is more difficult and time consuming than in the case of a project involving one of the 'Majors' or for that matter any of the larger integrated IOCs which make up the next corporate tier of the international oil and gas industry hierarchy. Numerous contracts/proposals have hitherto been negotiated by small companies which lack the requisite funds or 'deep pockets' to see a project through to its completion within the volatile investment climate (hence their inevitable reliance on strategies of 'self-financing'). The recent position expressed by St. Mary Land & Exploration Company involved in the Chernogorskoye JV in Russia was that "we're too small to be in Russia."⁵² Smaller companies having previously secured acreage often turn to farm-outs as the only means forward.

In summary, the involvement of the 'Majors' as the principal players who are able to absorb a far higher level of risk than other investors, is seen as being critical to rebuilding the productive capacity of the FSU. A role will be played by other firms as the 'Majors' are not interested in anything less than mega-projects. But the success of these latter projects will provide the necessary infrastructure, expertise and training which will instil

⁵¹ The multitude of external sources of capital ranges from equity, public debt/bonds, derivatives, commercial paper, syndicated debt, project financing, multilateral agencies (MLAs), export credit agencies (ECAs), or even more non-traditional sources such as oil indexed bonds or trusts. See PFC & PW (1995) *supra* note 5, p 25.

⁵² Platt's Oilgram News, vol. 74, no. 62, 28 Mar. 1996, p 4.

confidence in the region. They are the bellwether projects which can singularly make a noticeable contribution to a country's production profile.

4.6 Conclusion

This chapter commenced with a review of historical levels of upstream capital expenditures by IOCs. When capital expenditures ($CAPEX_{(t)}$) are correlated with oil prices lagged by one year ($OP_{(t-1)}$), the resulting correlation coefficient of 0.906 suggests that 90% of upstream capital expenditures can be explained by the previous year's oil price. Next we reviewed five published forecasts of oil and gas capital expenditures spanning the time period 1990 to 2005. We established a consensus forecast of world-wide upstream capital expenditures of approximately \$64 billion per year from 1995 to the year 2005. Taken in the context of historical levels of capital expenditure this estimate is not particularly onerous. But as considerable differences exist between the individual forecasts we conducted, a least squares regression of capital expenditures and oil prices lagged by one year to provide an alternative means of forecasting upstream capital expenditures. The result was as follows.

$$CAPEX_{(t)} = 2.526 * OP_{(t-1)} + 9.830$$

Using the above we forecast average annual upstream capital expenditures over the period 1995-2005 of \$48 - \$56 billion per year depending on the exact price scenario. However, both the published forecasts and the historical time series of upstream capital expenditures seem to ignore the relatively large contribution of non-western state owned oil companies. After applying an approximate correction factor to account for this lacunae, we believe the true level of global upstream capital expenditures appears to be of the order of \$106 billion. Of this amount roughly \$55 billion per year is undertaken by western IOCs. These latter two figures represent a suitable benchmark for assessing the potential level of investment in the FSU.

With regards to the FSU's upstream oil industry, our review of three published forecasts shows them to exhibit little consistency, but imply capital expenditures of \$50 - \$100

billion over the next decade. On a global basis, this does not seem particularly onerous, what is less certain is the degree to which such investment could be externally financed as this presupposes a substitution of domestic operations by foreign operations. Alternatively, the FOGI Database records 292 proposed projects with an estimated aggregate investment of \$230 - \$307 billion. A weakness of the latter is that no frame is provided for such proposals. Would the investment occur over 10, 20 or even 50 years?

It is our opinion that all such figures are over-inflated within the early time horizon of the 21st century. Firstly, the published forecasts are based on a return to historical levels of production. None of six international oil production forecasts reviewed herein foresee such a buoyant recovery in production levels. Production forecasts by the Russian MFE are even more pessimistic, but are probably the more realistic. Obviously, the lower the production forecast, the lower the investment required. Furthermore, forecasts predicated on a return to historical levels of production are misleading in that they treat the FSU in isolation. It is not certain why the region must receive such a high proportion of investment. If the period since 1991 is anything to go by, the region is unlikely to meet its investment targets. Secondly, the concept of reinvested earnings is often overlooked. Given the risks involved with up-front capital expenditures, companies are adopting self-financing strategies which in some instances implies that up to 80% of the development costs will be provided by reinvested earnings. Such a strategy shifts the financing burden upon domestic operations to fund future expansion and which can go a long way in tempering the level of capital expenditures which must be met by external resources. Thus, it is up to the host government to provide a favourable macroeconomic climate and legal, fiscal and regulatory frameworks which permit investors to earn profits which can, in turn, be reinvested. If not, the bulk of FDI will likely never occur. Using our regression based forecast, it is not unreasonable to expect that IOCs could invest \$4-5 billion per year in the FSU's upstream oil sector provided the region as whole permits 40% of their production to be carried out by foreign companies. If our analysis of reinvested earnings holds then the total investment resulting from such seed capital and

contributions by domestic companies would likely meet the requirements of FSU's upstream oil industry.

However, even if utopian investment conditions were created, only a fraction of the total proposed projects as registered by the FOGI Database will proceed due to what economists call the 'fallacy of composition'. The FSU in a sense possesses too many deposits seeking too few investors with sufficient resources and access to markets to undertake development. In other words, all producers cannot produce the same thing at the same time without undermining the market. Global energy markets must be of sufficient size to absorb the resultant production increases. A perfect investment climate would only intensify the competition for funds and allocate scarce capital to the 'best' projects but within the global context of the international oil industry.

Within the context of meeting the capital requirements of the FSU's upstream oil industry, the role of the 'Majors' who account for half of all upstream expenditures by the western world is emphasised. We believe that only this very top tier of IOCs enjoy access to a level of capital which could support one or more of the proposed mega-projects and could singularly make a visible impact on a country's production profile. This is not to down play the role of smaller IOCs — there are plenty of opportunities for them as well, but it will be the mega-projects and their sponsors which contribute the necessary infrastructure, expertise and training to instil confidence in the region as a sensible location for FDI. These projects represent the barometer against which all others will be measured.

In summary, the FSU currently faces a localised shortage of investment capital, but a realistic production forecast and the use of reinvested earnings will substantially reduce the call on western capital. The idea that IOCs along with the international financial community will have a hard time meeting the level of required investment in the FSU is misplaced. The region will receive funds commensurate with its position on a risked

basis compared to other global opportunities. The real onus of financing lies with the host government. They must provide a macroeconomic climate combined with the legislative, fiscal and regulatory regimes to permit these projects to earn profits. Undoubtedly seed money, expertise and technology are required to get many of these projects off the ground, but in the end it will be the projects themselves which provide the ultimate source of financing. Furthermore, should such conditions be created, then the domestic industry would contribute a large portion of the needed investment as they would themselves be in a position to reinvest their own earnings.

5. EXTERNAL SOURCES OF CREDIT

5.1 Introduction

The previous chapter examined the level of future estimated upstream capital expenditures in the FSU and their relative position in the context of similar estimates. We concluded that most capital expenditure forecasts for the FSU's petroleum industry are the result of an overly optimistic perception of the future and that the Major IOC's which account for approximately 50% of western oil companies upstream expenditures may be required to play a significant role. Our judgement was further buttressed by the belief that domestic sources of financing are currently insufficient to meet the level of investment commensurate with the region's geological potential,¹ and that *External Sources of Credit* for the most part remain quite limited despite the existence of officially sponsored programs. This chapter will show that although the MLAs have exhibited a high degree of enthusiasm, and indeed innovation in some cases, their efforts to inject western credits has been below expectations. Little relief from western commercial banks is foreseen in the near future as the region is likely to remain a relatively high risk environment (from the bank's perspective).

The structure of this chapter is divided into three segments: *Multilateral Agencies*; *Export Credit Agencies*; and *Commercial Banks*. Our analysis will contain a review of each institution's policy / objectives with regards to the FSU's petroleum industry, and establish their levels of commitment to date. There is disparity between the practical and theoretical use of (and protection offered by) officially supported credits. Press releases and tombstone announcements promote a false, if not tempered, optimism about the current lending environment, even in the case of officially sponsor credits, particularly when one examines the disbursement record. Given that it is our intent to quantify both the extent and limitations of these programmes it was necessary to collate and table

¹ However, we are also of the opinion that this is likely only to be a temporary situation as domestic sources of financing may over the long-term transcend externally sourced investment, particularly in countries such as Russia where the domestic industry is unlikely to accept a large scale substitution by foreign operations.

information on every project slated to receive officially sourced financing. The results of this work are presented in Appendix D and can be used to estimate the total level of commitments to date and the extent of multisourcing. Furthermore the evidence suggests that the catalytic effect of official financing is not as high as often claimed.

5.2 Multilateral Agencies (MLAs)

With regards to multilateral sources of credit potentially available to the upstream petroleum industry of FSRs, the activities of three MLAs are of particular relevance: the World Bank Group consisting of *inter alia* the International Bank for Reconstruction and Development (IBRD) and the International Finance Corporation (IFC); and the European Bank for Reconstruction and Development (EBRD).² Analysis of the Overseas Private Investment Corporation (OPIC) is also included herein due to OPIC's strong global mandate.

Although the International Monetary Fund (IMF) is active throughout the transitional economies of EE&FSU through the use of its Standby/Enhanced Structural Adjustment Facility and Systematic Transformation Facility, their efforts focus on the macro-economic/budgetary level³ and credits are not specifically directed to the petroleum sector. These credits help facilitate the creation of a stable, low inflationary economies conducive to foreign investment thus their indirect support is invaluable. However, in order for a transitional economy to qualify for MLA credits, a key precondition is an

² Another regionally specialised MLA which may have some bearing on credits affecting the FSU's petroleum industry is the European Investment Bank (EIB). As the 'house bank' of the EU, the EIB is mandated to "...contribute to the balanced and steady development of the common market in the interest of the Community." Art. 198(e), "Treaty on European Union," *reprinted* Nigel Foster ed. Blackstone's EC Legislation, 4th Ed. (London, Blackstone's Press Ltd., 1993): p 85. For instance, the EIB could provide loans and or guarantees to support an export infrastructure project from the FSU and transiting one of its member states. On the other hand its remit is wider in the sense that it could extend credits to projects outside of member states if such projects promote EU policy or enhance energy security. See Sir Brian Unwin, "Financing the future in a world competing for limited funds," Petroleum Review, Apr. 1996, pp 182-185; and Vinter (1995) *infra* note 87, pp 105-107.

³ In the period 1992-1994 the IMF made arrangements totalling \$4 billion with Belarus, Kazakhstan, Kyrgyzstan, Moldova, Russian Federation, Ukraine, Estonia, Latvia and Lithuania. UNECE, Economic Bulletin for Europe 46 (1994): p 112. In 1995 the IMF expanded its operations to include Armenia, Azerbaijan and Georgia. IMF Annual Report 1994 and 1995. Hitherto, its two largest facilities are for Russia: \$6.25 billion standby loan which began in March 1995 and a standby loan for \$10.2 billion which started in April 1996 and is to be drawn down over a two year period. UNECE, Economic Bulletin for Europe 47 (1995): p 37; and Chrystia Freeland and Robert Corzine, "\$10bn IMF loan for Russia boots Yeltsin," Financial Times, 23 Feb. 1996, p 16.

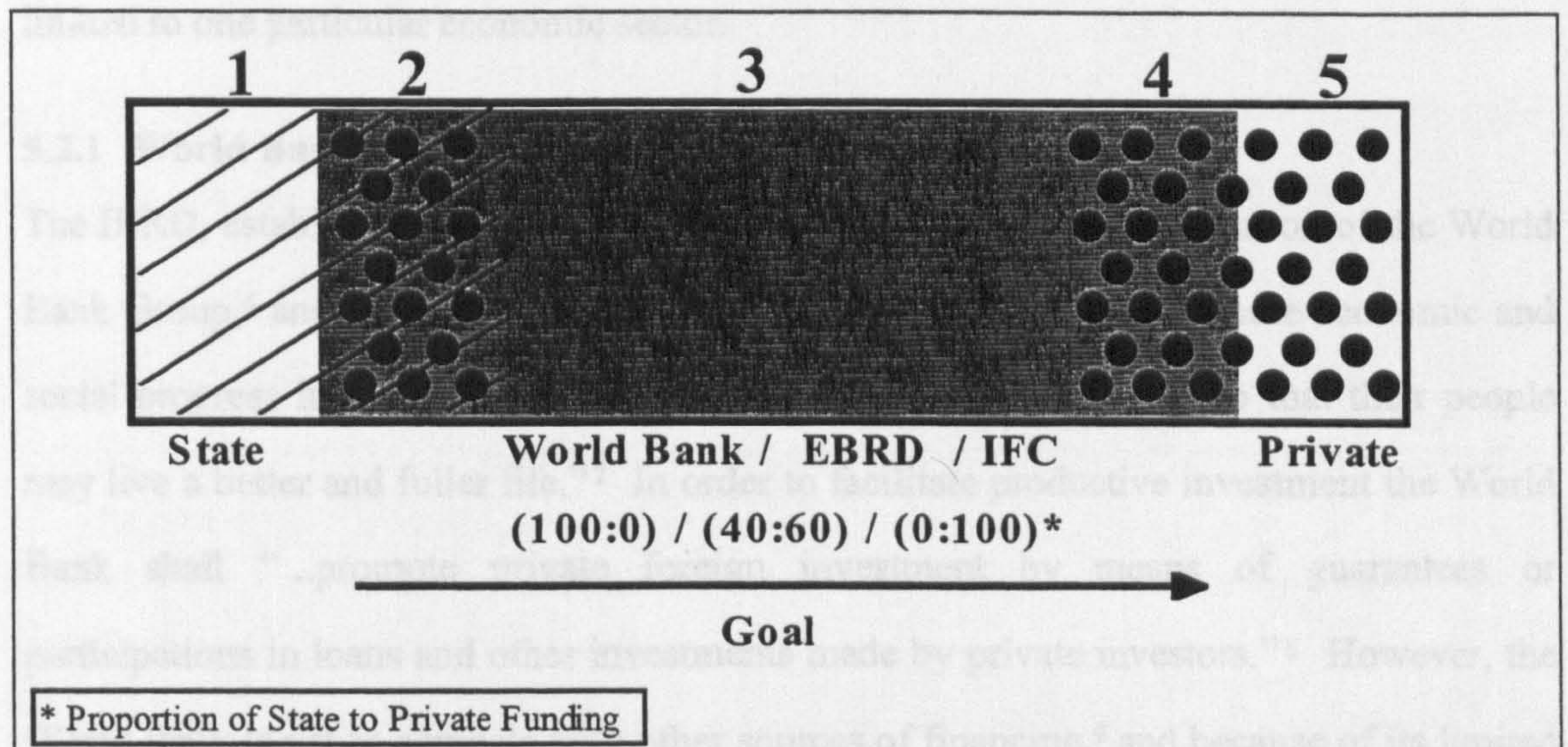
arrangement with the IMF. As of the end of 1995, all FSRs with the exception of Turkmenistan had achieved this goal. Using its credits as leverage, the IMF typically attaches stringent conditionalities associated with the release of monthly tranches in order to compel the recipient countries to adhere to the reform process. In Russia, the \$10.2 billion standby loan was partially conditional upon the abolition of oil and gas export tariffs by July 1996. In summary while the IMF does not have a direct link with petroleum financing, its 'seal of approval' indicated by standby arrangements is crucial for FSRs seeking MLA credits.

Throughout our discussion we shall examine the conceptual bridging role of MLAs between public and private sources of finance (see Figure 5.1). Our oil and gas financing diagram identifies five options. The first zone is characterised by purely state funded projects (i.e. budgetary allocations). At the other end of the spectrum, the fifth zone denotes those projects being funded purely by the private sector and would include both foreign and domestic sources of debt and equity. Zone 5 is one of the ultimate aims of transition (the process of privatisation and foreign direct investment). The three zones in between depict the bridging role of MLAs. Towards the private end of the spectrum (i.e. Zone 4) we find projects which are supported by private sponsors and credit from either the IFC or the EBRD. Towards the left hand side of Zone 3 we find both the World Bank and the EBRD extending credits to state-owned companies or governments. Zone 2 portrays projects which are multisourced in the sense that the EBRD or World Bank provides credits to support a portion of a state-owned company's share of the costs in a joint venture or production sharing arrangement with a western private firm (who may or may not seek credit from either the EBRD or IFC). According to their proponents, MLAs have a 'significant' role to play in financing petroleum developments in the FSU for the foreseeable future because of commercial banks' reluctance to operate in what they perceive is too risky an investment climate.⁴ However, our research indicates that

⁴ View espoused by Robert Gale, the head of the IFC's Moscow's office. "Western investors still await Russian legislation protection," E.E.E.Report, May 1994, p 3-4.

there is a practical limit to what these institutions can achieve and ultimately, if transitional reforms are to succeed, private capital must play the leading role.⁵

Figure 5.1 Oil & Gas Financing Map for the FSU



Source: Adapted from overhead sketch presented by Douglas Gustafson (Representative of the IFC) at the Adam Smith Third International Conference on Marketisation of the Former Soviet Union Financing the Oil and Gas Sector, Vienna, 22-23 Feb. 1995.

Although all MLAs share the founding principle which seeks to remove the political risk burden from the investment, they should not be expected (nor can they) achieve this goal in its entirety. In other words, their ability to absorb political risk is finite however they are being better suited to dealing with such risks than commercial banks. There are enough examples of failed, deferred or scaled down transactions to call into question the orthodox belief that participation by these institutions provides the panacea which investors seek. Our assessment is that in reality these institutions are just as frustrated by the nascent legal and fiscal frameworks and will not, in the process of extending credit to the FSU, jeopardise established principles of international lending. Given, the initial euphoria surrounding the oil and gas sector upon the dissolution of the FSU both the MLAs and export credit agencies undertook considerable exposure in this region. But a review of annual reports shows a tapering off of new commitments to this specific sector. We suspect that commercial realities are tempering the initial desire 'to be seen to be doing something' in support of reform. Even MLAs seek to balance their risks and

⁵ US GAO/GGD-95-60 (1995) *infra* note 207, p 68.

rewards, furthermore, these institutions do not just have a FSU/CIS ambit (the IBRD and IFC's portfolio encompasses developing and transitional economies all over the world and the EBRD is also responsible for Central and Eastern Europe), nor are their activities limited to one particular economic sector.

5.2.1 World Bank

The IBRD, established in 1945, is the oldest and largest member institution of the World Bank Group,⁶ and together with the IDA, their objective is "...to promote economic and social progress in developing nations by helping raise productivity so that their people may live a better and fuller life."⁷ In order to facilitate productive investment the World Bank shall "...promote private foreign investment by means of guarantees or participations in loans and other investments made by private investors."⁸ However, the World Bank is not to compete with other sources of financing,⁹ and because of its limited resources, the Bank's role is intended to be primarily that of a catalyst and lender of last resort.¹⁰

5.2.1.1 History of World Bank Support for Petroleum Operations

The World Bank made its first oil and gas loan to Pakistan in 1954, but during the next two decades only another 8 projects were undertaken. Following the oil shocks of the 1970's the World Bank became a truly active participant in the oil and gas sector, with a mandate to support oil and gas exploration in petroleum importing developing

⁶ The World Bank Group consists of the following Institutions: the International Bank for Reconstruction and Development (IBRD) established in 1945; the International Development Association (IDA) formed in 1960; the International Finance Corporation (IFC) established in 1956; and the Multilateral Investment Guarantee Agency (MIGA) formed in 1988. Collectively the IBRD and IDA are known as the World Bank.

⁷ The World Bank Annual Report 1995, p 4.

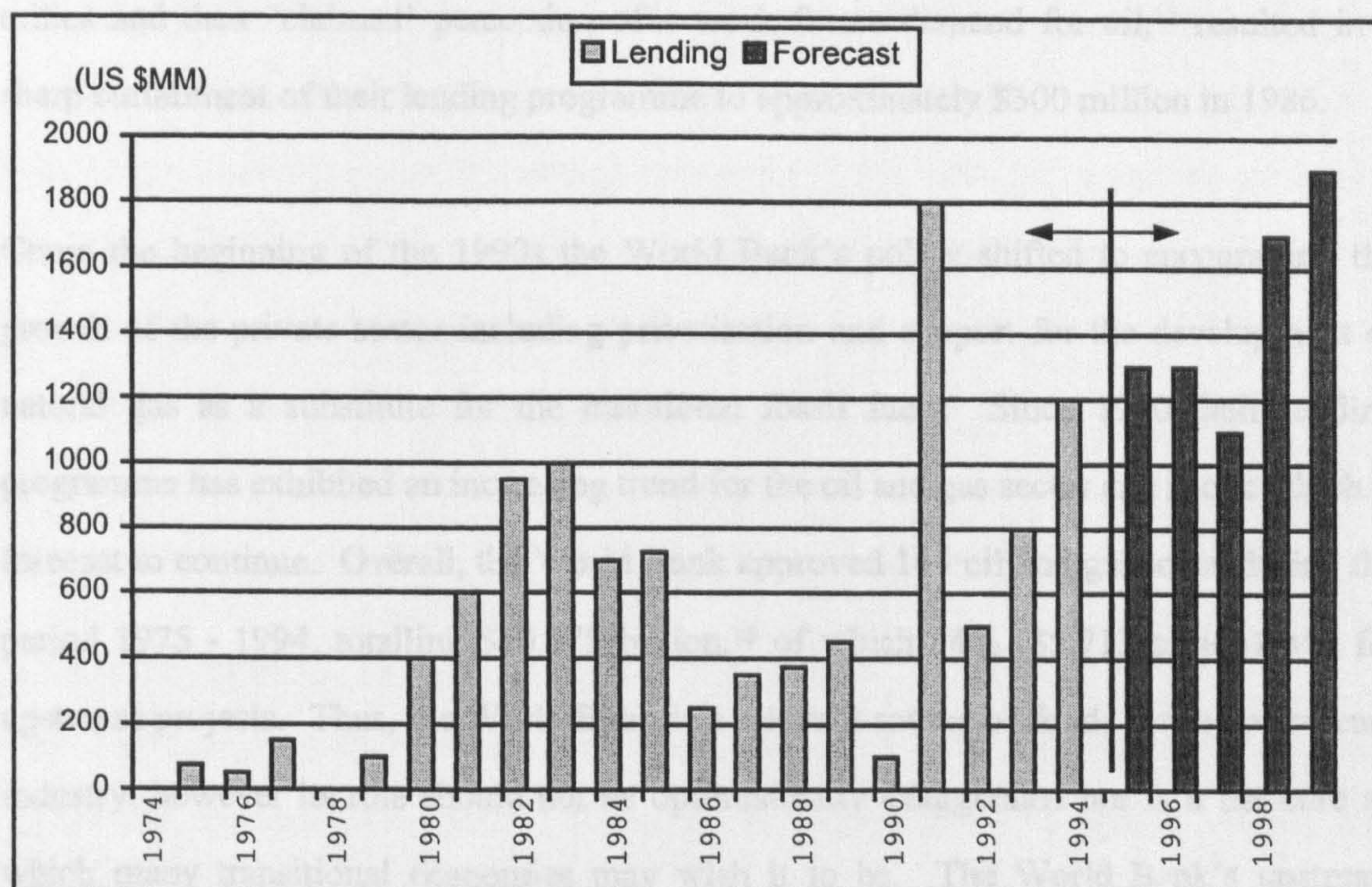
⁸ Art. I(ii), "Articles of Agreement of the International Bank for Reconstruction and Development," U.N.T.S. 2 (1947): pp 134-205. Opened for signature on 22 Jul. 1944, as amended effective 17 Dec. 1965, and hereinafter referred to as IBRD Articles.

⁹ Art. I(ii) and III(4)(ii), IBRD Articles.

¹⁰ Herbert V. Morais, "World Bank Promotion of Private Investment Flows to Developing Countries Through Co-financing and Other Measures," I.C.S.I.D. Rev. — F.I.L.J. 3 (1988): p 2.

countries.¹¹ The rationale for this programme stemmed from the detrimental impact the purchase of imported oil was having on their national balance sheets. The challenge was to expedite the discovery, appraisal and development of hydrocarbons in such countries in the absence of sufficient interest by the private sector. In 1977 it was proposed that the World Bank make petroleum sector lending a priority and between 1977 and the end of 1981 more than \$1.5 billion was committed to 37 projects in 20 countries.¹²

Figure 5.2 Oil & Gas Lending by the World Bank



Source: World Bank (Jan. 1994) *infra* note 17, p 1; World Bank (Feb. 1995) *infra* note 18, Annex 1, p 1. Note, these figures do not include funds administered under Structural Adjustment Loans (SALs), that is loans to support specific policy changes and institutional reforms.

By 1983 annual disbursements for this sector had climbed to \$1 billion voicing concern by the Reagan Administration, that the activity of the World Bank was in fact displacing private investment.¹³ With the benefit of hindsight, this charge appears unjustified.

¹¹ It is quite unusual for a commercial bank to directly finance exploration which is by nature an extremely risky undertaking, and although the World Bank is not a commercial bank, it operates using commercial principles by lending from its own capital market borrowings, retained earnings and the flow of repayments on its loans.

¹² Theodore H. Moran, "Does the World Bank have a Role in the Oil and Gas Business," *C.J.W.B.* 17 (1982): p 47.

¹³ *Ibid.*

Recalling the upstream capital expenditure time series presented in Chapter 4, the World Bank lending programme of \$1 billion per year was only equivalent to 0.90-1.25% of annual level of upstream investment undertaken by IOCs during the period 1981-1985.¹⁴ Moreover, this figure can be reduced further as some of the World Bank's support was for the downstream sector (e.g. \$200 million for a Argentinean refinery in 1981).¹⁵ Nevertheless, at the time the debate proved to be highly contentious and resulted in a major internal review in 1983 whose findings were reflected and codified in new operational guidelines.¹⁶ The desire of the World Bank's management to placate its critics and their 'claimed' perception of a weak future demand for oil,¹⁷ resulted in a sharp curtailment of their lending programme to approximately \$300 million in 1986.

Come the beginning of the 1990s the World Bank's policy shifted to encouraging the growth of the private sector including privatisation and support for the development of natural gas as a substitute for the traditional fossil fuels. Since 1990 their lending programme has exhibited an increasing trend for the oil and gas sector and is one which is forecast to continue. Overall, the World Bank approved 149 oil and gas loans during the period 1975 - 1994, totalling \$10.579 billion,¹⁸ of which 54% (\$5.713 billion) was for upstream projects. Thus, the World Bank is a relevant source of funds for the petroleum industry, however its role should not be optimistically exaggerated nor is it the cure all which many transitional economies may wish it to be. The World Bank's upstream lending efforts over the past two decades are only equivalent to 0.47% of total global upstream capital expenditure by western IOCs.¹⁹ As this is the case, one may ask why

14 Table 4.3 *supra* §4.2.2.

15 Moran (1982) *supra* note 12, p 48.

16 *Infra* §5.2.1.2.1.

17 World Bank, Profile, FPD Paper No. 1, Jan. 1994, p 1.

18 World Bank, "The World Bank's Role in Oil and Gas: Review and Recommendations," Draft 5b, 17 Feb. 1995, Annex 1, p 1. *See also* Hossein Razavi, "Oil and gas financing by the World Bank," Energy Policy, 23 (1995): p 1003.

19 $5.713 \div 1208 \times 100\% = 0.47\%$; *Cf.* Table 4.3, §4.2.2.

does the World Bank bother at all? Perhaps the oil and gas sector should just be left to the private sector or the host countries' respective governments? Whilst this view has its proponents it tends to belittle the positive contribution that this institution can play in developing and transitional economies.

Firstly, many governments of transitional economies or developing countries are unable to provide or raise independently on the international capital markets the level of funds which their industry requires. Secondly, the apportionment of government budgets towards a capital intensive and inherently risky industrial activity is questionable given the wide number of competing social objectives (e.g. education, social welfare, medical care etc.). Thirdly, some transitional economies have inherited a distrust of foreign investors especially in their natural resource sectors and therefore there maybe scope for MLAs, like the World Bank, to act as an honest broker. Finally, most of the transitional economies in the FSU lack adequate laws, policies and institutions with which to effectively absorb foreign investment. From the perspective of these four points perhaps the World Bank's oil and gas lending programme can make a positive contribution.

5.2.1.2 World Bank through Transition

The World Bank, unlike the EBRD (which is discussed in §5.2.3), was established long before the collapse of the FSU. Therefore, it is necessary to establish whether their policy guidelines are compatible with the economic and political context of the FSU today. Just as criticism voiced in the early 1980s resulted in the promulgation of the OMS 3.82 Guidelines for Petroleum Lending, there is an impetus for a current review. It is unlikely however, given the difficulties associated with the FSU's investment climate in general, that the World Bank would face the same 'displacement of private investors' criticism as in the past. The following two sections will examine the provisions of its 1984 Guidelines for Petroleum Lending (still officially in force) and the selected waiver of its negative pledge policy.

5.2.1.2.1 World Bank Guidelines for Petroleum Lending

In 1983 the World Bank initiated a major policy review of the transition taking place within developing countries towards higher priced energy.²⁰ In conforming to such a view, stress was placed upon “...the need for a major increase in energy investments...and the likelihood of a substantial shortfall in financial and managerial resources.”²¹

Therefore,

“given the scarcity of the [World] Bank’s resources, it was agreed that the [World] Bank should emphasise its catalytic role, through a strong effort to assist in planning and implementing improved energy policies and investment strategies and through the use of its financial participation to attract loan and risk capital.”²²

The importance of mobilising private sector resources is reiterated throughout the guidelines,²³ but is most comprehensively addressed in Paragraph 8 as follows:

“There is considerable scope for attracting private equity investment for exploration and development projects, particularly for oil, and for borrowing commercially to help finance development and infrastructure projects. Raising equity capital from foreign oil companies, private international companies or nationally owned oil companies of industrialised countries particularly for exploration, provides a means for governments to invest more in petroleum without increasing the financial liability and risks borne by the domestic public sector....[World] Bank petroleum operations should therefore be used to help borrowers to mobilise risk capital and commercial debt financing to the maximum extent possible.”²⁴

In the process of implementing its objectives, any petroleum lending proposals will be assessed by the World Bank by reviewing a country’s energy policy. This includes a review of: a) the relationship of petroleum development in the country’s overall investment programme; and b) how the World Bank can most effectively participate.²⁵

Whether the World Bank’s efforts are to facilitate institution-building, technology

²⁰ World Bank, The Energy Transition in Developing Countries, (Washington, DC.: World Bank, 1983).

²¹ World Bank, “Guidelines for Petroleum Lending,” OMS 3.82, 28 Nov. 1984, §I, Para. 1, on file with author.

²² *Ibid.*

²³ §I, Para. 2, Para. 3; §II, Para. 5, Para. 6(c), and Para. 7(d), OMS 3.82.

²⁴ §II, Para. 8., OMS 3.82.

²⁵ §I, Para. 10, OMS 3.82.

transfer, policy formation, the mobilisation of finance or any combination thereof. The essential criterion remains the attainment of the maximum benefit possible from a limited involvement of World Bank's resources.

While this philosophy was codified in the Guidelines as a means of deflecting the criticism over the perceived 'displacement of private investors', much of the impetus for this policy (i.e. the criticism) is no longer present. There is scarcely a foreign investor today who would not welcome the involvement of the World Bank, if practical benefits were assured — the 'displacement of foreign investors' theory is considered inapplicable in the context of the FSU today. Within the 1984 Guidelines, participation in four different types of petroleum operations are envisioned: Exploration Promotion; Exploration/Appraisal; Petroleum Development and Infrastructure.²⁶

5.2.1.2.1.1 *Exploration Promotion*

The World Bank's exploration promotion loans are designed to assist "...countries offer private investors access to prospective exploration areas on appropriate terms and conditions..."²⁷ Moreover, the World Bank will only participate in areas where there is no significant exploration activity taking place, or where there is no oil company holding such rights or is in the process of obtaining such rights.²⁸ The objectives of the exploration promotion activities are to: establish the policy framework to attract the private sector; improve geological information; and procure the skills the government needs in order to design appropriate policies, negotiate agreements and monitor such activities.²⁹

²⁶ See also William T. Onorato, "World Bank Financing of Petroleum Sector Development Projects in Member States: An Overview and a Case Study," O.G.L.T.R. 8 (1989/90): pp 70-75.

²⁷ §VI, Para. 19, OMS 3.82.

²⁸ *Ibid.*

²⁹ §VI, Para. 20, OMS 3.82.

Given the high level of IOC interest in the FSU, the scope for World Bank participation at the Exploration Promotion stage appears limited. World Bank participation in institution building activities at the exploration stage will only be permissible when such activities are designed to ensure a “realistic understanding within the country of its petroleum potential and risk, and of its relative attractiveness to the private petroleum industry compared with other countries.”³⁰ As FSRs compete amongst themselves to attract foreign investment, they should also be competing internationally with other petroleum producing regions of the world. Yet a 1995 comparative study of World Fiscal Systems for Oil demonstrates that countries in general only compete regionally, as opposed to oil companies which compete globally.³¹ The ability of FSRs to attract foreign upstream operations and to maximise government take will be predicated upon the existence of competitive terms. The World Bank may be able to assist this process, but if the non-existence criterion of private interest or exploration rights (§IV, Para. 19) is strictly adhered to then petroleum lending under this category appears inadmissible to all republics except Belarus, Estonia, Tajikistan and possibly Armenia.³²

5.2.1.2.1.2 *Exploration/Appraisal*

The second category of petroleum operations in which the World Bank may participate is the Exploration/Appraisal stage. In general, the World Bank’s task in exploration

“...is to review with the government the country’s exploration strategy, considering geological, institutional and policy factors. The review of geological potential carried out by Bank staff provides an opportunity to discuss the prospectivity of the country, its position compared to that of other countries and its strategy for improving knowledge of its oil and gas potential.”³³

³⁰ §VI, Para. 22, OMS 3.82.

³¹ Van Meurs & Associates Ltd., World Fiscal Systems for Oil, (New York, NY.: Barrows Company, 1994). The exception to the rule is Latin America which offers a combination of acreage and terms that compete relatively effectively and globally over a wide range of investment criteria. Vol. 1, pp 105-107. *See also* Pedro van Meurs, “Governments cut takes to compete as world acreage demand falls,” Oil & Gas Journal 24 Apr. 1995, pp 78-82.

³² The FOGI Database records no foreign IOC upstream activity in any of these countries, except for Armenia which secured a two well exploration programme for natural gas and partially funded by USAID.

³³ §IV, Para. 29, OMS 3.82.

The World Bank may partially finance exploration activities where the geology suggests that such exploration will result in economic production,³⁴ and that the World Bank is not displacing available private capital.³⁵ Thus the World Bank will, under normal circumstances, only consider financing exploration or appraisal drilling being carried out by a JV between a state-owned enterprise and a competent private investor.³⁶

Again, as there is overwhelming interest by IOCs in the FSU, it is unlikely that the World Bank would consider funding exploration or appraisal drilling. However, where the domestic partner to such a joint venture (or PSA) is still majority state-owned, short of investment capital and does not enjoy a full carried interest, World Bank loans are permissible. However, the balance between the likelihood of successful exploration efforts and the potential to mobilise sufficient private capital remain crucial for determining World Bank support. For instance, Armenia which has no indigenous supply of hydrocarbons, is the most geologically unattractive FSR for petroleum exploration. Would it not make sense for the World Bank to allocate a portion of its limited resources to supporting exploration in Armenia? Probably not as the chances of success are very poor. Interestingly, a two well exploration programme in Armenia has been completed with funding from an official source of finance (USAID) in conjunction with funds raised from Armenia Diaspora, but both wells turned out to be dry.³⁷ We highlight the Armenian example to illustrate an exploration opportunity that may have fit the World Bank investment criteria, but recognising that such opportunities in the FSU as a whole will be scarce due to the high level of private interest.

³⁴ §IV, Para. 32, OMS 3.82.

³⁵ §IV, Para. 33, OMS 3.82.

³⁶ *Ibid.*

³⁷ Unfortunately, both wells turned out to be dry. Author's conversation with Dr. Yuri H. Kazarian (Director of Yerevan Regional Centre of Vniiegazprom) in Ashgabat, Turkmenistan, on 27 Mar. 1996.

5.2.1.2.1.3 *Petroleum Development*

Given the large number of known, but undeveloped deposits, the risks of petroleum development in the FSU are comparatively low. Essentially, IOCs involved in the FSU are swapping lower technical risks for higher political risks, but this does not change the fact that development is financed from sources of both debt and equity as opposed to just risk capital in the case of exploration activities. Given the lower risks, the World Bank is more likely to support development, however, it is equally understood that private sources of finance will also be more readily available. Therefore,

“...its financial participation...[shall be]...the minimum necessary to achieve the effective implementation of the [World] Bank’s institution-building and policy-development objectives and to mobilise the necessary external financing.”³⁸

The corollary of this guideline is that if insufficient progress is made on either the institution-building or policy-development front, then World Bank financing is likely to be curtailed or deferred.

Similar to its policy on Exploration and/or Appraisal activities, the World Bank will normally only finance a portion of the State’s or national oil company’s share in a participation arrangement with private investor(s).³⁹ But the Guidelines specifically envision projects that are less likely to attract private investors, such as natural gas developments, rehabilitation and/or secondary recovery projects.⁴⁰ These guidelines likely require some adjustment in the case of the FSU, particularly as there is considerable scope for both secondary and tertiary recovery at older fields whose rates of return can be extremely attractive to private investors provided a favourable tax regime is in place (see Table 5.2).

³⁸ §IV, Para. 38, OMS 3.82.

³⁹ §IV, Para. 39, OMS 3.82.

⁴⁰ *Ibid.*

5.2.1.2.1.4 *Infrastructure*

Infrastructure, which includes pipelines, loading and distribution facilities, is the final category of petroleum operations to which the World Bank may provide assistance. The criteria the World Bank employs are not linked, as is the case of Petroleum Development projects, to the successful implementation of its institution-building and policy-development objectives. If the World Bank is to:

“...finance the infrastructure component of a petroleum development project, it appraises the production aspects (even though these are not to be financed by the [World] Bank) and/or receives from the producers acceptable guarantees covering production, such as guaranteed throughput contracts or lease/purchase arrangements.”⁴¹

5.2.1.2.1.5 *Other Covenants and Considerations*

With the exception of exploration promotion projects where the World Bank is assuming a much higher degree of risk than is normally the case for a bank, standard practices for evaluating commercial viability and financial soundness of a project will be applied. In general the World Bank

“...requires a reasonable prospect that the entity’s revenues will be adequate to meet its operational, debt service and, where appropriate, dividend requirements, provide a reasonable return on its invested capital, and enable it to mobilise internally a reasonable part of the resources needed for its investment programme. It also should have appropriate financial policies, particularly regarding capital structure and liquidity, which take into account the degree of risk involved in its operations.”⁴²

As one of principal foundations of the World Bank’s oil and gas lending policy is to preserve and maintain its catalytic role, the Guidelines acknowledge the importance of ‘limited or non-recourse financing’ as a means of increasing its financial leverage:

“The financing of petroleum projects ‘off balance sheet’ makes them extremely attractive to investors and governments that cannot mobilise private resources on the basis of their own credit standing but may be able to do so for enclave projects. Although projects in developing countries do not commonly satisfy all the criteria for full non-recourse financing, the Bank should make every effort to apply financing techniques developed in advanced countries, perhaps in modified form, so as to reduce to a minimum the financial claims on public sector resources.”⁴³

41 §IV, Para. 48, OMS 3.82.

42 §VII, Para. 57, OMS 3.82.

43 §VII, Para. 80, OMS 3.82.

5.2.1.2.1.6 Summary of Guidelines for Petroleum Lending

Despite the fact that the World Bank's current guidelines were promulgated in 1984, they appear to be relatively robust in their applicability to the new conditions of the FSU. The financing of exploration and appraisal wells is unlikely to be undertaken by the World Bank in the case of the FSU, due to the overwhelming interest by the foreign private sector. Although as Chapter 2 discussed exploration drilling by domestic companies is lagging development drilling. The likely areas for World Bank participation remain in the Development and Infrastructure sectors, particularly in helping state-owned companies to meet their share of cash-calls in participation arrangements with private investors provided sufficient progress is made on the policy, institutional and regulatory development front. In this manner the World Bank intends to use its resources as an inducement to support reforms. With regards to other issues such as the environment, the guidelines are relatively silent:

“...the Bank evaluates the adequacy of the measures taken to ensure safety of personnel, avoid pollution and more generally ensure that any potential damage can be brought rapidly under control.”⁴⁴

This more or less reflects the prevailing attitude of the day and does not reflect the advancement in environmentally-conscious thinking which has occurred over the last decade. Clearly, this is one area where the Guidelines will need to be expanded or at least formally linked with more recent environmental policies.

As rehabilitation projects can offer attractive returns if a favourable fiscal framework is applied, there may be less need for World Bank involvement in this sector than the Guidelines suggest, although as §5.2.1.3.1 will demonstrate this has been the mainstay of the World Bank's oil and gas lending programme to date. The most efficient allocation of World Bank resources perhaps lies in their support for infrastructure projects, in particular pipelines transiting more than one state, where the realities of negotiating such

⁴⁴ §VII, Para. 78, OMS 3.82.

large and politically sensitive projects would likely benefit from the direct involvement of MLAs.⁴⁵

In conclusion, the World Bank's Guidelines on Petroleum Lending appear to have withstood the test of time. In contrast, the negative pledge policy of MLAs is one area where significant changes have recently taken place, although we believe there is scope to question the effectiveness of these changes.

5.2.1.2.2 Negative Pledge Policy

Given the high level of investment risks within the FSU it is assumed that MLAs have a significant role to play in both providing credits to the FSRs while encouraging support from private commercial banks and/or export credit agencies. However MLAs, in particular the World Bank, commonly include a negative pledge clause within their loan agreements which can, in certain circumstances, discourage third party lenders from extending credits, because such clauses limit the private lender's ability to obtain security. This section explains the purpose of the negative pledge clause, its potentially adverse impact on encouraging the flow of credit to FSRs, the restricted use of World Bank's negative pledge waiver and the EBRD's response. We then address whether a waiver of the negative pledge clause has really made any difference.

5.2.1.2.2.1 *What is a Negative Pledge?*

The negative pledge clause⁴⁶ is included in loan agreements to provide an unsecured lender reassurance that the level of assets (both current and future) upon which the lender based the decision to extend credit to the borrower, will not materially change during the

⁴⁵ "Finance: World Bank Rethinks Oil Aid Policy," W.P.A. 23 Jan. 1995, p 5.

⁴⁶ In general see Philip R. Wood, Project Finance, Subordinated Debt and State Loans, (London: Sweet & Maxwell, 1995): pp 164-165; Matthew H. Hurlock, "New Approaches to Economic Development: The World Bank, the EBRD and the Negative Pledge Clause," H.I.L.J. 35 (1994): pp 345-386; Tracy Hobbes, "The Negative Pledge: A Brief Guide," J.Int'l.Bus.L. 7 (1993): pp 269-274; Lee C. Buchheit, "How to Negotiate the Negative Pledge Clause," Int'l.Fin.L.Rev. Dec. 1992, pp 28-30.; Lee C. Buchheit, "Negative Pledge Clauses: The Games People Play," Int'l.Fin.L.Rev. July 1990, pp 10-11.; Michael Bradfield and Nancy R. Jacklin, "The Problems Posed by Negative Pledge Covenants in International Loan Agreements," C.J.T.L. 23 (1984): pp 131-142; Philip Wood, Law and Practice of International Finance, (London: Sweet & Maxwell, 1980): pp 146-155; G.R. Delaume, Legal Aspects of International Lending and Economic Development Financing, (New York, NY.: Oceana Publications, 1967): pp 251-256.

term of the loan by the borrower granting rights to those assets to another creditor. In other words, the primary creditor, is seeking a defence against the subordination of his rights. Should the borrower grant security over its assets to a subsequent creditor then the primary creditor will enjoy in the security both equally and rateably. In the case of sovereign borrowings the principal objective of the negative clause is to “...inhibit the diversion to a single creditor of a state’s foreign currency reserves and other assets which might be available to meet its external debt...”⁴⁷ A key feature of the World Bank’s negative pledge clause is that it has an extremely wide and generous ambit⁴⁸ and it can be said that the World Bank ‘casts its net widely’ — i.e. the inclusion of the assets of any subdivision, or agency of the state, particularly including the Central Bank.

But do negative pledge clauses in the case of sovereign loans achieve their objective in practice? Unfortunately there are some practical problems which inhibit the clause’s effectiveness. Firstly, if a sovereign government were to declare bankruptcy the value of the sovereign’s unencumbered assets held outside that country is likely to be small in comparison to the size of the claims.⁴⁹ Secondly, creditor banks will be reluctant to foreclose on state assets as such action would damage their relationship and reputation both within and outside the country in question, thereby adversely affecting its ability to attract future sovereign lending business. Sovereign lending is an entirely different activity compared to domestic private house mortgages, and while creditors may show little flexibility and great willingness to foreclose in the case of the latter, a long-term sovereign creditor needs to exhibit flexibility when a sovereign state finds itself in temporary difficulties. Thirdly, such rights are extremely difficult (if not impossible) to enforce — a pure negative pledge simply prohibits the creation of a subsequent security

⁴⁷ *Ibid.*, Wood (1980): p 146.

⁴⁸ §9.03 of the IBRD General Conditions to Loan and Guarantee Agreements which deals with its Negative Policy is reproduced in Appendix D.1.

⁴⁹ Buchheit (1990) *supra* note 46, p 11.

interest, it does not create an enforceable security interest.⁵⁰ Finally, in the case of the World Bank's negative pledge clause, its wide remit often raises political objections from the borrower, as the state may choose to argue that subordinate entities have constitutional autonomy which are infringed by the clause. In summary, while the negative pledge clause does in theory protect the sovereign creditor, the presumption that the lender will be able to successfully exercise legal and equitable remedies against the borrower in the event of default is questionable — such efforts through litigation are unlikely to lead to 'significant' recovery of the outstanding portion of the debt.⁵¹

So although sovereign lenders may or may not be able to achieve the protection intended from a negative pledge clause, the presence of such a clause in a sovereign loan does have very real implications for the borrower. Specifically, it hinders a sovereign state from providing security for other external borrowings. Secured lending which supports foreign investment will be in breach of the World Bank's negative pledge clause if state-owned assets are pledged as a security. Ironically, a legal device which was designed to enhance the quality of loans to a developing or transitional economy is accused of discouraging commercial banks funding. This situation is exacerbated in the FSU, where the majority of economically significant industrial assets remain state-owned. Finally, the rationale behind the negative pledge was developed in an era (i.e. Post-World War II) when funds from the World Bank accounted for a much higher percentage of capital flows to developing countries. But since 1990 private capital flows to developing countries have almost quadrupled while official development finance has stagnated.⁵² Therefore, it was recognised that organisations, such as the World Bank, needed to re-examine its negative

⁵⁰ Hurlock (1994) *supra* note 46, p 348.

⁵¹ *Ibid.*, p 349.

⁵² Michael Prowse, "Wolfensohn's task," *Financial Times* 22 Apr. 1996, p 24. In 1990 the total official development assistance was \$57.9 billion, whereas the sum of private sourced funds (net private loans, FDI, and portfolio equity investment) was \$45.6 billion. In 1994 these figures had changed to \$54.4 billion and \$173 billion respectively. See *The World Bank Annual Report 1995*, Appendix 11, p 214.

pledge policy which could in theory be inhibiting support for FDI in developing countries, and in particular the FSRs, by commercial banks.

5.2.1.2.2 Negative Pledge Policy Review

As far back as 7 August 1990 the executive directors of World Bank considered a Presidential Memorandum reviewing the bank's negative pledge policy.⁵³ The Policy Paper recommended that the World Bank should not change its policy. The granting waivers for enhancements of new money in the context of concerted financing packages is not permitted and the few the exceptions provided in the IBRD General Conditions Applicable to Loan and Loan Agreements (§9.03(c)) [hereinafter IBRD General Terms and Conditions] would be adequate in most circumstances.⁵⁴ However, it was explicitly stated that "should experience indicate a pressing need for reconsideration of this view, the matter will be brought to the Board for further review."⁵⁵ Subsequently, such a review did take place, and on 30 March 1993 the executive directors of the World Bank approved a new policy.⁵⁶

The World Bank maintained that the use of the negative pledge clause was fully compatible with the long-term interests of a borrowing country because critical export earnings should not be mortgaged to meet current needs and that the use of the clause remains a crucial component of the World Bank's risk management and financial standing. However, flexibility was indeed possible and desirable for countries in transition.⁵⁷ The rationale being the preponderance of economically important assets residing in state hands. A privately owned oil production enterprise is free to pledge its

⁵³ World Bank, "Review of IBRD's Negative Pledge Policy With Respect to Debt and Debt Service Reduction Operations," R90-151, 19 July 1990, on file with author. For an additional review of this document see Hurlock (1994) *supra* note 46, pp 361-368.

⁵⁴ *Ibid.*, Para. 34(b). §9.03 of the IBRD General Terms and Conditions, dealing specifically with its negative pledge clause is reproduced herein at Appendix D.1.

⁵⁵ *Ibid.*

⁵⁶ World Bank, "IBRD's Negative Pledge Policy With Respect to Lending for Investment Projects," Memorandum to the Executive Directors, R92-214/2, 30 Mar. 1993, on file with author.

⁵⁷ *Ibid.*, Para. 3.

assets in project financing and the World Bank does not have any legal basis to claim rateably to such assets, however, this is not the case for a public enterprise. The definition of 'public assets' as stated in §9.03(a)(ii) of the IBRD General Terms and Conditions (see Appendix D.1) in relation to

“...assets of a joint venture between a government or public entity on the one hand and a foreign private enterprise on the other will not fall under the scope of the [World] Bank’s negative pledge clause unless the joint venture is *controlled by, or operates* mainly for the account or benefit of, the government or public entity. (A 50/50 owned and controlled joint venture would not normally fall under this definition).”⁵⁸

This raises the interesting question of what is the permitted maximum interest of the state in the domestic partner’s share of a joint venture involving a foreign investor which would not invoke the World Bank’s negative pledge clause in the case of secured lending. Assuming a cut-off of 50% in accordance with the above statement, Table 5.1 shows the maximum state shareholding for decreasing amounts of foreign participation. For example, if the Russian State chooses to retain a 60% interest in any of its key oil producing enterprises, then theoretically a JV in which the domestic entity owns 83% should not attract the World Bank’s negative pledge (i.e. $0.83 \times 0.60 \leq 50\%$). But in other FSRs where the state continues to maintain 100% ownership of the domestic enterprises (e.g. SOCAR in Azerbaijan) then a 50:50 JV is the limit.

Table 5.1 Maximum State Share in a JV without invoking the Negative Pledge Clause

Max. State Share of Domestic Entity in JV (%) ¹	JOINT VENTURE Ownership Structure	
	Domestic Entity’s Share in JV (%)	Foreign Entity’s Share in JV (%)
N/A	0	100
100.0	10	90
100.0	20	80
100.0	30	70
100.0	40	60
100.0	50	50
83.3	60	40
71.4	70	30
62.5	80	20
55.6	90	10
50.0	100	0

¹ (1st Column ÷ 100) x 2nd Column is always less than or equal to 0.50.

Provided JVs adhere to the above general guideline they should not be hindered from seeking secured lending, at least as far as the World Bank's negative pledge policy is concerned. Moreover as our research indicates the most common ownership structure for upstream sectors JVs involving western partner(s) is the 50:50 JV (See Figure 3.2). This implies that western commercial banks or ECAs should not have claimed a reluctance to extend credit⁵⁹ due to the presence of the World Bank's negative pledge clause at least in the case of the majority of JVs. In other words, if the absence of the negative pledge waiver was not the real reason for the lack of credits; then its presence could not by itself be the cure-all. Reality is that the World Bank's negative pledge clause was only one of a number of factors inhibiting the flow of western credit. However for domestic enterprises whom are seeking external commercial debt on their own account, the negative pledge policy does create a problem where the State retains an interest of greater than 50%. Therefore, in order to facilitate the flow of private capital and augment a transitional economy's export capacity (i.e. their ability to generate hard currency) the World Bank agreed to waive its negative pledge under the following principal criteria:

- Firstly, in response to a request from a member state "...where income producing public assets constitute a predominant share [at least 75%], provided that a programme of structural change, including satisfactory macroeconomic policies, has been decided upon by the country and is supported by the [World] Bank."⁶⁰
- Secondly, eligible countries would be granted a waiver for an initial period of three years, with possible two year extension subject to a review by the World Bank. However, "all eligible transactions during the waiver period would be covered for the full maturity of the liens established."⁶¹
- Thirdly, "[t]he waiver would be granted with respect to lien to secure the repayment of external debt under a loan made to finance a specific investment

⁵⁹ "Negative Pledge: World Bank Tussles with Export Credit Agencies," Nefte Compass, 26 Feb. 1993, p 12.

⁶⁰ *Ibid.*, Para 12.

⁶¹ *Ibid.*, Para 13.

project...provided...the original maturity of the loan is not less than 5 years, and that the lien does not permit the accumulation of more that 12 months' projected debt obligations in any related escrow accounts."⁶²

- Fourthly, the borrower is a special-purpose entity,⁶³ that is, an entity with separate legal personality which is specifically established for the purpose of implementing the project in question and whose own assets and liabilities are limited to the project at hand.⁶⁴
- Fifthly, the lender does not enjoy a guarantee by the full faith and credit backing of the country.⁶⁵
- Sixthly, the lender is private in character, although some provision is made for co-financing arrangements involving official bilateral agencies, export credit agencies (*infra* §5.3.1.1 on US Eximbank's Oil and Gas Framework Agreement) or multilateral development banks.⁶⁶
- Lastly, the World Bank is not a cofinancier of the investment project.⁶⁷

Ideally, the World Bank (in accordance with concerns expressed by the IMF)⁶⁸ would have preferred to review individual projects on a case by case basis, however, such a mechanism would have resulted in an overly onerous commitment of the World Bank's management resources. Therefore, it was recommended that the Bank should grant a general waiver for all transactions satisfying the above criteria on a country by country basis.

⁶² *Ibid.*, Para 14.

⁶³ *Ibid.*, Para. 14(i).

⁶⁴ *Ibid.*, Para. 16.

⁶⁵ *Ibid.*, Para. 14(ii).

⁶⁶ *Ibid.*, Para. 14(iii).

⁶⁷ *Ibid.*, Para. 14(iv).

⁶⁸ *Ibid.*, Para. 31.

As far as we are aware, the only transitional economies to have been granted such waivers are Russia, Uzbekistan and Kazakhstan.⁶⁹ In the case of the two former countries the World Bank's staff readily approved their waivers as the countries had easily met the minimum 75% criteria and at the time both had demonstrated their commitment to reform.⁷⁰ Russia's waiver commenced on 14 December 1993 for an initial period of only two years not three.⁷¹

5.2.1.2.2.3 Influence of EBRD's Negative Pledge Waiver

As opposed to the World Bank which only lends to public sector entities, the EBRD, according to its Articles of Agreement, may not provide more than 40% its funds to the state sector (i.e. a minimum of 60% to the private sector).⁷² Therefore, the EBRD whose mandate specifically emphasizes the fostering of the private sector⁷³ appears justified in its decision to provide a much more liberal waiver of its negative pledge clause.⁷⁴

The EBRD will consider granting an initial three year waiver for countries which have entered into a public sector loan with the EBRD and are not in default, providing that the country could prove it was "...implementing policies furthering the transition to the open market-oriented economy."⁷⁵ The EBRD's waiver is exclusively limited to liens "...securing external debt in connection with the financing of the acquisition, construction

⁶⁹ The World Bank Annual Report 1994, p 18.

⁷⁰ Hurlock (1994) *supra* note 46, p 385.

⁷¹ Ben Edwards, "How to finance projects in risky countries," Euromoney, Jan. 1994, p 87.

⁷² Art. 11(3), EBRD Articles of Agreement *infra* note 141. This criteria was finally achieved in 1994 when 73% of projects signed that fiscal year were in the private sector, thus bringing the total commitment of EBRD's resources allocated to this sector to 62%. EBRD Annual Report 1994, p 5.

⁷³ *Ibid.*, Art. 1.

⁷⁴ The EBRD's negative pledge clause, which is modelled on the World Bank's is reproduced in Appendix D.2 for comparative purposes.

⁷⁵ EBRD, "Limited Waiver of Bank's Negative Pledge Clause," BDS93-140/Rev 2, 17 Nov. 1993, p 5. [hereinafter EBRD Negative Pledge Waiver] See Hurlock (1994) *supra* note 46, pp 378-383 for additional discussion.

or development of any properties in connection with a project (a 'project financing')."⁷⁶ Its principal differences compared to the World Bank's much less flexible negative pledge waiver are as follows:

- The EBRD does not require the use of a Special Purpose Entity.
- The EBRD does not distinguish between the types of lenders, that is, public entities such as ECAs will be included without qualification.
- The EBRD does not require a minimum term (the World Bank specifies a minimum five year term loan).

With regards to the definition of "public assets",⁷⁷ the requirement that the lien not cover more than 12 months accumulation of debt in escrow,⁷⁸ and the criteria that other sources of security cannot be available,⁷⁹ the World Bank and EBRD apply the same treatment. However, the EBRD's more flexible waiver is only be effective in countries which are solely indebted by EBRD public sector loans, as the EBRD's waiver has no jurisdiction over the World Bank's negative pledge clause. Therefore, countries which have outstanding loans with the World Bank would still be subject to the World Bank's negative pledge clause including its relatively more inflexible waiver if granted. The World Bank, recognising the benefits of the EBRD's waiver and seeking to harmonise their policy, amended its waiver on 14 Dec. 1993 — only 22 days after the EBRD's policy came into effect.⁸⁰ Specifically, the World Bank, modified its waiver by relaxing the condition of compliance with the macroeconomic adjustment programme to

"making progress in privatisation and...moving toward a market economy...[while] experiencing improvement in its macroeconomic

⁷⁶ §1(1), EBRD Negative Pledge Waiver, *supra* note 75.

⁷⁷ *Ibid.*, §1(1)(a)(i)-(iii).

⁷⁸ *Ibid.*, §1(1)(c).

⁷⁹ *Ibid.*, §1(2).

⁸⁰ Hurlock (1994) *supra* note 46, p 384, citing World Bank, "IBRD Negative Pledge Policy With Respect to Lending for Investment Projects," R93-199, 24. Nov. 1993.

situation and [that] the waiver of the negative pledge clause would be deemed further to contribute to the accomplishment of the above goals.”⁸¹

Secondly, the ‘special purpose vehicle’ requirement was abandoned in favour of the EBRD’s ‘project financing’ approach whereby eligible security would be restricted to the “financing of the acquisition, construction or development of properties which are part of the project concerned, without any further recourse to other parties or assets.”⁸²

5.2.1.2.2.4 Effectiveness of Negative Pledge Waiver?

The decision by these two MLAs to waive their negative pledge clauses was based on the observation that commercial banks and ECAs would be unwilling to extend credits in transitional economies in the absence of security.⁸³ Undoubtedly, this view is not without its merit, but can be misleading. The willingness of commercial banks to provide debt financing should have theoretically improved after the World Bank and the EBRD established a mechanism and criteria for obtaining waivers to their respective negative pledge clauses. Indeed, the Head of Emerging Markets and Sectors Division, DAIWA Europe Ltd., International Energy Group, expressed the view that as 55 export credit agencies globally supported the decision of the World Bank to provide a negative pledge waiver, bilateral financing deals to the Russian oil and gas sector should swell.⁸⁴ However, our research indicates (see §5.3) that this is not the case. Prudent bankers do not lend on the strength of security alone.

“It is...neither commercially sensible nor, perhaps, morally acceptable in most cases to enter [into] a transaction where you are likely to be repaid only by realisation of security or by exercise of your rights under other protective provisions. Such protection must be secondary — your insurance against failure.”⁸⁵

81 *Ibid.*

82 *Ibid.*

83 *Ibid.*

84 Reinhold Heus *as cited in* Edwards (1994) *supra* note 71, p 87.

85 John Willingham, “Principles of Lending—Part V,” in International Finance and Investment: Multinational Corporate Banking, 3rd ed., Ed. Brian Terry, (London: The Chartered Institute of Bankers, 1994): p 157.

Just as covenant protection will not turn a bad loan to a good loan, the availability of security should not prejudice one's judgement about the underlying loan facility.⁸⁶ This is particularly true in oil and gas development project financing where project assets are taken as security predominantly for defensive purposes. This prevents a subsequent third party from acquiring such rights in priority of the original lenders.⁸⁷ As opposed to conventional secured financing whereby pledged tangible assets have an intrinsic value on the open market which the bank may sell relatively easily following an event of default, the break-up value of a fixed platform or pipeline (even if the bank could sell it) will be substantially less than its value as a going concern. In other words, the value of the security over the project's immovable assets is dependent on the successful operation of the project. Furthermore, it is not clear to what extent a western bank will be able to enforce its claim over project assets located in the FSU.⁸⁸ To recapitulate, security for oil and gas projects in the FSU is never the principal means of repayment. Despite the existence of the waiver of the both the EBRD's and World Bank's negative pledge clause, western creditors will be looking at the underlying cash flow of the project for repayment. But the success of any project is dependent upon the legal and fiscal environment in which it is situated. In other words, unless the commercial environment is such that the project can generate sufficient cash flow above and beyond its operating costs and debt servicing, western creditors are no more likely to provide debt financing. The *ex post* possibility for a bank to enforce its security, is a pre-condition for lending, but only if *ex ante* belief that the project is capable of generating the required cash flow.

⁸⁶ *Ibid.*, p 177.

⁸⁷ Graham Vinter, *Project Finance*, (London: Sweet & Maxwell, 1995): pp 80-81; Wood (1995) *supra* note 46, p 30; Roger McCormick, "Project Finance — Legal Aspects," in *Project Lending*, Ed. T.H. Donaldson (London: Butterworths, 1992): pp 188-189; and Gordon McKechnie, "Oil and Gas Development Finance," in *Energy Finance*, (London: Euromoney Publications, 1983): pp 132-133.

⁸⁸ Robert Starr, "Legal Aspects of Natural Resource Projects in the CIS," *N.R.F.* 18, no. 1 (1994): p 65; and Robert Drake, "Financing Oil Projects in the Russian Federation: The Legal Perspective," *O.G.L.T.R.* 12 (1995): pp 470-472.

5.2.1.2.2.5 *Summary of Negative Pledge Waiver*

The waiver of the MLAs' negative pledge clause bypasses what would have otherwise been a western induced legal barrier for those FSRs trying to raise external debt finance on a project specific basis, but the waiver itself cannot address the uncertain political and economic environment in which the project is situated. One of the principal themes running throughout the rest of this chapter is that even the MLAs with all their 'risk mitigating' attributes have been relatively unsuccessful in overcoming the real barriers to foreign investment.

Having reviewed both the pre-existing oil and gas lending policy of the World Bank and its change in attitude towards the waiver of its negative pledge policy, we will now examine its lending record in the FSU.

5.2.1.3 *World Bank support for Petroleum Operations in the FSU*

The World Bank's energy lending programme for the region categorised as Eastern and Central Asia (which includes the FSU) derives "...from the specific requirements to supply and use energy more efficiently and in an environmentally sustainable manner, and to mobilise private capital for sector development."⁸⁹ In the process of adhering to this policy the World Bank applies a two-pronged approach. Firstly it assists the authorities in designing their reform programme, and secondly, it assists in the development of a focused programme in energy lending.⁹⁰ The former category consist of technical assistance projects similar the EU's TACIS programme and combined with the Energy Charter Treaty represent efforts by the international community to help establish the institutional building blocks on which investment is buttressed. Areas of

⁸⁹ Joerg-Uwe Richter, Energy Issues in Central and Eastern Europe: Considerations for the World Bank Group and Other International Financial Institutions, Industry and Energy Department Working Paper, Energy Series Paper no. 50 (Washington, DC.: World Bank, Mar. 1992): p vi.

⁹⁰ The World Bank, Russian Federation Second Oil Rehabilitation Project, Staff Appraisal Report 12943-RU, 13 Jun. 1994, p 5.

particular focus include: (a) prices and exports; (b) taxation; (c) legislation;⁹¹ (d) enterprise restructuring; (e) oil transport; and (f) oil project tendering.⁹²

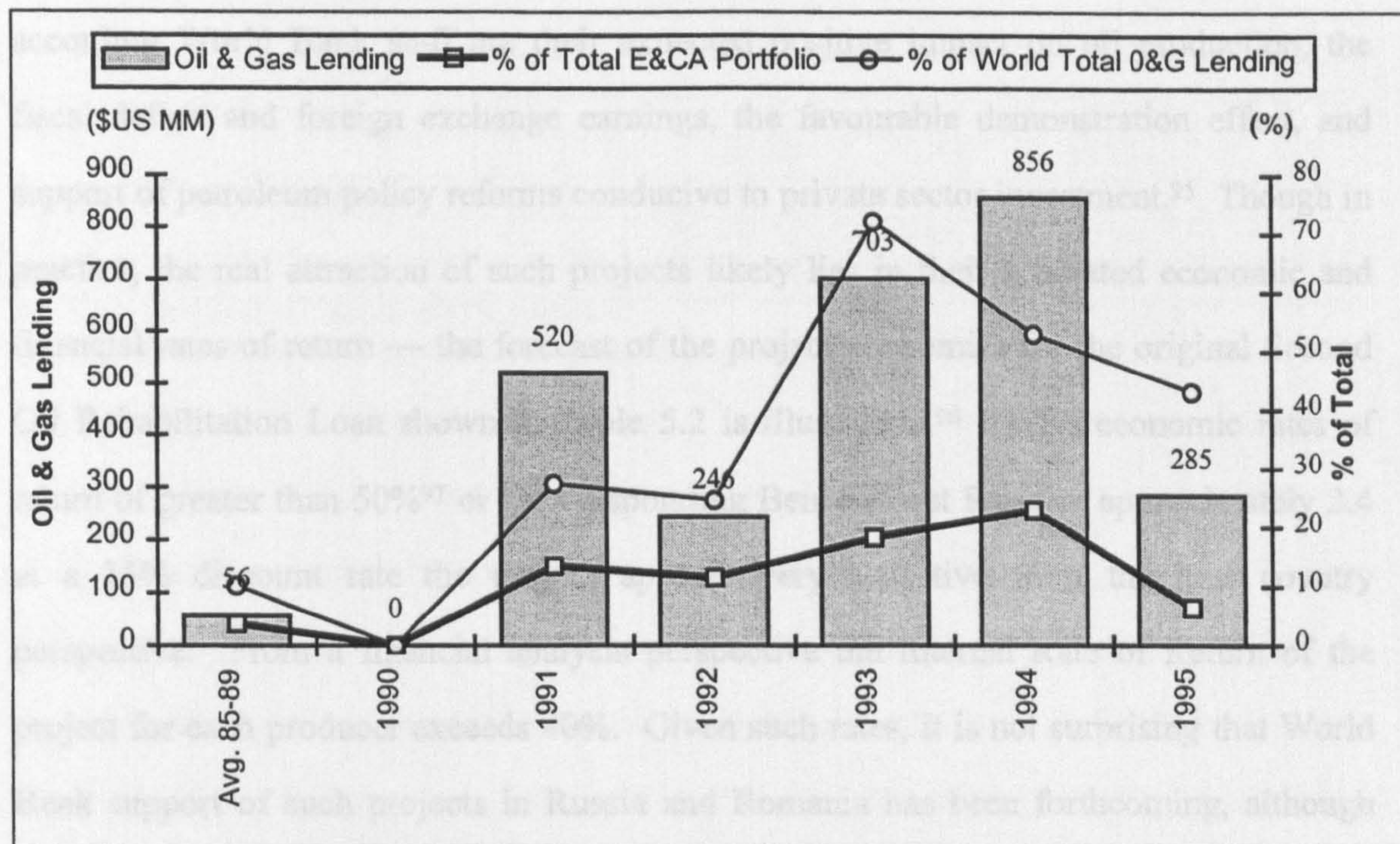
The second category of World Bank funding involves direct credits to enterprises for the support of productive investments. Figure 5.3 graphically displays the level of World Bank oil & gas lending to E&CA as a whole, whereas Appendix D.3 provides details of the individual projects. From an annual average of \$56 million per year during the period of 1985-89, to none in 1990, credits to this region's petroleum sector have since expanded rapidly, reaching a peak of \$856 million in 1994. This pattern is consistent with the opening up of the FSU and the international community's desire to support their reform process. However, it is a pattern which now looks to be tapering off, both in absolute terms and percentage wise, which is very similar the initial cycle of euphoria and then emerging realism/pessimism felt by foreign investors.⁹³ In recent years the World Bank's global oil and gas lending programme has been dominated by its lending to the E&CA region. However within the whole EC&A portfolio, oil and gas lending commands a much less dominant position. This demonstrates that while the petroleum industry is an important economic sector within the EC&A region the World Bank supports a full spectrum of economic activities and the bulk of its resources are directed elsewhere. We suspect that in relation to the World Bank's total E&CA portfolio, oil and gas sector lending will remain below its peak of 23% attained in 1994. While the World Bank can be regarded as an important potential source of financing for the petroleum industries of the FSU its role should not be over-estimated. After all, the non-displacement of private investors and focus on a catalytic role remain at the fore of its petroleum lending policy.

⁹¹ See William T. Onorato, Legislative Frameworks Used to Foster Petroleum Development, Policy Research Working Paper no. 1420 (Washington DC.: The World Bank, Feb. 1995).

⁹² SAR 12943-RU, *supra* note 90, p 5.

⁹³ The actual dynamics of the attractiveness Russian oil and gas industry by foreign investors has been described by Konoplyanik as a classic sinusoid. Andrei A. Konoplyanik, "Foreign Investment Risk in Russia (the Pattern of Oil and Gas Industry)," in Foreign Investment in Russia: Salient Features and Trends, Ed. Alexander Z. Astapovich, (Moscow: Infomant Agency, 1995): pp 74 and 79.

Figure 5.3 World Bank Oil & Gas Lending to Europe & Central Asia (E&CA)



Source: World Bank Annual Report 1994 and 1995.

Within the limits of its oil and gas portfolio, the importance of the region is demonstrated by the fact that in 1993, lending to this region represented 72% of its total portfolio, although it dropped to 43% by 1995. For the period 1995-99, the World Bank expects to maintain approximately 50% of its oil and gas portfolio in this region, corresponding to \$3.3 billion (or 660 million per year).⁹⁴ But the structure of the portfolio is fluid and expected to change over the next few years.

5.2.1.3.1 Oil Rehabilitation Projects

Hitherto, the focus of oil and gas lending in the FSU has been dominated by two very large rehabilitation projects: (a) First Oil Rehabilitation Project — the board approved a \$610 million World Bank credit to three Russian Production Associations (Purneftegas, Kogalymneftegas and Varyeganneftegas) in fiscal year 1993, including an additional \$174 million granted to Purneftegas cofinanced by the EBRD; and (b) Second Oil Rehabilitation Project — the board initially approved a \$500 million World Bank credit to three other Russian Production Associations in fiscal year 1994, but in fiscal year 1995

⁹⁴ World Bank, "The World Bank's Role in Oil and Gas: Review and Recommendations," Draft 5b, 17 Feb. 1995, Annex 2, p 2.

this was re-approved as \$600 million (see Appendix D.3). The rationale for such projects according World Bank staff are their expected positive impact on oil production, the fiscal deficit and foreign exchange earnings, the favourable demonstration effect, and support of petroleum policy reforms conducive to private sector investment.⁹⁵ Though in practice, the real attraction of such projects likely lies in their estimated economic and financial rates of return — the forecast of the project economics for the original Second Oil Rehabilitation Loan shown in Table 5.2 is illustrative.⁹⁶ With economic rates of return of greater than 50%⁹⁷ or a corresponding Benefit/Cost Ratio of approximately 2.4 at a 15% discount rate the project appears very attractive from the host country perspective. From a financial analysis perspective the Internal Rate of Return of the project for each producer exceeds 40%. Given such rates, it is not surprising that World Bank support of such projects in Russia and Romania has been forthcoming, although prompting some commentators to claim that the World Bank has in effect “cherry picked” the best projects on offer.⁹⁸ However, these projects do have their risks, and in this respect four key issues have been identified: oil prices, both international and domestic, tax levels, access to the export market and well productivity. Staff at the World Bank conclude that “...the Project could not tolerate an increase in tax levels until such time as profitability is assured due to improvement in [commercial] conditions, such as higher oil prices.”⁹⁹

⁹⁵ SAR 12943-RU *supra* note 90, p Summary.

⁹⁶ The World Bank is to supply a total Currency Pool Loan of \$500 million to the Russian Government for a total term of 17 years including a five year grace period at the World Bank's Variable Interest Rate (VIR). These funds would be on-lent to the Production Associations for a maximum term of 10 years including a two years grace period at VIR plus a premium of 75 basis points (i.e. + 0.75%). Megionneftegas is to receive \$150 million, Tomskneft \$160 million and Yuganskneftegas \$190 million, in return for putting up \$46 million, \$65 million and \$67 million respectively (i.e. a total of \$178 million) of their own funds. *Ibid.*, p 34.

⁹⁷ Calculated as $1 + (\text{B/C Ratio} - 1)$.

⁹⁸ CS First Boston, “Russian Oil Production Sector A Gusher in Russia? Part II: The Companies,” 2 Mar. 1995, p 6.

⁹⁹ SAR 12943-RU *supra* note 90, p 47.

Table 5.2 Forecast Economic & Financial Return for 2nd Oil Rehabilitation Project

Category	MNG ¹	TN ¹	YNG ¹	Total
Economic Rate of Return				
Benefit Cost Ratio	2.5	2.3	2.4	2.4
NPV (\$MM)	\$440	\$514	\$577	\$1,531
Financial Rate of Return				
FIRR	43%	44%	53%	47%
NPV (\$MM)	\$89	\$91	\$112	\$292

Source: SAR 12943-RU *supra* note 90, pp 44-47.

¹ Megionneftegas (MNG), Tomskneft (TN) and Yuganskneftegas (YNG).

This acknowledgement is implicit evidence that even the best intentioned efforts by MLAs can be thwarted by commercial uncertainty. In other words there is a limit to what the international financial institutions can achieve as far as mitigating investment risks facing oil and gas projects in the FSU. The assumptions on which attractive financial forecasts are produced may not, in the end, correspond to economic reality as it unfolds in the FSU. While disbursement data is difficult to obtain, a press reporting on the World Bank's disbursement record provides a much bleaker outlook for these projects than one obtains from reading the associated Staff Appraisal Reports.

- As of May 1995, almost two years after the signing, it was reported that only \$76 million from the First Oil Rehabilitation Loan had been disbursed although another \$144 million had been committed under signed procurement contracts.¹⁰⁰
- Another report over a year later states that the initial First Oil Rehabilitation Loan had be revised downwards from \$600 million to \$385 million of which only \$177 million had been used up by the three enterprises as of 20 July 1996.¹⁰¹ This represents a disbursement of less that 30% of the original loan value in a period of just under three years.
- Furthermore the same reports state that as of 20 July 1996 only \$64.1 million of the Second Oil Rehabilitation Loan had been disbursed (i.e. 13%).¹⁰²

¹⁰⁰ "Running from Rehab," *R.P.I.*, May 1995, p 25.

¹⁰¹ "Breaking the Barrier," *R.P.I.*, Aug. 1996, p 24.

¹⁰² *Ibid.*

Contrast these reports with the World Bank staff's statement in June 1994 that "implementation [of the First Oil Rehabilitation Loan] has for the most part gone very smoothly."¹⁰³ Clearly, there is a discrepancy of interpretation. In defence of the World Bank the problem of disbursement does not originate solely within itself (although unnecessary bureaucracy with the World Bank has been cited). Both loans enjoy the sovereign guarantee of the Russian Federation¹⁰⁴ and employ critical financial performance covenants.¹⁰⁵ Rather, the lack of disbursement lies with the unwillingness of the Production Associations to undertake hard-currency debt as they are expected to meet the debt-service requirements of the loans. But this is a side-effect not the cause and is curious given the absence of comparable domestic credit on equally favourable terms. In the case of the EBRD and World Bank Rehabilitation Loans the principal cause of slow disbursement lies with the Russian Government's tax policy with respect to VAT and customs duty on the importation of equipment. When the First Oil Rehabilitation Loan was conceived, taxation of the loans and goods purchased was not envisioned. However, when the Production Associations began making applications for procurement, it appeared that several taxes would be payable. This initially included a 20% VAT on the entire amount of the loan, a combined 23% VAT on the oil field equipment and an import tariff ranging from 5-15% depending on the type of equipment.¹⁰⁶ Although the first was clarified in May 1994 as a misunderstanding — the latter two still presented serious obstacles to borrowing. In June 1994, imported equipment "designated to

¹⁰³ SAR 12943-RU *supra* note 90, p 19.

¹⁰⁴ *Ibid.*, p 21.

¹⁰⁵ Under the Second Oil Rehabilitation Loan, the beneficiary must maintain a minimum debt-service ratio of 1.5 (ratio of earnings before interest and depreciation less royalties, revenue and profit taxes to total short and long-term debt service obligations) and a current ratio of no less than 1.25 (i.e. current assets/current liabilities), including restrictions to dividend payments and maintenance of average accounts receivable at 60 days of sales and accounts payable at not greater than 75 days of cash expenses by fiscal year 1995. *Ibid.*, p 48.

¹⁰⁶ "Idle Loans," *R.P.I.*, Jun. 1994, pp 21-23.

increase production" was exempted from the 23% combined VAT,¹⁰⁷ only to be replaced by a VAT of 20% plus a special 1.5% tax in March of the following year.¹⁰⁸

Thus, no matter how well intentioned the World Bank efforts may be, or the need for equipment imports, the responsibility of repayment (notwithstanding the sovereign guarantee) rests with those domestic entities which are the end-users of such credits. But, they continue to operate in what remains an uncertain and punitive business climate. Russian Production Associations are burdened by an excessively high level of taxation (in the summer of 1995 being 60% of gross domestic sales)¹⁰⁹ and a continuing non-payment crisis. In such circumstances, it is understandable why there is a reluctance to incur hard-currency loans. It is not that the producers do not have a need for investment capital, but it is unrealistic for these companies to take on such debt under the aforementioned circumstances. This is not just a problem which afflicts the World Bank's lending programme, most other sources of official credit are similarly affected.

5.2.1.4 Summary of the World Bank

The World Bank may provide credits to governments or public sector entities backed by a sovereign guarantee and has a clear mandate to support the petroleum sector of the FSU. While its petroleum lending guidelines were promulgated in 1984 under a very different set of economic and political conditions, its policy appears relatively robust and is suitable for the FSU. The World Bank can provide credits to support the development of existing oil fields or infrastructure projects. Support for pure exploration is now unfashionable (nor desirable). Accusations that the World Bank may displace private

¹⁰⁷ Decree No. 1199 of the President of the Russian Federation "On Certain Measures to Promote Investment Activity, Including Foreign Loans and Related Investment Activity," dated 10 Jun. 1994. Reprinted in "Open for Business," *R.P.I.*, July/Aug. 1994, pp 69-71.

¹⁰⁸ Law of the Russian Federation "On Repealing Benefits to Parties Engaged in Foreign Economic Activities," dated 13 Mar. 1995. See *supra* note 100; and Yuri Dmitriyev, "Payment of VAT on Amounts of Loans (Credits) extended by Foreign Legal Entities," *R.O.G.L.J.*, Jan./Feb. 1995, p 12. For more recent changes see Richard Lewis and Maureen O'Donoghue, "Comment Section: Amendments to Russian VAT Law," *O.G.L.T.R.* 14 (1996): pp 352-356.

¹⁰⁹ Eugene M. Khartukov, "Russia's Oil Prices: Passage to the Market," East-West Centre Working Papers, Energy and Minerals Series, No. 20, Sept. 1995, p 15. A more recent report shows tax burden on domestic sales to be 67.9% of gross revenues and 61.7% of export sales. *R.P.I.*, Feb. 1996, p 72.

investors — a criticism levelled against it in the early 1980s — is not likely to be voiced today in the FSU, as the overall investment climate remains poor.

During the period 1993-1995 the World Bank approved financing of \$1.66 billion to the petroleum sector of Eastern Europe and Central Asia (See Appendix D.3.1) — dominated by three rehabilitation loans, one to Romania, and two to Russia. Should all these projects go ahead as planned, the World Bank could claim a multiplier effect of 1.6 (or as a ratio, 0.6:1),¹¹⁰ although when one considers the effect of other sources of official finance (e.g. EBRD or other western governments), the combined multiplier effect is reduced to 1.3.

Looking towards the future, the level of World Bank financing for petroleum developments in Eastern Europe and Central Asia appears promising as it intends to provide another \$4.5 billion for 22 projects during the financial years 1994-1998, which represents 57% of its forecast global oil and gas sector lending portfolio.¹¹¹ This amount is to include the Uzen oil field rehabilitation project in Kazakhstan¹¹² and a possible \$500 million credit to Yuganskneftegas to allow it to meet its first phase cash call of the proposed joint development of the Priobskoye oil field in Western Siberia with Amoco (see Appendix D.3.2). However, any such optimistic forecasts must be realistically tempered by the World Bank's lending record to date. Anecdotal evidence suggests that disbursements have been well below expectations. It becomes apparent that the very existence of western credit is not a solution in itself — rather the commercial environment must permit such credits to be used efficiently. This is still not the case, due to excessive taxes and the continuing non-payment crisis which burden domestic producers in Russia. Stated in another manner the absorptive capacity of the domestic

¹¹⁰ That is for every \$1 put up by the World Bank, another 60¢ is sourced elsewhere.

¹¹¹ See *supra* note 17, p 5.

¹¹² The World Bank approved \$109 million loan for the project estimated to cost \$220 million. "World Bank Loan to boost Kazakhstan's Oil Production," OMRI Daily Digest, No. 129, Part I, 3 July 1996.

market for external credits is still limited, despite the obvious need for modernisation and the lack of investment. We conclude that the World Bank has not yet achieved its objective of injecting large scale western credits into Russia's ailing petroleum sector, despite having approved such programmes. The two features which tend to be glossed over (and forgotten about) after the favourable press announcements are: *disbursements can and do fall short of commitments* and secondly, *the draw down period can be spread over a number of years*. Both factors weigh heavily in our analysis of credit support for the FSU.

5.2.2 International Finance Corporation (IFC)

The International Finance Corporation, established in 1956, is the arm of the World Bank Group whose financing activities are dedicated solely to the private sector¹¹³ and is specifically prohibited from accepting host-government guarantees for its investments.¹¹⁴ It enjoys, as compared to the World Bank, the additional flexibility of being able to provide both debt and quasi-equity. Thus, although the IFC supports the objective of "further[ing] economic development by encouraging the growth of productive private enterprise...in less developed areas",¹¹⁵ it is subject to the 'discipline of the market'. In other words, the IFC does not provide concessional type financing.¹¹⁶ Indeed, the first President of IFC, R.L. Garner, stated in the organisation's inaugural meeting that

"...the IFC would have to *earn returns commensurate with the risk undertaken, and would make its investments not on 'easy' terms, but on terms approximating as closely as possible those which the market found attractive.*" (emphasis added)¹¹⁷

113 Art III, §1, "International Finance Corporation Articles of Agreement," dated 25 May 1956, in force 20 Jul. 1956 reprinted in A.J.I.L. 51 (1957): pp 486-501.

114 *Ibid.*, Art. I(i).

115 *Ibid.*, Art. I.

116 *Ibid.*, Art. III, §3(vi) states that "the Corporation shall undertake its financing on terms and conditions which it considers appropriate, taking into account the requirements of the enterprise, the risks being undertaken by the Corporation and the terms and conditions normally obtained by private investors for similar financing."

117 "International Finance Corporation," International Organisation XI (1957): p 166.

Because of the IFC's alliance with the private sector,¹¹⁸ both its experience in, and policy of lending to the oil and gas sector differs from that of the World Bank. These idiosyncrasies go some distance in explaining what has hitherto been the limited involvement in the FSU's oil and gas sector by the IFC — despite having explicitly recognised this sector as an area of importance:

“In Russia, for example, the [World] Bank's objective for the oil and gas sector is to achieve levels of investment of between US \$2 - US \$3 billion per year over the next decade by creating a system that would attract international private capital in the form of commercial loans, export credits and equity participation by international oil companies. [The] *IFC* expects to play an important part in this process.” (emphasis added)¹¹⁹

We argue that by adhering to the ‘discipline of the market’, the IFC is effectively unable and unlikely to expand lending to the FSU's oil and gas sector to any great extent under the current economic and political climate. This is not necessarily an unwelcome outcome but rather a reflection of reality — the IFC appears to be stymied by the same uncertain economic and political climate which plagues foreign investors. From this perspective, the orthodox view that this organisation, like other MLAs, is successfully able to mitigate political risks is called into question.

5.2.2.1 History of IFC support for Petroleum Operations

As of the May 1996 the IFC participated in projects for the extraction of fuel minerals and oil refining with a combined cumulative total project cost of \$13.4 billion, of which the IFC's own commitment was \$1.8 billion.¹²⁰ While this represents an important component of the IFC's efforts, its role in the oil and gas sector must be understood in the context of its overall portfolio. In this regard the extraction of fuels minerals and oil refining is only 7% and 1% of the IFC's total financing respectively. The IFC like other MLAs support the full range of economic sectors and as such the oil and gas sector tends

¹¹⁸ See Gary Bond and Laurence Carter, “Financing Energy Projects: Experience of the International Finance Corporation,” *Energy Policy*, 23 (1995) pp 967-975; and Gary Bond and Laurence Carter, *Financing Private Infrastructure Projects: Emerging Trends from IFC's Experience*, IFC Discussion Paper No. 23 (Washington, DC.: IFC, 1994).

¹¹⁹ IFC, “IFC Oil and Gas Policy Paper,” IFC/R92-221, 21 Dec. 1992, Para. 72.

¹²⁰ “IFC Involvement By Sector/Industry,” IFC Home Page, IFC, 1996. [Accessed through the Internet: <http://www.ifc.org/data/sector/sector.htm>.]

to only receive a relatively small, but not insignificant portion of the total. As we shall see this general observation applies to equally to the IFC's approach in the FSU. Within the oil and gas sector, the IFC appears to focus on upstream projects (84% of their own commitment and 75% of total project costs) versus 16% and 25% respectively for oil refining. Their claimed impressive 'catalytic role' (in this case 6.3:1) is partially assured by its own internal guidelines which forbid the provision of anymore that 25% of the total project costs whether in the form of debt, equity or any combination thereof.¹²¹ This condition ensures that the IFC will be able to claim a minimum catalytic role of 3:1. Thus their claimed multiplier effect by itself is not a true measure of success in which to benchmark to IFC. Undoubtedly, it is 'a' yardstick, but it does not by itself provide a complete picture. Two further qualifications are necessary.

Firstly, the true measure of success for any MLA is whether their participation provides the ultimate project facilitating role. That is, without their involvement, the project would not have proceeded. It is a question of causality (does the involvement of the IFC bring the project to fruition?) and is an attribute which officials from MLAs are quick to espouse.¹²² However, the decision of the IFC to pull-out of the Nigerian Bonny Island LNG project¹²³ after having earlier claimed "that the financing cannot be raised without the IFC"¹²⁴ suggests otherwise as the project is now going ahead without the IFC's involvement. The IFC's presence alone cannot convert a 'bad' project into a 'good' one and since the IFC does not use sovereign guarantees, its project selection must be

¹²¹ The IFC may, however, provide up to 35% of the equity capital provided it is never the largest shareholder. IFC, "IFC Brief: Basic Facts About IFC," Mar. 1994.

¹²² Hugh Henry-May, "Financing Oil and Gas Field Development," Paper presented to PetroConsultant's Symposium on Hydrocarbon Exploration Opportunities in Central-Eastern Europe and the USSR, Geneva, 1990, pp 15-19.

¹²³ The IFC was to take a 2% equity stake in the \$4.3 billion, to be built and operated by the Nigerian National Petroleum Corporation, Royal Dutch/Shell, Elf Aquitaine and AGIP. The initial role of the IFC was to provide financial advice to the government and act as a neutral party in the negotiations. Following the execution of the Nigerian Human Rights Activist, Ken Saro-Wiwa in November 1995 and several other citizens, the IFC pulled out of the project. See Sola Adepetun and Kemi Segun, "Nigeria: The Liquefied Natural Gas Project," O.G.L.T.R. 13 (1995): pp 436-439. "Nigeria Foaming," Economist, 18 Nov. 1995, p 17; and "Nigeria \$4.3 billion gas project hit by US ban," Financial Times, 25 Apr. 1996, p 6.

¹²⁴ IFC/R92-221 *supra* note 119, Para. 56.

strongly influenced by commercial criteria. Therefore, the IFC (justifiably so) will not involve itself in a commercially unsound venture. But, whether the IFC proves to be the ultimate facilitator is another matter, as opposed to being an alternative (and replaceable) source of quasi-commercial finance. The claim of 'causality' is difficult to refute, but this does not mean that it should always be assumed to be the case.

The second qualification for assessing the success of MLAs, revolves around the measure of their catalytic role. The IFC, like all MLAs, justifies their operations on the claim that for every one dollar of financing put forth by their organisation, X dollars were raised elsewhere. Financing investment projects in the FSU typically involves multisourcing with every organisation claiming a catalytic role. It is misleading to examine the catalytic role of each organisation and instead one should assess the combined effect of official sources of financing in mobilising private sources of financing. Consider the case of the Polar Lights JV shown in Table 5.3 which is one of only two oil & gas projects involving the IFC in Russia. The project itself is estimated to cost \$320 million of which \$200 million was raised by three official sources: OPIC, IFC and the EBRD.

Table 5.3 The Apparent vs. Real Catalytic Effect

Source of Finance	Amount (\$US MM)	Multiplier	Multiplier Ratio
Official Finance of which	200	1.6	0.6 : 1
OPIC	50	6.4	5.4 : 1
IFC	60	5.3	4.3 : 1
EBRD	90	3.6	2.6 : 1
Total Project Investment	320	N/A	N/A

Source: IFC, EBRD and OPIC Annual Reports.

Each organisation can claim individually a multiplier ratio of 5.4:1, 4.3:1 and 2.6:1 respectively. However when one examines the combined catalytic effect of all official sources of finance the ratio drops to 0.6:1 (i.e. for every \$1 raised by the MLAs only another 60¢ was raised by the private sector). From this perspective, the catalytic role of MLAs is not as impressive as individual claims suggest. For this reason the tabulation of projects receiving official sources of finance in Appendix D, includes both an estimate of the individual organisation's multiplier role and the combined financing multiplier role.

Bearing these points in mind we shall review the IFC's guidelines on petroleum financing followed an analysis of the IFC's efforts in the FSU's petroleum industry.

5.2.2.2 IFC Guidelines for Petroleum Financing

The challenge for the IFC in the FSU is to locate projects which satisfy its oil and gas sector guidelines. As we shall see these guidelines are consistent with the overall aim of economic development, but the specific circumstances of the FSU may render the application of these principles necessarily prohibitive. We openly accept these constraints — the IFC is not a source of concessional aid — but it does highlight the difficulty in finding suitable FSU projects which can successfully seek IFC support.

“§VII. Proposed IFC Guidelines to the Oil and Gas Sector

74. In many countries, especially in Africa and in the Former Soviet Union, the oil and gas sector is seen as an important revenue source which plays a major role in GNP growth, and foreign exchange earnings. Since these are also the regions which often have the highest level of perceived country risk, IFC involvement in oil/gas development can support growth for the entire economy. The operational approach to IFC's activity in the vitally important sector can create the highest value added by focusing on projects where the IFC's ability to make a contribution is maximised. Accordingly, management proposes that the Corporation's activities in this sector be governed by the following guidelines:

1. **Exploration:** IFC will not promote or make new investments in stand alone 'wildcat' explorations.
2. **Development:** The Corporation will continue its activities in oil field development financing, giving priority to circumstances of capital and country risk where IFC's catalytic and resource mobilisation role will be maximised.
3. IFC will support privatisation of a domestic oil and gas industry, particularly by assisting domestic private oil and gas companies to access capital markets and international lenders, as they address the financing needs of oil field development.
4. Development projects conventionally include the costs of exploration to further increase the reserve base of the project. In appropriate cases, IFC will finance, as part of an overall development financing plan, exploration drilling provided the risks of any exploration failure are well covered by cash flow from production wells and success in the exploration venture is not required for the commercial viability of the enterprise and recovery of IFC's investment.
5. Where appropriate, IFC will promote and finance services ancillary to oil development, such as field services and oil and gas pipelines,

placing priority on those country and capital risk circumstances where IFC's role is maximised."¹²⁵

The IFC, similar to the World Bank, is now reluctant to support wildcat exploration — neither organisation's previous efforts in this sphere have amounted to an established record of success. The consensus being that such activity involves high risks that are better executed by the private sector as neither organisation's staff offer a comparative advantage over the former.¹²⁶ This guideline in itself has little impact on activities in the FSU as 91% of all potential projects involving foreign investors focus on known deposits of petroleum. Of this amount, 34% of the projects envisage further exploration in surrounding areas. In the latter case the IFC guidelines do not specifically exclude financial support because the associated exploration is no longer true 'wild-cat' exploration and as such geological risk (due to the proximity of known oil bearing strata) and financial risk (as cash-flow from production would be supporting additional exploration efforts) are substantially reduced.¹²⁷ But such a scenario may displace private investors who are interested in the FSU because of the low geological risk. Equally if a project is up and running with a positive cash-flow, it seems unlikely that the project's equity sponsors would be seeking support from the IFC. If there is a window of opportunity for the IFC to support associated exploration it may lie with those newly privatised domestic companies, who lack sufficient capital to maintain adequate exploration activities. Chapter 2 showed how the region's exploration efforts have dramatically declined. However, the underpinning of any exploration effort is the ultimate ability to sell one's production for a profit, but until the systemic risks of the petroleum sector are resolved even the presence of the IFC is not enough to guarantee success, nor from their point of view would such an allocation of funds necessarily be the most efficient.

¹²⁵ IFC/R92-221 *supra* note 119, Para. 74.

¹²⁶ *Ibid.*, Para. 32-42; IFC, "Summary of Discussion at the Meeting of the Board of Directors of IFC, Jan. 15, 1993: IFC Oil and Gas Policy Paper," IFC/SD93-1, 4 Mar. 1993, Para. 22; World Bank (1995) *supra* note 94, Para. 5.2.

¹²⁷ IFC/SD93-1 *supra* note 126, Para. 22.

This argument perpetuates itself into development activities as well. In principle the IFC will undertake development financing. but its decision to do so lies in the commercial viability of the venture and their ability to maximise the mobilisation of additional sources of finance. Once again, the systemic problems of the oil and gas sector are at the present time undermining many potential projects, and if this were not the case, we believe substantial private capital would otherwise be available. It becomes a circular argument. Businesses may look to the IFC to provide a source of capital when sufficient private capital is not available, but the presence of the organisation by itself has little or no effect on improving the economics of the sector as a whole, which begs the question should the organisation be involved in a potentially uncertain commercial venture. The answer is emphatically 'No'. If and when the economics of the petroleum sector improve, the IFC may consider participating to the extent that it can mobilise reluctant sources of commercial debt. But, by the time the petroleum sector of the FSU is a viable and healthy industry, MLA funding should no longer be necessary.

This raises the question of what kind of organisations are willing to operate in such volatile environments. We believe that the only private enterprises which are capable of withstanding the long-term uncertainty of the region are the so-called 'Majors' (e.g. Amoco, BP, Mobil, Shell etc.). They alone have the financial and technical resources capable of seeing them through the uncertain times ahead. But this is precisely the category of investors which the IFC is probably least willing to support. As several members of the IFC's board observed the...

“...IFC should participate only when its involvement was critical to the success of a project; *when the reserves were too modest for large oil companies....*but not for the domestic private sector or for smaller foreign independents; and when building up domestic technical capacity was a key consideration in ventures with major oil companies.’ (emphasis added)¹²⁸

But until smaller foreign independents or domestic private enterprises are able to demonstrate a commercially sound operating record in the FSU, there appears little

128 *Ibid.*, Para. 9.

rationale for supporting their associated investments. If and when the majority of problems which currently plague the oil and gas sector are resolved, then there is a real justification for allocating a portion of the IFC's limited resources to such projects.

5.2.2.3 IFC support for Petroleum Operations in the FSU

The IFC through its Foreign Investment Advisory Service (FIAS) has been particularly active by providing technical assistance and advice to the FSU.¹²⁹ But as a direct source of investment capital (either through debt, equity or syndication) the IFC's role has remained limited. Russia became a member of the IFC on 12 April 1993 and the IFC approved financing of \$86.5 million, \$31.4 million, and \$256.5 million in 1993, 1994 and 1995 respectively.¹³⁰ Of these amounts the only funds directed to the oil and gas sector occurred in 1993, when the IFC committed \$60 million to the Polar Lights JV and \$11.5 million to the Vasyugan Services JV in Russia (see Appendix D.4).¹³¹ By the end of 1995 no further IFC support for oil and gas projects had been secured. This is somewhat surprising since the IFC intended to "play an important part" in the World Bank's efforts¹³² and hoped "...that these [two joint ventures] will be the *first of many opportunities* [the] IFC will have to support this critical sector of the Russian economy" (emphasis added).¹³³ One year later, Robert Gale, the Head of IFC's Moscow Office, stated publicly that their experience has been positive as the financial and economic results from its involvement in the Polar Lights project were average and the results from its participation in the Tomskeneftegas-Fracmaster well workover project were "...as high as we've seen anywhere in the world."¹³⁴ Why then, was the IFC's FSU

¹²⁹ During the years 1993, 1994, and 1995 the IFC had an ongoing portfolio of Technical Assistance and Advisory Projects of 20, 22, and 27 respectively — the majority of which were associated with Privatisation. IFC Annual Reports 1993, 1994, 1995.

¹³⁰ *Ibid.*

¹³¹ "IFC Approves First Projects in Russia," IFC Press Release No. 93/84, 17 Jun. 1993.

¹³² *Supra* note 4.

¹³³ *Supra* note 131, p 2.

¹³⁴ "Western investors still await Russian legislation protection," E.E.E.Report, May 1994, p 4.

oil and gas portfolio confined to these two projects? The postponement of a third project provides part of the answer.

The IFC did approve \$57.5 million in financing (\$40 million loan, \$10 million quasi-equity, and \$7.5 million syndication) for the Kazgermunai JV in Kazakhstan in 1994 to develop the Akshabulak oil field in central Kazakhstan which was estimated to cost \$296 million.¹³⁵ However, the deal was never concluded by the project's sponsors, which accounts for the decline in growth of the IFC's FSU portfolio in the year 1994. Had this deal gone through, the level of IFC's portfolio would have stood at \$91.1 million rather than \$33.6 million. Generally speaking, it is not uncommon to hear company executives speak of the difficulties when trying to raise requisite financing for investment projects in the FSU — invariably financing appears to be the crucial missing ingredient for many projects. The Annual Report of Veba Oel (one of the participants) provides insight into why the JV turned down the 'elusive' financing they had arranged:

“The project to develop an oil field in the South Turgay region of Central Kazakhstan was brought to a close at the beginning of 1995 owing to its *economic unfeasibility in what remains an uncertain political climate.*”
(emphasis added)¹³⁶

Their justification is sound, but what is interesting is that such a decision was taken in the presence of approved financial support by the IFC. We believe this example highlights the practical limitation of MLA support for FDI in the FSU. Multilateral funding *per se* is not (and cannot be) the panacea which investors seek, on the contrary, investors need the basic assurance of the ability to earn an adequate rate of return from their investment. If the political or economic circumstances are too unfavourable or uncertain, even the presence of MLA support cannot assure success. Project sponsors are expected to repay loans in a timely fashion, and in the case of the IFC, the cost of such funds is based on market rates without recourse to sovereign guarantees. VEBA Oel likely believed the uncertainty was too great that the project would not generate sufficient revenues to cover

¹³⁵ IFC Annual Report 1994, p 61.

¹³⁶ VEBA Annual Report 1994, p 57.

repayment and contribute an appropriate profit margin. This is quite plausible, as there is currently no westbound pipeline from the Southern Turgay Basin — the only existing infrastructure runs south into Uzbekistan and Turkmenistan. Any early oil production would have to be exported via a swap arrangement and because the IFC insisted that the project sponsors bear a significant part of the transportation risk¹³⁷ VEBA Oel's caution does seem warranted.

If the sole investment risk facing a foreign investor was that of expropriation, then the presence of a MLA may very well provide the requisite protection. However, in the case of the FSU, where the very economic foundation of a project may be unreliable due any number of factors (e.g. possible changes in the tax regime or general laws and regulations, rising export tariffs, restricted access to pipelines, etc.), it is difficult to see how the IFC can provide that crucial assurance which permits projects to proceed, or whether the project sponsor would be willing to pay the premium attached to such credit. Clearly, VEBA Oel was unwilling to do so at the time.¹³⁸ Unfortunately successful upstream projects involving foreign investors in the FSU remain few and far between and attracting credit to future projects will remain problematic until the economic basis of the oil and gas projects improve.

5.2.2.4 Summary of the IFC

The IFC's involvement in the oil & gas sector in the FSU has remained quite small, despite a growing regional portfolio. In many ways the experience of the IFC parallels that of the World Bank (already shown) and of the EBRD and ECAs (to be shown). Each organisation, partially driven by the April 1993 G-7 pledge of \$28.4 billion in financial

¹³⁷ "Kazakhstan: Oil project scaled down," P.F.I., 2 Mar. 1995, p 32.

¹³⁸ In July 1996 a \$65 million combined loan and equity financing package was finally signed between the IFC and the Kazgermunai JV. R.P.I. Aug. 1996, p 38. As few details have been released, one can only speculate as to what circumstantial changes occurred which prompted signing, but a logical factor would be the increased oil export quota for Kazakhstan by Russia following the restructuring of the CPC in the spring of 1996. This would presumably permit the Kazgermunai JV to enter into a swap arrangement with the Government of Kazakhstan. The Kazgermunai JV would supply the local domestic market in exchange for oil exported on its behalf out of Western Kazakhstan through the Russian pipeline network. See discussion in Chapter 8.

support to Russia,¹³⁹ were of the opinion that the oil and gas sector was a receptive target for credits. We in the West had to be seen to be doing something — but what no western policy maker had foreseen is the extent to which this sector would remain problematic both to foreign and domestic investors given the uncertain nature of oil prices, taxes, and export rights etc. Of all MLAs the IFC has exhibited the most restraint of all. We believe that until the underlying conditions of this sector improve, IFC support for the oil and gas industry of the FSU is unlikely to expand.

5.2.3 European Bank for Reconstruction and Development (EBRD)

The idea to create a European Bank was first publicly suggested by President Mitterrand of France in a speech to the European Parliament in Strasbourg on 25 October 1989, by asking and subsequently answering the following question: “What can Europe do? So much more! Why not set up a Bank for Europe...”¹⁴⁰ Relatively speaking the EBRD, which became operational on 15 April 1991, is unique compared to the IFC and the World Bank in that its conception and associated policies do not predate the collapse of FSU. Article 1 of the Agreement Establishing the EBRD, outlines its novel mandate:

“...to foster the transition towards open market-oriented economies and to promote private and entrepreneurial initiative in its member countries in Central and Eastern Europe [and the former Soviet Union] committed to and applying the principles of multiparty democracy, pluralism and market economics.”¹⁴¹

This political aspect of the EBRD’s mandate makes this much younger organisation truly unique among the international financial institutions,¹⁴² as its regional focus is combined with a project specific financing policy rather than being based on the financing of

¹³⁹ See Robert E. Ebel, Energy Choices in Russia, (Washington, DC.: CSIS, 1994): pp 95-107; and USITC, Trade and Investment Patterns in the Crude Petroleum and Natural Gas Sectors of the Energy-Producing States of the Former Soviet Union, Investigation no. 332-338. Publication 2656. (Washington, DC.: USITC, Jun. 1993): p 5-3.

¹⁴⁰ EBRD Annual Report 1991, p 18.

¹⁴¹ Art. 1, “Agreement Establishing the European Bank for Reconstruction and Development,” dated 29 May 1990 (hereinafter EBRD Agreement) I.L.M. 29 (1990): pp 1077- 1107. See also EBRD, “Basic Documents of the European Bank for Reconstruction and Development,” N.d.

¹⁴² Andre Newburg, “The European Bank for Reconstruction and Development,” in Energy & Resources Law '92: Proceedings of 10th Advance Seminar on Petroleum, Minerals, Energy and Resources Law, Washington, 5-10 Apr. 1992, IBA Series, (London: Graham & Trotman, 1992): p 139.

balance of payments or on macro-economic reform packages.¹⁴³ One would therefore expect the EBRD to be the most active MLA in the region and this is indeed the case. But, before analysing its lending record, we shall first provide an overview of certain aspects of the EBRD's energy policy and the basic terms and conditions the EBRD applies to its financing activity.

5.2.3.1 *Energy Policy of the EBRD*

Any petroleum related lending activities fall within the ambit of the EBRD's Energy Operations Policy which is broadly defined as

“...assist[ing] countries to reorient sector development away from a narrow focus of supply expansion to a broader ‘least-cost’ focus, where the principal consideration is the efficiency which resources are used...[and]...ensure that resources applied to improving the environmental performance of the sector are allocated in the most rational way.”¹⁴⁴

In order to implement this objective, the following operational guidelines are recommended:

- “enhance the efficiency of existing energy supply operations;
- promote improvements in countries’ security of supplies;
- promote regional interconnection for economic and security reasons;
- give particular emphasis to projects which assist countries to increase energy exports, and which provide additional energy supplies for the world market;
- stimulate the injection of foreign capital and the introduction of commercial management techniques; [and]
- improve the environmental performance of fuel industries and energy utilities.”¹⁴⁵

Since the energy situation in each transitional economy is unique vis-a-vis resource endowment, energy infrastructure, composition of primary energy consumption, etc., no one formula will satisfy all, therefore the EBRD's emphasis is adjusted accordingly on a country by country basis. In the case of energy import dependent countries, security

¹⁴³ John L. Taylor, “Role of the European Bank for Reconstruction and Development in Reducing Certain Risks of Project Financing,” in Proceedings of IBA's 11th Advanced Seminar on Petroleum, Mineral, Energy and Resources Law, Barcelona, Spain, 24-29 Apr. 1994, p 41. Art. 13(ii) of the EBRD Agreement states that “...the operations of the Bank shall provide for the financing of specific projects, whether individual or in the context of specific investment programmes, and for technical assistance.” See also Gavin Anderson, “Project financing at the European Bank for Reconstruction and Development,” P.F.Yb. (1994/95): pp 15-19; and Charles Wrangham, “The European Bank for Reconstruction and Development,” P.F.Yb. (1992/93): pp 15-18.

¹⁴⁴ EBRD, “Energy Operations Policy,” Mar. 1992, p 2.

¹⁴⁵ *Ibid.*, p 3.

supply and the budgetary impact of allocating scarce hard currency reserves to import energy are singled out as key areas of concern. If indigenous sources of petroleum can be developed in net energy importing countries, then EBRD support for upstream operations is permissible.¹⁴⁶ However, the bulk of their upstream activities will naturally coincide with the principal petroleum producing countries, namely the Russian Federation.

At the time of establishing its Energy Policy, the EBRD expected its short-term efforts to focus on the “...repairing and rehabilitating of existing supply facilities...[and]...private sector projects which promote liberalisation of supply and the injection of foreign capital.”¹⁴⁷ Moreover, the Bank was to concentrate its institutional and commercial aspects of operations on the “*oil and gas sector* where there is the *most interest among private investors*, and where efficiency gains can be secured comparatively quickly”¹⁴⁸ (emphasis added). Over the medium term, the EBRD intends to shift its focus to encouraging private sector participation in improving security of supply, including the modernisation and upgrading of supply facilities, and mitigating the environmental impacts of energy production and supply.¹⁴⁹ The promotion of regional infrastructure is singled out as a priority area within its medium term mandate,¹⁵⁰ thus it is probable that the EBRD will try to support, or at least consider very carefully, projects such as the Tengiz-Novorossiysk pipeline (*infra* §5.2.5). At a conference in 1995 a representative of the EBRD reaffirmed that:

“[t]he Bank intends to play an important role in establishing the financing of the transportation system in the region [Central Asia & the Caspian Sea]. There are very critical issues to be resolved in the pipeline sector with huge investments in the years to come.”¹⁵¹

¹⁴⁶ For instance, the EBRD provided an \$8 million loan facility to JKC Oil and Gas plc to support its Poltava Project in Ukraine. *Infra* §5.2.3.3.

¹⁴⁷ *Ibid.*, pp 3-4.

¹⁴⁸ *Ibid.*, p 4.

¹⁴⁹ *Ibid.*, p 5.

¹⁵⁰ *Ibid.*

¹⁵¹ Günther Vowinckel, “EBRD: Financing Oil and Gas Projects in the former Soviet Union,” Paper presented to the Adam Smith Institute’s Third International Conference on Marketisation of the Former

Responsibility for all petroleum related projects resides within the Natural Resources Group whose likely mission statement can be inferred as being

“...to develop a portfolio of sound investments in the oil and gas, mining and chemicals sectors of our countries of operations by focusing on private sector development with sponsors capable of providing risk capital, management skills and real transfer of technology. We are pursuing a portfolio diversification among country and commodity risks and instrument types and maturities.”¹⁵²

One may conclude that the EBRD, with its regional focus on Eastern Europe and the FSU, has a clear and specific mandate to support petroleum operations.

5.2.3.2 *EBRD Terms and Conditions*

The most salient feature of the EBRD's financing policy is that it is able to support both public and private initiatives (as opposed to the World Bank and the IFC), although mandate stipulates that support for the public sector may not exceed 40% of its portfolio.¹⁵³ Initially, EBRD support for the state sector dominated its portfolio, but by the end of fiscal year 1995, the cumulative share of private sector projects had risen to 62.2%,¹⁵⁴ thereby fulfilling its mandate. Given the EBRD's project-specific focus and desire to “promote private and entrepreneurial initiative” we expect this trend to continue, which should be welcomed by region's growing private petroleum sector.

With regards to private sector project specific financing, the EBRD considers the minimum lending requirement by the Bank to be ECU 5 million (\approx \$6.4 million)¹⁵⁵ while the Natural Resources group considers that the minimum gross project investment from

Soviet Union: Financing the Oil and Gas Sector, Vienna, 22-23 Feb. 1995. More recent discussions with Günther Vowinckel and Sergey Popov (both Acting Directors of the EBRD's Natural Resources Group) on 23 Feb. 1996 and 15 May 1996 respectively at the University of Dundee, confirm the EBRD's continued interest in this field.

¹⁵² EBRD, Natural Resources Group, “Quarterly Update: Oil & Gas, Mining and Chemicals (1st Quarter, 1994),” p 2.

¹⁵³ Art. 11, “EBRD Agreement,” *supra* note 141.

¹⁵⁴ EBRD Annual Report 1995, p 6.

¹⁵⁵ EBRD, “Financing with the EBRD,” Apr. 1994, p 4.

all capital providers is generally \$75 million, although it can be smaller in certain circumstances.¹⁵⁶ The EBRD can supply up to 35% of the total project cost for a greenfield project or 35% of long-term capitalisation in case of an established company. But the maximum permissible debt to equity ratio of the overall project is 2:1 thereby requiring a significant equity contribution from the project sponsors and/or other investors.¹⁵⁷ Funding by other cofinanciers is also typically required.¹⁵⁸ Generally speaking the EBRD applies the “1/3, 1/3, 1/3 Rule”, whereby the EBRD, the project sponsor and third parties each contribute one third.¹⁵⁹ The EBRD has the added financial flexibility in that it can either provide loans, equity, guarantees or some combination thereof (see Figure 5.4).¹⁶⁰

From its public/private mandate and mixture of financial instrument, to its innovative approach to its negative pledge policy, the EBRD appears theoretically best suited (of the MLAs) to facilitate the flow of investment capital from the West to the East. In the words of the eminent international lawyer Dr. Ibriham Shihata

“[i]t will...be interesting to note the extent to which the new provisions in the EBRD Agreement may influence the practice of other MDBs or inspire calls for the amendment of their constituent instruments.”¹⁶¹

¹⁵⁶ EBRD Natural Resources Group (1994) *supra* note 152.

¹⁵⁷ EBRD (Apr. 1994) *supra* note 155, p 8.

¹⁵⁸ *Ibid.*

¹⁵⁹ Günther Vowinckel speaking at CEPMLP’s Friday Afternoon Lecture Series, 23 Feb. 1996.

¹⁶⁰ The EBRD does not however provide export credit guarantees nor undertake insurance activities, in order to avoid unnecessary duplication of services already on offer. Art. 12(4), “EBRD Agreement,” *supra* note 141. Loans can be made in any of the hard currencies (\$US, DM, ECU, etc.) and when made to a private commercial enterprise will not normally require host government guarantees and will be without recourse to foreign sponsors once the project has successfully passed its completion test. In this sense the EBRD is engaging in “project financing” as opposed to the “financing of projects” in that it is looking to the cash flows of the project for repayment — the latter category applies to unsecured loans made to a sovereign state for the financing of an infrastructure project. Loans for project financing will be set at a margin over London Interbank Offered Rate (LIBOR) on either a variable or fixed rate basis with loan maturities of 5 to 10 years being the norm (up to 15 years would be an exception) and grace periods being negotiable. Equity or quasi-equity may be undertaken by the EBRD where it expects to earn an appropriate return on its investment and has developed a clear exit strategy, in such circumstances their share shall be limited to a minority position. Because of the EBRD’s limited resources it does not seek long-term investments nor take a controlling interest nor assume responsibility for management of such companies. Guarantees can be provided by the EBRD to assist clients in gaining access to financing, however, the maximum exposure must be known and measurable and the credit risk needs to be acceptable.

¹⁶¹ Ibrahim F.I. Shihata, The European Bank for Reconstruction and Development: A Comparative Analysis of the Constituent Agreement, (London: Graham & Trotman, 1990): p 4.

Given its apparent advantages we now address whether the EBRD has been any more or less successful in supporting the petroleum sector of the FSU in comparison to the efforts of the World Bank and the IFC.

Figure 5.4 Eligible Uses, Recipients & Instruments of EBRD Financing¹⁶²

ELIGIBLE USES	PROJECTS OR PROGRAMMES FOR INFRASTRUCTURE		PROJECTS OR PROGRAMMES	
	MEMBER COUNTRY	PUBLIC SECTOR ENTITY	STATE-OWNED ENTERPRISE OPERATIVE COMPETITIVELY OR IN TRANSITION TO PRIVATE OWNERSHIP	PRIVATE SECTOR ENTERPRISE
EBRD's FINANCING INSTRUMENTS				
EBRD Loans for its own account	Yes	Yes, normally with member country guarantee	Yes, possibly with member country guarantee	Yes, without member country guarantee
EBRD Loans for account of cofinanciers ("Lender of Record Syndication")	Undecided	Undecided	Undecided	Yes, without member country guarantee
Participation of Loans of Others	Yes, but conditions to be decided	Yes, but conditions to be decided	Yes, but conditions to be decided	Yes, but conditions to be decided
Investments in Equity Capital	No	No	Yes	Yes
Investments in Equity Issues	No	No	Yes	Yes
Guarantees and other forms of credit support including underwriting of debt issues	No	No	Yes, possibly with member country counter-guarantee	Yes
Technical Assistance - Grants	Yes, but only from Cooperation or Special Funds	Yes, but only from Cooperation or Special Funds	Yes, but only from Cooperation or Special Funds	No
Technical Assistance - Loans	Yes	Yes, normally with member country guarantee	Yes, possibly with member country guarantee	Yes, without member country guarantee

5.2.3.3 EBRD support for Petroleum Operations in the FSU

In early 1994, the EBRD's Natural Resources Group reasoned that they faced two key challenges: firstly, to demonstrate to policy makers of the transitional economies the value of and need for foreign investment; and secondly, to demonstrate to western investors the EBRD's real ability to arrange financing and to share risk in this area.¹⁶³ The attainment of either goal would be predicated by the emergence of a growing portfolio of successful projects. The EBRD's petroleum related activity commenced in 1991 with the approval of a \$12.5 million loan to the Parker Drilling Company of the US for the purpose of building three drilling rigs to be used under contract to the White Nights JV.¹⁶⁴ Subsequently, the annual level of approved projects rapidly rose to a peak of \$404 million by the year 1993 (see Figure 5.5).

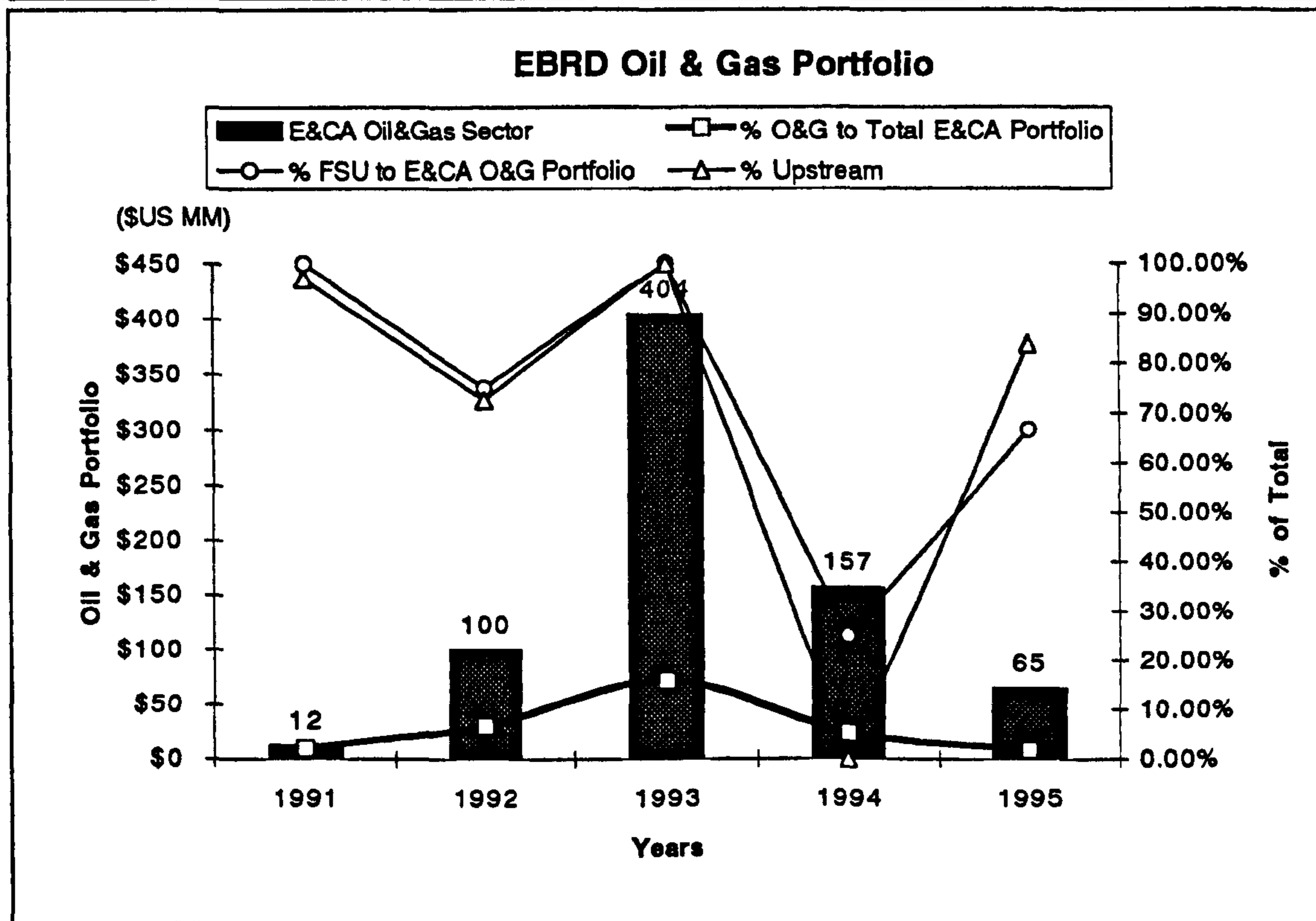
Whereas as the EBRD's overall portfolio of approved projects increased by a factor of 5 during the period 1991 to 1993; the value of oil and gas approved projects increased by a factor of 34 over the same period. During this early period the EBRD adopted a philosophy consistent with most policy makers and investors by rationalising that the oil and gas sector would be an easy target for western credits. The reasoning appeared sound: a massive reserve base, an obvious need for modernisation and a product which could be readily sold on the world market for hard currency (i.e. the same logic applied in the foundation of the European Energy Charter). However, few fully appreciated the depth of the oil industry's predicament, nor more importantly, foresaw the length of time it would take to install a rational and workable regime for foreign investors.

¹⁶³ EBRD Natural Resources Group (1994) *supra* note 152, p 1.

¹⁶⁴ EBRD Annual Report 1991, p 109.

Figure 5.5 EBRD Oil & Gas Financing¹⁶⁵

Year	1991	1992	1993	1994	1995
Exchange Rate (\$/ECU)	1.3409	1.2109	1.1157	1.2264	1.2826
Total EBRD Portfolio					
No. of Approved Projects in E&CA	16	54	91	109	134
Value of Approved Projects (ECU MM)	427	1,226	2,276	2,409	2,855
Value of Approved Projects (\$US MM)	\$573	\$1,485	\$2,539	\$2,954	\$3,662
E&CA Oil&Gas Sector					
No. of Oil&Gas Sector Projects in E&CA	1	4	4	4	3
Value of Oil&Gas Sector Projects (ECU MM)	9	83	362	128	50
Value of Oil&Gas Sector Projects (\$US MM)	\$12	\$100	\$404	\$157	\$65
FSU Oil&Gas Sector					
No. of Oil&Gas Sector Projects in FSU	1	3	4	1	2
Value of Oil&Gas Sector Projects (ECU MM)	9	60	362	10	42
Value of Oil&Gas Sector Projects (\$US MM)	\$12	\$73	\$404	\$12	\$54
Upstream					
Value of Upstream O&G Projects (ECU MM)	9	60	362	0	42
Value of Upstream O&G Projects (\$US MM)	\$12	\$73	\$404	\$0	\$54
Percentages					
% No. of O&G Projects to E&CA Portfolio	6.25%	7.41%	4.40%	3.67%	2.24%
% Value of O&G Projects to E&CA Portfolio	2.17%	6.77%	15.92%	5.31%	1.76%
% No. of FSU to E&CA O&G Portfolio	100.00%	75.00%	100.00%	25.00%	66.67%
% Value of FSU to E&CA O&G Portfolio	100.00%	72.63%	100.00%	7.66%	83.70%
% Value of Upstream in O&G Portfolio	96.98%	72.63%	100.00%	0.00%	83.70%



165 EBRD Annual Reports 1991, 1992, 1993, 1994 and 1995; EBRD, Natural Resources Group, "Progress Update for Oil and Gas Mining and Chemical Projects," Oct. 1995; and EBRD, Natural Resources Group, "Quarterly Update: Oil & Gas, Mining and Chemicals (1st Quarter, 1994)," Mar. 1994.

The practical result of this miscalculation is that the “Boom” everyone expected has never materialised and this is reflected in the EBRD’s portfolio of approved projects. After peaking in 1993, EBRD approved oil & gas financing fell to \$157 million in 1994 and \$65 million in 1995, thus resulting in a clearly identified bell-shaped pattern of approved projects. The left hand side of the bell (1991-1993) represents the time period during which optimism towards the FSU’s oil and gas sector prevailed, although it is likely that even by 1993 some of the projects being approved were carried through by their own momentum. Whereas the right hand side of the bell (1993-1995) represents the time period during which a much more sombre assessment of the oil and gas sector emerged. It is not that region’s geological potential had somehow dramatically worsened, only that investors have begun to understand the difficulties (i.e. risks) associated with political and economic environment in which the industry is embroiled.

As to the composition of the EBRD’s portfolio of approved projects, the data in Figure 5.5, show that apart from the year 1994, upstream investments have accounted for greater than 70% of the approved projects. A natural consequence of this strategy is that the geographical location of the EBRD’s oil and gas portfolio of approved projects resides overwhelmingly in the FSU (i.e. where the reserves are located), namely the Russian Federation, as opposed to Eastern Europe. The anomaly year appears to be 1994 which was largely influenced by a combined loan and equity financing of \$89 million for Slovnaft a.s. in support of its privatisation programme and modernisation of its retail petrol service station network. A full summary of all confirmed and unconfirmed EBRD financed oil and gas projects is found in Appendix D.5.

The preceding analysis requires some qualification as it is based entirely on the level of approved projects (i.e. those which are identified as such in the EBRD’s annual reports). However, this is only the first stage of the loan process which if carried through to a successful conclusion, would be followed by signing and the satisfaction condition precedents before actual disbursement can begin. Therefore, even if the EBRD approves

financial support for a given project, there is no assurance that the loan will actually materialise. The difficulty we face then as an external analyst is that EBRD project specific disbursement data is confidential. So our analysis based on approved projects requires refinement, but due to the aforementioned data constraints we are unable to exactly quantify this refinement, although an approximation is feasible. According to the EBRD's 1995 Annual Report, the cumulative level of disbursement as of the end of 1995 stood at 26% of cumulative level of approved financing.¹⁶⁶ What we cannot know is how the oil and gas sector projects have fared in relation to this figure as they are just a component of the EBRD's overall portfolio. But assuming that the principle of proportionality holds, we deem it likely that of the cumulative level of approved EBRD oil and gas financing activity, \$738 million, only \$193 million has been disbursed to date. The following press reports provide anecdotal evidence supporting the claim of disbursement difficulties.

For instance the Chernogorskoye JV was to receive a \$40 million loan from the EBRD as part of an approved project financing package negotiated with OPIC on 15 December 1992. But in June 1994 it was reported that the EBRD, having disbursed \$11.5 million for the completion of the first phase, was at the time unwilling to release the remaining \$28.5 million.¹⁶⁷ The reason given was that as the limited recourse nature of the loan came into effect on 1 June 1994, (i.e. conversion took place), meaning that project sponsor guarantees dropped away leaving both OPIC and EBRD fully exposed in the case of default. Both the EBRD and OPIC were unwilling to continue disbursements until a reasonable tax structure was put in place which would allow the project to earn revenues sufficient to repay debt (i.e. a condition precedent built into the loan agreement). Similarly, Purneftegas, a subsidiary of Rosneft, has apparently refused \$80 million of the

¹⁶⁶ EBRD Annual Report 1995, p 2.

¹⁶⁷ "Time out in Chernogorsk," R.P.I., Jun. 1994, pp 59-60. *See also* "It's tentative, it's tiny, but its real lending to Russia," P.I.W., 25 Apr. 1994, p 3.

original \$174 million credit offered by the EBRD.¹⁶⁸ It appears that while institutions such as the EBRD may be able to mitigate the more traditional political risks, there is no assurance that they will be able to circumvent the hazards of an uncertain commercial environment. Another example involving the EBRD is their \$8 million loan to JKX Oil & Gas to support its Poltava production project in Ukraine. Approved and committed in April 1995, first disbursement did not occur until one year later, likely due to “...difficulties in concluding transportation and substitution arrangements...[which]...delayed commercial gas production until 1 October 1995.”¹⁶⁹ Achieving commercial production for a stated period of time is a normal condition precedent of any completion test used in project financing.

Therefore while the EBRD approved oil & gas financing of approximately \$740 million from its own account, their disbursement record has most certainly fallen well short of that mark. The practical consequence of this assessment is that it compromises their claimed catalytic role. Although estimated cumulative project costs of \$2.4 billion (see Appendix D.5.1) permit the EBRD to claim a multiplier effect of 3.2 (or 2.2:1), this appears overly optimistic given their disbursement record. The perception of the EBRD’s multiplier effect is further diluted when one considers that frequently, other providers of external credit are themselves MLAs or other official sources of credit such as ECAs or OPIC. Similar to the analysis provided for the IFC, we observe the total multiplier effect of official sources from the perspective of projects involving the EBRD is only 2.2 (or 1.2:1) assuming all approved projects go ahead. Unless, the underlying legal, fiscal, and political environment in which the oil and gas industry is situated improves, the EBRD like other MLAs will continue to experience disbursement difficulties so long as they choose to operate according to “sound banking principles”¹⁷⁰ as they must. These

¹⁶⁸ “Oilmen turn down foreign loans,” OMRI Daily Digest, No. 149, Part I, 2 Aug. 1996.

¹⁶⁹ JKX Oil & Gas plc Reports and Accounts 1995, p 7.

¹⁷⁰ Art. 13(i), “EBRD Agreement,” *supra* note 141.

findings are consistent with our previous examination of the 'self-financing' strategy as a means of risk management outlined in Chapter 4.

5.2.3.4 Summary of the EBRD

The EBRD, as the youngest and most flexible MLA, has proven itself to be the most active international financial institution in the oil and gas sector of the FSU. It has a comprehensive mandate through which to support the petroleum sector. Of the 16 oil and gas projects which have received board approval — 12 occur in the FSU and are predominantly in the upstream sector.

We began the previous section by stipulating the two objectives that the Natural Resources Group of the EBRD had set for themselves: namely to demonstrate the need for and value of foreign investment; and the Bank's ability to arrange financing and share risk. As the EBRD has demonstrated its ability to arrange and/or participate in western based financing packages for 16 approved projects the attainment of the both goals seem realisable. However, the success of many projects is still far from certain,¹⁷¹ as the EBRD's disbursement record, similar to all MLAs, is below expectations. If the EBRD is to operate according to sound banking principles it is not unrealistic to expect the EBRD to act otherwise in light of the current economic and political climate. This questions the theory that MLAs successfully perform the essential and often missing risk-mitigating function due to their supra-national status. With respect to the traditional political risks of expropriation or nationalisation, the theory appears robust, but when it comes to operating within the volatile legal, fiscal and political climate of the FSU, we believe the theory is dubious.

To what extent the EBRD will expand its FSU petroleum operations in the future is not known. At the aggregate lending level there is the issue of the EBRD's authorised capital

¹⁷¹ As of Aug. 1995 the only two oil and gas credits to be fully disbursed were the \$90 million loan to the Polar Lights JV and a \$9 million loan to the Vasyugan Services JV. See EBRD, Natural Resources Group, "Progress Update for Oil and Gas Mining and Chemical Projects," Oct. 1995.

base which was initially set at ECU 10 billion.¹⁷² By the end of fiscal year 1995 the EBRD had approved 368 projects (across all economic sectors) with Bank financing of ECU 7,853 million. But as the EBRD is mandated to a gearing ratio of one to one (i.e. the combined value of its loans, equity investments and guarantees are not to exceed its unimpaired capital, reserves and surpluses included in its ordinary capital resources)¹⁷³ its capital base was expected to be exhausted by the end of 1997,¹⁷⁴ thereby constraining any further lending to the level and timing of repayments from previous loans. Fortunately, the EBRD's proposal to double its capital base to ECU 20 billion was unanimously adopted by its shareholders at its annual general meeting on 15 April 1996.¹⁷⁵ Thus the Bank appears to have adequate resources to expand the financing of petroleum related activities until the year 2010. However, one cannot say unequivocally that the petroleum sector is the most efficient target for its limited resources (experience to date, suggests otherwise). Referring again to Figure 5.5, the right-hand tail end of the bell-shaped pattern of the EBRD's approved petroleum financing is unlikely to change until the systemic risks which have frustrated many of the efforts of foreign investors in this sector are resolved. If this occurs, it is likely that no-more than 10% (i.e. one billion ECU) of its additional capital base may be used to support the oil and gas sector. After all, in the peak year of 1993, oil and gas sector projects accounted for a maximum of 16% of the entire portfolio of approved projects for that year, but the average over the five year period is only 6%. The EBRD will continue to seek to "maintain reasonable diversification"¹⁷⁶ across industrial sectors and its 'first love' with the oil and gas sector is unlikely to be repeated. Further funds may well become available as previous loans are

172 Art. 4(1), *ibid.*

173 Art. 12(1), *ibid.*

174 Kevin Done, "Bank cast off its profligate image," Financial Times, 7 Mar. 1996, p 2.

175 "The EBRD's nuclear reaction," The Economist, 20-26 Apr. 1996, p 84. However, the structure of the new capital is to be different than from before: 22.5% will be paid in shares payable over eight years in equal payments of which 40% is in cash and 60% is in promissory notes; and 77.5% will be in 'callable shares'. See also Kevin Done, "West finds a formula to boost EBRD," Financial Times, 18 Mar. 1996, p 3; and "EBRD to have its capital doubled," Financial Times, 7 Mar. 1996, p 2.

176 Art. 13(v), "EBRD Agreement," *supra* note 141.

repaid, but with typical maturities of 5-10 years hence, this is unlikely to be a significant source of funds for the oil and gas sector over the near to medium-term future.

5.2.4 Overseas Private Investment Corporation (OPIC)

In contrast to the World Bank, IFC and EBRD, OPIC is not truly multilateral in the sense that it is a self-sustaining US Government agency, but it falls within our general category of official sources of financing. It is more bilateral in character and nationally oriented (with respect to clients) but has a very strong international remit (including that of the FSU/NIS) — its closest relational equivalent is probably Kreditanstalt für Wiederaufbau (KfW) of Germany. As OPIC's basic mission is to:

“finance and insure projects that have a *positive effect* on the U.S. economy, are *financially sound*, and promise *significant benefits* to the social and economic development of developing countries and newly emerging democracies,”¹⁷⁷

it warrants attention in this thesis. Its assistance may take the form of either project finance, political risk insurance, or facilitating equity capital for investments in emerging markets by guaranteeing long-term loans to private investment funds.¹⁷⁸

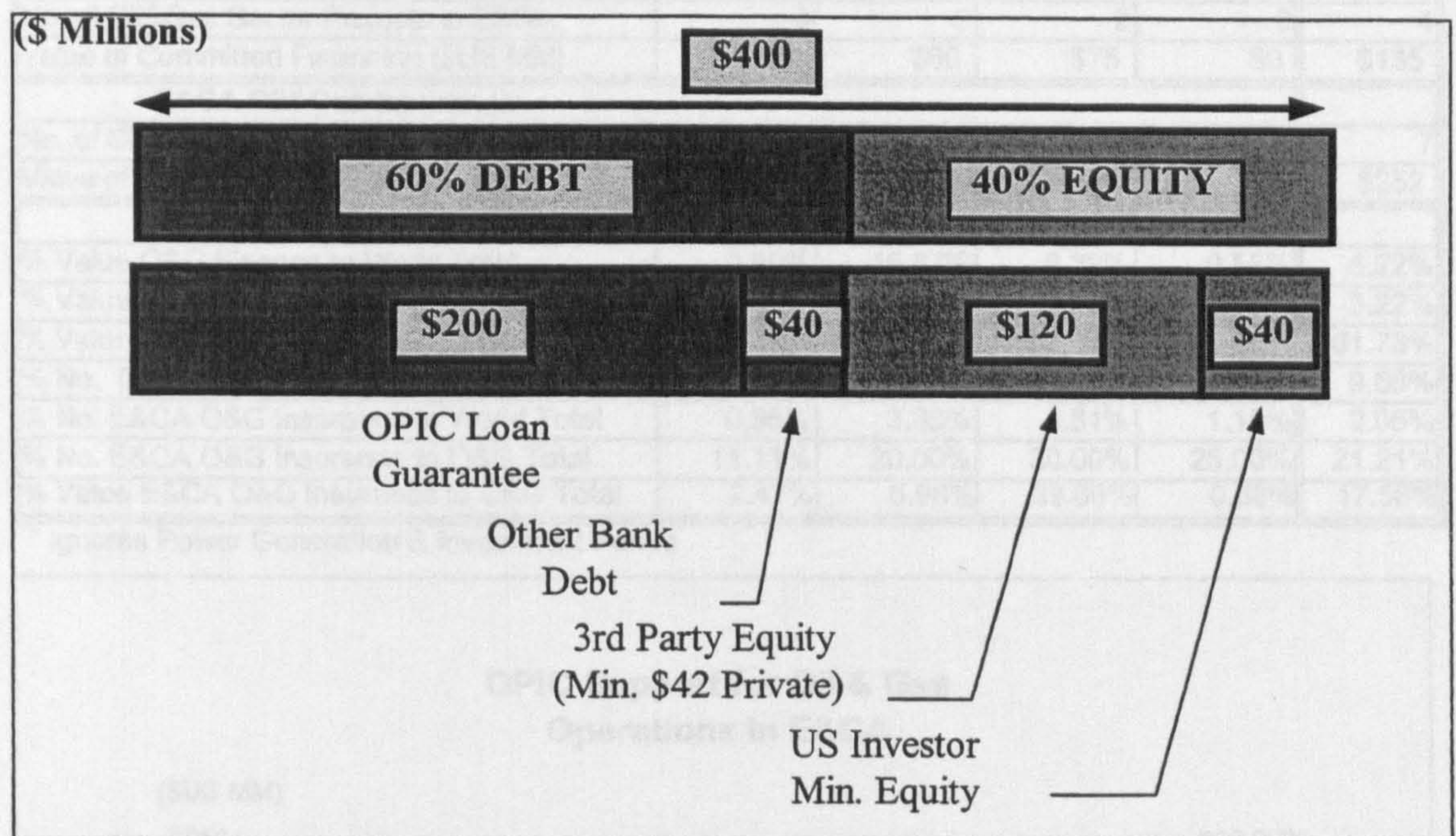
With regards to the first category, investment finance, OPIC may provide medium (5 years) and long-term financing (up to 15 years) for overseas investment projects through direct loans and loan guarantees. OPIC does not rely on sovereign guarantees and therefore financing is arranged on a project finance basis, but will not be available for projects which can secure adequate funding from commercial sources. It is not required that the foreign enterprise be wholly owned or controlled by US investors, but, as a rule 51% of the voting shares of the company must be in private hands. The US investor must assume a meaningful share of the risk which means a minimum equity purchase of 25%. The project is expected to maintain a debt equity ratio of 60/40 for which OPIC will

¹⁷⁷ Jim Williams, “OPIC Programs for the Oil and Gas Industry,” Paper presented to AIPN Annual Meeting, San Antonio, 12 Apr. 1996.

¹⁷⁸ OPIC 1995 Annual Report, pp 6-7; *see also* Harvey Himberg, “The view from the Overseas Private Investment Corporation (OPIC): Support to power projects in Asia,” Energy Policy, 23 (1995): pp 977-980; OPIC, “Programme Handbook,” Apr. 1994; and “The Overseas Private Investment Corporation,” P.F.Yb. (1992/93): pp 92-94.

provide up to 50% of the cost in the case of a new project and 75% of the cost in the case of an expansion project. Financing is not open to projects majority owned and controlled by foreign governments. OPIC's all risk loan guarantees which are only issued to US lending institutions are normally in the range of \$2 - \$25 million, although they may be as high as \$200 million in exceptional circumstances. Direct loans being much smaller (i.e. from \$0.5 - \$6 million) are reserved especially for small to medium sized companies. In summary, the largest greenfield upstream development project that OPIC could potentially finance in the FSU is a \$400 million dollar project (see Figure 5.6).

Figure 5.6 Maximum Greenfield OPIC Funded Project



OPIC has been moderately active in the FSU's oil and gas industry having provided either finance or insurance eleven times during fiscal years 1992 to 1995. However, as insurance and finance are sometimes provided to the same project but at different times, the actual number of projects supported by OPIC is only seven. Full listings of their confirmed and unconfirmed petroleum projects in the FSU are found in Appendix D.8.1 and D.8.2 respectively. Figure 5.7 details a comprehensive listing of comparative ratios to assess the number the annual level of OPIC support in the FSU.

The first feature to note is that over the past four years both OPIC's financing portfolio and insurance business have grown dramatically (the former increased world-wide by a factor of 6.5, whereas the latter has increased by a factor of 2.5). These changes reflect authorised increases in OPIC's statutory limits as amended in §235 of the Foreign Assistance Act of 1961, and specific NIS Assistance Packages.¹⁷⁹ Its world-wide oil and gas activities over the past four years have only averaged 3% and 2% of its total financing and insurance business respectively.¹⁸⁰ The importance of the E&CA region during the period 1992-1995 is demonstrated by the fact that OPIC financing and insurance has averaged 62% and 21% of OPIC's world-wide oil and gas financing and insurance activities respectively. However, the shape of Figure 5.7, suggests that OPIC too may have grown weary of its initial romance with the oil and gas sector in the FSU. This judgement may be tempered somewhat, as OPIC is to provide long-term loan guarantees in support of a number of regional investment funds which themselves could become another avenue for investment capital into the oil and gas sector of the FSU.¹⁸¹ The Russia Partners Company L.P. and NIS Major Project Fund L.P. (see Appendix D.8.1) are two pertinent examples. In fact the latter, approved in 1995 a loan of \$13.5 million to the UNOC JV between Caterpillar, National Oil Well and Uralmash to assist in the production of oil well equipment.

As approval is only the first stage in the life of a loan we must also look beyond the level of approved financial support and examine OPIC's actual disbursement record. But once

¹⁷⁹ As of 30 Sept. 1995 OPIC's authorised amount of political risk insurance was increased to \$13.5 billion from its previous level of \$9 billion, of which only \$2.5 billion of the new limit remained unused. While OPIC's statutory authorisation for loan guarantees was increased from \$2.5 billion to \$9.5 billion in 1995, these statutory ceilings do not apply to new commitments to the NIS in accordance with legislation which created the NIS Assistance Package. OPIC's committed loan guarantees from the NIS Assistance Package stood at \$524 million and \$700 million on 30 Sept. 1995 and 1994 respectively. OPIC Annual Report 1995, pp 34-35.

¹⁸⁰ Because OPIC's Annual Report does not provide a comprehensive listing of insurance policies only the single largest amount is reported, calculated insurance percentages are, except for the very last, based on the number of projects rather than the value of insurance cover. Thus, the bottom most calculation in Figure 5.7 is really the ratio of the sum of largest single coverage amounts in the oil and gas sector of E&CA region to the sum of the largest single amounts of coverage in OPIC's world-wide oil and gas operations.

¹⁸¹ When fully capitalised, OPIC's family of private investment funds could support \$2.4 billion of investment world-wide across all industrial sectors. OPIC Annual Report 1995, p 7.

again we are hindered because OPIC similar to the other MLAs does not release project specific disbursement data. Thus, we are limited to anecdotal press reports and any coverage provided in Annual Reports. According to our research the only official reference to OPIC's disbursement record is found in the Notes to Financial Statements in their 1994 Annual Report which stated that of the \$700 million in loan guarantees committed by OPIC as a result of the NIS Assistance Package, the entire amount remained undisbursed as of 30 September 1994.¹⁸² Unfortunately, the 1995 Annual Report does not contain a similar reference, but does mention that the committed amount had been reduced to \$524 million one year later.¹⁸³ But we also know that from press reports regarding the Chernogorskoye JV (see main text in §5.2.3.3, at note 167 above), that both the EBRD and OPIC were holding back further disbursements until a reasonable tax structure was in place to permit the JV to make a profit or at least break even. Certainly, none of this evidence is conclusive, but it does suggest that OPIC's efforts have been frustratingly below expectation in line with the experience of MLAs. Overall, OPIC's foray into the petroleum sector of the FSU remains modest, if not conservative.

5.2.5 MLA Summary

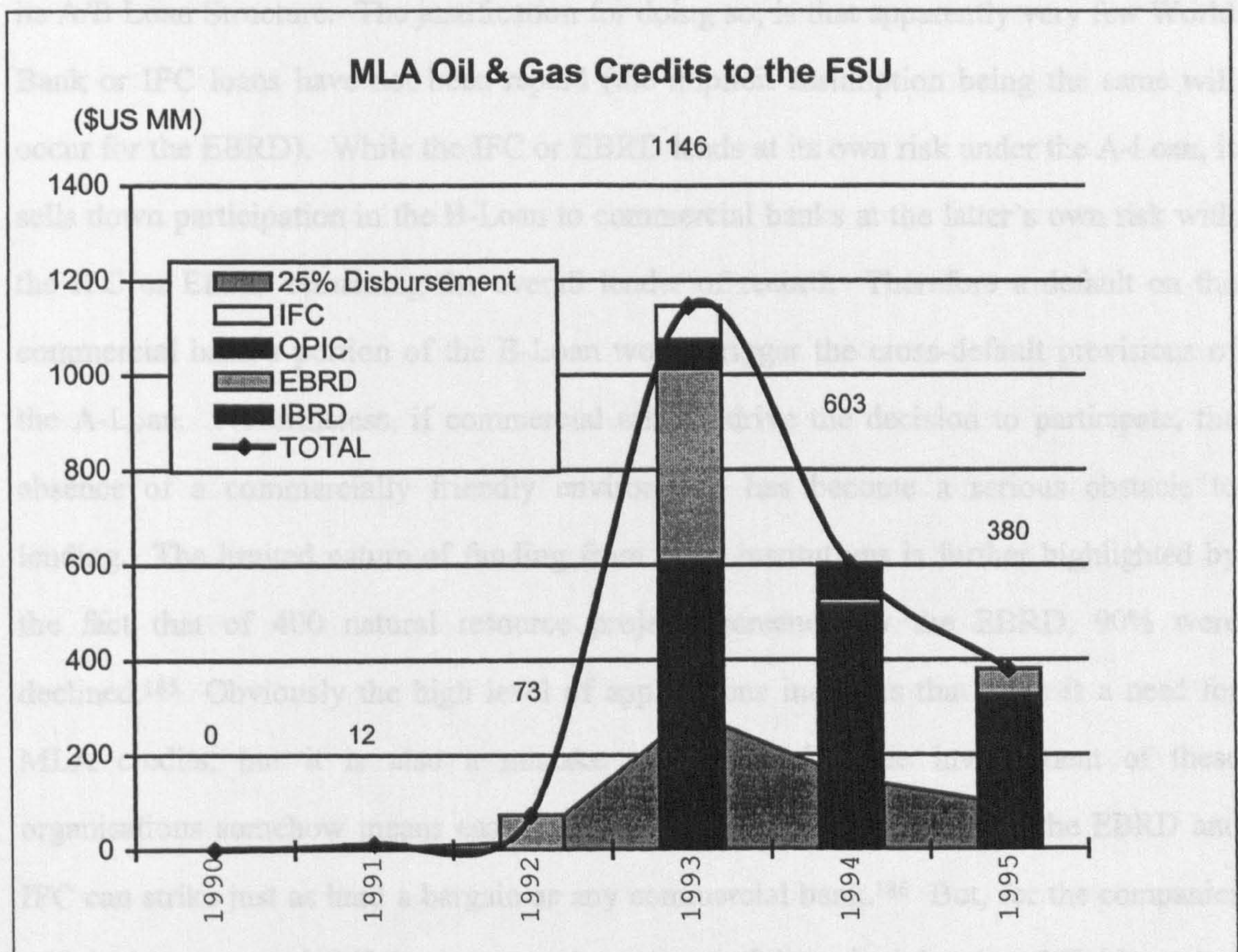
We have reviewed the activities and policies of the World Bank, IFC, EBRD and OPIC. Each has a clear mandate to support petroleum operations in the FSU, and all have pursued this goal with enthusiasm. While the IFC and World Bank have in the past supported pure exploration, credit support for such activities is now unfashionable and given the high level of private sector interest in the FSU probably not necessary. Overall the lending record of the MLAs and OPIC has been much lower than expected, and their initial enthusiasm for the oil and gas sector appears to be waning. The combined level of approved credits from all four institutions for the FSU (excluding now Eastern Europe) is found in Figure 5.8. The aggregate shape is more skewed than that of the EBRD's bell-shaped profile — indicating an overall rapid build-up but slower decline of approved

¹⁸² OPIC Annual Report 1994, p 35.

¹⁸³ OPIC Annual Report 1995, p 35.

credits. However, evidence suggests that even this modest combined total of \$2.2 billion has been hampered by a slow disbursement — our best estimate is that no more than a quarter to a third of these funds has been disbursed to date (i.e. \$550 - 730 million). Moreover, the aggregate catalytic effect of official financing appears lower than is suggested by each organisation's individual claims. Some observers suggest that the role of the MLAs is vital in assisting IOCs pursue investment in the petroleum sector of the FSU and their importance is increasing.¹⁸⁴ Our research on the other hand indicates that their role has remained quite modest.

Figure 5.8 MLA Oil & Gas Credits to the FSU



Note 1: As the World Bank's Second Oil Rehabilitation Loan was first approved in 1994 for \$500 million, and then increased to \$600 million in 1995, we have allocated \$500 million to 1994, and \$100 million to 1995 for the purposes of this graph.

We believe that as MLAs become increasingly bound by quasi-commercial (the IFC and the EBRD showing the strongest tendencies), the less capable they are of disbursing

credits in politically uncertain environments. That is MLAs find their disbursement process falling hostage to the same risks that are impeding FDI. This is not necessarily a bad thing, but their role is shifting to that of a quasi-commercial bank which enjoys an added layer of traditional political risk protection due to their multilateral status and political clout. If IOCs were faced by the sole risk of expropriation or nationalisation then the benefit gained by MLA support would likely be very warranted. But by choosing more stringent commercial criteria, their 'causality' role now seems less certain. If the commercial conditions satisfy the rigorous scrutiny of the IFC or the EBRD, then they are probably going to satisfy a commercial bank. Albeit, a commercial bank will be seeking to enjoy the theoretical protection of the IFC or EBRD umbrella by lending under its A/B Loan Structure. The justification for doing so, is that apparently very few World Bank or IFC loans have not been repaid (the implicit assumption being the same will occur for the EBRD). While the IFC or EBRD lends at its own risk under the A-Loan, it sells down participation in the B-Loan to commercial banks at the latter's own risk with the IFC or EBRD remaining the overall lender of record. Therefore a default on the commercial bank's portion of the B-Loan would trigger the cross-default provisions of the A-Loan. Nevertheless, if commercial criteria drive the decision to participate, the absence of a commercially friendly environment has become a serious obstacle to lending. The limited nature of funding from these institutions is further highlighted by the fact that of 400 natural resource projects screened by the EBRD, 90% were declined.¹⁸⁵ Obviously the high level of applications indicates that there is a need for MLA credits, but it is also a mistake to believe that the involvement of these organisations somehow means easy money. In practice the officials of the EBRD and IFC can strike just as hard a bargain as any commercial bank.¹⁸⁶ But, for the companies which choose to seek MLA support and are successful in obtaining it, a MLA's project seal approval, can provide a sense of comfort to the more cautious board members of

185 EBRD Natural Resources Group (1994) *supra* note 152, p 2.

186 Vinter (1995) *supra* note 87, p 105.

such companies. In other words, the MLAs are themselves recognised as providing a specialised function in terms of political risk assessment.

One area where the MLA involvement may prove beneficial is infrastructure projects. IOCs are interested in export oriented projects and unfortunately “transportation uncertainty” remains a serious obstacle to foreign investment especially in Central Asia (see Chapter 8). However, the majority of future pipelines schemes which are currently under consideration will require the participation of strong project sponsors, namely the ‘Major’ IOCs. If any MLA is to become involved, the presumption of causality must be rigorously assessed. Take for instance, the Caspian Pipeline Consortium (CPC) which intends to build a 1,440 km pipeline from Tengiz oil field in Kazakhstan to the Russian Black Sea Port of Novorossiysk. On 27 April 1996 Kazakhstan, Oman and Russia (the original members of the consortium) signed a protocol on a new project structure involving a 50% farm-in by IOCs.¹⁸⁷ The bulk of financing will now likely to be supplied by the group of western companies. There is the possibility that a portion of funds could be supplied by a MLA — the EBRD has openly expressed an interest. However, with the CPC having farmed-out a 50% interest to IOCs who make-up a formidable consortium of project sponsors, it is questionable whether the support of a MLA is still necessary. In fact, we believe the impetus for MLA participation, be it the IFC, World Bank or EBRD, is likely to come from MLAs themselves whom would relish the opportunity to lend to a project with such strong sponsor support. We feel it unlikely, that any of the ‘Major’ western partners will seek access to MLA funds, however, this does not necessarily apply to domestic entities. But as all MLAs are mandated to perform a catalytic role, their participation is not permissible if alternative commercial sources of debt are available. For example LUKoil, which now has a 12.5% stake in the CPC represents a potential recipient for MLA financing, but CS First Boston is reportedly willing to lend the necessary funds or LUKoil’s recent agreement with ARCO to form a

¹⁸⁷ Lowell Bezanis and Liz Fuller, “Caspian Pipeline Consortium Reborn,” *OMRI Analytical Brief*, Vol. 1, no. 91, 30 Apr. 1996; Sander Thoenes, “Russia agrees Kazakh oil pipeline,” *Financial Times*, 29 Apr. 1996, p 2; and “CIS: Caspian Pipeline,” *Oxford Analytica EEDB*, 26 Feb. 1996, p I.

joint venture may be another source of funds.¹⁸⁸ Rosneft, another Russian equity participant, but whose financial position is considerably weaker than LUKoil's, is a potential candidate for MLA support. However, Rosneft has too entered into an agreement to form a JV, this time with Shell, for the purpose of financing Rosneft's share of the costs.¹⁸⁹ Thus, even in infrastructure projects where the beneficial knock-on effect to the host countries is clearly evident, MLA support is not a foregone conclusion. In the case of the IFC, if it is

“...necessary for the [project sponsors] to seek other investors and lenders to piece together the financing package solely on the strength of the project...[then the] IFC has, and can play, several important roles.”¹⁹⁰

Perhaps this is why the portfolios of MLAs exhibited an initial strong emphasis on the petroleum sector, but as time goes by their operations are shifting to areas where their ability to act as a catalyst in mobilising additional sources of capital is enhanced due to a more investor friendly (and perhaps less controversial) industrial sector.

5.3 Export Credit Agencies (ECAs)

Another principal avenue of officially sourced financing is through the national Export Credit Agencies (ECAs) of western governments.¹⁹¹ ECAs possess three principal objectives: a) to provide an economic advantage (i.e. the encouragement of exports); b) to satisfy local political needs; and c) to assist the diplomatic aims of countries.¹⁹² In April 1993 the G-7 nations pledged \$28.4 billion of previously uncommitted aid to supporting reforms in Russia, \$10 billion of this amount was in the form of bilateral export credits and guarantees.¹⁹³ The political aims of such a package are self-evident, the West had to

¹⁸⁸ Under the agreement are ARCO is to provide \$3 billion over a period of 10 years for capital investments. “ARCO plans joint venture with Russia's LUKoil,” Reuters Textline, 25 Mar. 1996.

¹⁸⁹ “Russia: Shell to help Finance Caspian Oil Pipeline - Rosneft,” Reuters Textline, 14 Jun. 1996.

¹⁹⁰ IFC, “IFC Oil and Gas Policy Paper,” IFC/R92-221, 21 Dec. 1992, Para. 63.

¹⁹¹ For an in-depth discussion on ECAs in general see Isabelle J. Kayaloff, Export and Project Finance: A creative approach to financial engineering, (London: Euromoney Publications, 1988).

¹⁹² Stephen Parish, “Project Finance and the Role of Export Credit Agencies,” O.G.L.T.R. 13 (1995): p 222.

¹⁹³ Ebel (1994) *supra* note 139, p 95; and USITC (1993) *supra* note 139, p 5-3.

be seen to be doing something to support Russia's fledgling democracy, although Russia's brief "honeymoon with the West"¹⁹⁴ was already beginning to wane. Nevertheless, East-West co-operation was still a vote winner provided it would not burden western tax-payers too much. However, that bilateral exports credits were mistakenly touted as "aid" would fuel the frustration of FSRs when they sought such financing in the future. It seems the split personality of bilateral export credits (i.e. the political agenda vs. the economic agenda) are at times mutually exclusive. Following the dissolution of the FSU the overall political message being sent "was that we in the West want to help." But this should not detract from the fact that bilateral export credits are principally a means of promoting host-country exports and home country job creation:

"ECGD - the Export Credits Guarantee Department - is a Government Department, created in 1919 to *promote UK exports.*" (emphasis added)

¹⁹⁵

"The Export-Import Bank of the United States, an independent agency of the federal government, has one mission: to help the private *sector maintain American jobs* by financing exports." (emphasis added)¹⁹⁶

If the economic agenda is not assured within an acceptable degree of risk — export credits will not be forthcoming regardless of the political agenda. Conversely if the political agenda is not satisfied export credits no matter how attractive from an economic perspective may still be prohibited. Each ECA will have its own list of countries, typically stipulated by their home governments, which are considered "off-cover". Historically, the US Export-Import Bank (USEXIM) was restricted to an aggregate ceiling of \$300 million to the whole of the USSR (Byrd Amendment to the Trade Act of 1974) and was prohibited from providing loans or guarantees to the USSR's petroleum, natural gas, or other fossil fuel related industries (Stevenson Amendment to the Trade Act of 1974).¹⁹⁷ These restrictions played a key role in shelving the proposed North Star Joint Venture Project to transport LNG from the Urengoy Field in Western Siberia to the

¹⁹⁴ Jack F. Matlock Jr., Autopsy on an Empire, (New York, NY.: Random House, 1995): p 734.

¹⁹⁵ ECGD, "A Short Guide to the ECGD Facilities," July 1993, p 3.

¹⁹⁶ USEXIM Annual Report 1994, p 1.

¹⁹⁷ USITC (1993) *supra* note 139, p 4-1.

East coast of the United States in the 1970s.¹⁹⁸ During the cold-war the political agenda definitely subordinated the economic agenda. Following the dissolution of the FSU, the political agenda continued to receive more attention but in reality the underlying economic agenda is probably of greater importance. Export credits should not be considered 'aid' nor will they be offered on concessional terms. The paradoxical situation exists however in Azerbaijan in that despite the large presence of US-based companies with the explicit support of the US government, US export credit cover to Azerbaijan is prohibited. This is due to §907 of Title IX of the Freedom of Support Act of 1992 which penalises Azerbaijan's use of their blockade against Armenia due to the dispute over Nagorno-Karabakh. In all likelihood this provision was intended to placate Armenian Diaspora living in America (i.e. the local political consideration). Thus, while ECAs may be able to assist the flow of investment capital to the FSU, their accessibility is and will remain a function of host country economic advantages and political considerations.

ECAs have traditionally provided insurance cover (or guarantees)¹⁹⁹ to support the export of goods and services. Loans either made by the ECA itself or a commercial bank are guaranteed by the ECA against certain political risks in the presence of an unconditional repayment guarantee from the receiving country's central bank or ministry of finance (i.e. a sovereign guarantee).²⁰⁰ However, during the 1980s in response to a number of factors,²⁰¹ ECAs began experimenting with the a more proactive project financing

¹⁹⁸ Joseph T. Kosnick, Natural Gas Imports from the Soviet Union: Financing the North Star Joint Venture Project, (New York, NY.: Praeger Publishers 1975).

¹⁹⁹ For the purposes of our discussion on ECAs we make no distinction between insurance and guarantee although the legal consequences of the two do vary across legal jurisdictions.

²⁰⁰ Loans of this sort are governed by a set of rules known as the OECD Consensus which stipulate that: the credits can only finance up to 85% of the contract value, maximum period of repayment is ten years with repayments occurring every six months; repayments should start six months after the shipment of goods or the commissioning of the plant; and the minimum interest rate is set according to the official consensus matrix as stipulated by the OECD. "Arrangement on Guidelines for Officially Supported Export Credits," in Kayaloff (1988) *supra* note 191, pp 147-158.

²⁰¹ *Inter alia*: the deteriorating creditworthiness of many borrowers / importers; the desire of recipient countries' not to consolidate any of this debt into their official country debt figures; and the tightening of Western aid budgets.

approach to export finance. The USEXIM, JEXIM, EDC of Canada, and ECGD, among others established internal project finance divisions in order to evaluate, negotiate and commit project specific financing on a limited recourse basis. Until this revision the ECAs had not been willing to share in any of the commercial risks and had consequently required project sponsor guarantees for the entire term of the loan. Today however, ECAs could theoretically share in absorbing some of these risks. One important advantage for any participating commercial bank is that it could treat the guaranteed portion of the loan as sovereign debt of the ECA's home country. This means a lower risk rating for capital adequacy purposes for the guaranteed loan than would have been the case of a direct loan to the project vehicle itself, thereby lowering the cost of lending.²⁰²

Having reviewed some of the essential elements of ECAs, we shall now examine their usefulness as a source of finance for oil and gas investments in the FSU. Today ECAs are employing a much wider variety of financial instruments and packages than would have been possible twenty years ago. However, project financing packages imply by their nature very high vetting standards; the principal means of repayment is the cash flow from the project itself, not the guarantees, although the latter are still present during the pre-completion phase of a project. But unless the project is viable on a stand-alone basis — a perfectly reasonable criterion — export credits are unlikely to materialise. The current trend is not general “aid” to support political objectives, but rather ECAs are expected to run their operations “as a business, generating sufficient reserves to give the level of assurance of breaking even”²⁰³ The reality is that ECAs like the IFC or the EBRD are similarly constrained by their common quasi-commercial mandates, and as a result their efforts in the FSU, beyond the well publicised headlines, have been frustrated. As it is not practicable within the space of this chapter to detail the programme of each ECA, we shall concentrate our analysis on the activities of the USEXIM, and in particular

²⁰² *Infra* note 238 *et seq.* for further explanation.

²⁰³ ECGD, “A Short Guide to the ECGD Facilities,” July 1993, p 3.

its Oil and Gas Framework Agreement (OGFA). While the challenges USEXIM faces are indicative of all ECAs, it has exhibited the most enthusiasm and innovation through OGFA.

5.3.1 Export-Import Bank of the United States

The present day efforts of USEXIM in the FSU represent a return to its roots. It was founded in 1934 for the sole purpose of supporting US/USSR trade.²⁰⁴ Given the political implications of the end of the Cold War and the dominance of US-based firms in the international oil industry, USEXIM has been eager to respond, and like most external observers they initially perceived the oil and gas sector as an easy target for western credits. The two principal US statutory provisions preventing large scale official sources of financing — the Byrd and Stevens Amendments to the Trade Act of 1974 — were repealed by Joint Resolution of Congress on 1 April 1992 (four months after the dissolution of the FSU). As of December 1995, USEXIM's general programme for the NIS still consisted of: a) short to medium-term insurance, loan and guarantees secured by a sovereign guarantee in the case of Kazakhstan, Russia, Turkmenistan, Ukraine and Uzbekistan; and b) limited recourse project finance secured by the assignment of hard currency earnings, held in offshore escrow accounts, and other assets without recourse to the government in the case of Belarus, Kazakhstan, Russia, Turkmenistan, and Ukraine.²⁰⁵ In addition to the OGFA (to be discussed below) two additional programmes are currently available to Russia. USEXIM signed a Memorandum of Understanding with Gazprom that will eventually support the purchase of \$750 million of US goods and services. Russian commercial bank risk may be considered on an "exceptional case-by-case basis", thus far a \$15 million credit guarantee facility for medium-term financing by Tokobank has been initiated. Tokobank is a private commercial bank based in Moscow

²⁰⁴ Kayaloff (1988) *supra* note 191, p 2.

²⁰⁵ USEXIM, "Fact Sheet: Ex-Im Bank Guidelines for Financing US Exports to the CIS and Baltic States," Aug. 1995. Cover in the case of Armenia, Azerbaijan, Belarus (except for project finance), Georgia, Kyrgyzstan, Moldova and Tajikistan is not available. Limited recourse project financing facilities only become available after an umbrella Project Incentive Agreement (PIA) has been signed with the host country: PIAs have hitherto been signed with Russia (Dec. 1993), Belarus (Jan. 1994), Kazakhstan (May 1994), Turkmenistan and Ukraine.

which is actively involved in Russia's petroleum sector. Thus, the USEXIM is endeavouring to become an active participant in the FSU's oil and gas sector, but like most ECAs the availability of cover throughout the region is heterogeneous. Furthermore, if one looks beyond the headline press reports, we discover that once again progress has been much slower than initially anticipated — nowhere is this more vividly apparent than the OGFA.

5.3.1.1 Oil & Gas Framework Agreement (OGFA)

Conceptualised in 1992, the idea behind OGFA was very simple — to jump-start flagging production by expediently injecting western credits into those Russian oil and gas fields whose wells were increasingly becoming idle due to a lack of spare parts. However, its proponents recognised that it would be difficult for lenders to extend credit based solely on guarantees from either the Russian government or the nascent Russian commercial banking sector. While the USEXIM had received hundreds of applications for financing US exports to Russia under its various programmes, as of 1993 only 1% had ever received the necessary sovereign guarantees.²⁰⁶ Moreover, the reliability of such guarantees was questionable in light of the poor creditworthiness of the successor states of the FSU in general.²⁰⁷ Thus, an umbrella programme was devised whereby credits to the Russian oil and gas sector would be secured against hard currency payments for oil and gas deliveries in the future (i.e. essentially a production payment purposely limited to the assignment of the proceeds of sale rather than the oil itself).²⁰⁸ Under the Framework Agreement which was signed on 6 July 1993, the USEXIM pledged that it was:

²⁰⁶ Bill Hart Jr., "Suitable for Framing," *R.P.I.*, Nov. 1994, pp 68-69.

²⁰⁷ In fact the US GAO when asked to study this very problem concluded that "most, if not all, of the FSU successor states are not creditworthy, and all should be considered at least high risk from a creditworthiness perspective." US General Accounting Office, *Former Soviet Union: Creditworthiness of Successor States and US Export Credit Guarantees*, Report to the Ranking Minority Member, Committee on Agriculture, Nutrition, and Forestry, US Senate, GA0/GGD-95-60, (Washington, DC.: US GAO, Feb. 1995): p 3.

²⁰⁸ On the subject of production payments (US) or forward purchase of oil (UK) — both being project financing techniques adapted for the oil industry — see Uriel E. Dutton, "United States Techniques of Project Financing in the Oil and Gas Industry," *I.B.L.* 5(ii) (1977): pp 191-206; Peter Marriage, "North Sea Petroleum Project Financing in the United Kingdom," *I.B.L.* 5(ii) (1977): pp 207-224; and Geoffrey Lewis and Geoffrey Willoughby, "Production Payments in the United Kingdom," *Hous.J.Int'l.L.* 3 (1980): pp 51-65.

“...prepared to offer financial support of \$2 billion or more for transactions involving the export of goods and services of US manufacture of origin which will be used in the oil and gas, petroleum refining and gas processing sectors in the Russian Federation.”²⁰⁹

However, OGFA’s ambit is strictly limited to projects involving the rehabilitation or revitalisation of existing facilities. Support for greenfield projects would only be considered under USEXIM’ limited recourse project finance programme. No financing was to be provided by the Russian government and the Russian government was not to distribute any of the financing from USEXIM. Instead individual transactions would be set-up on a case-by-case basis between USEXIM, a Russian production association or refiner and a US equipment supplier. The Russian parties to the agreement (Ministry of Fuel and Energy, Ministry of Finance, and the Central Bank of Russia) committed themselves to providing USEXIM with the necessary assurances and actions that would permit individual transactions to proceed, and to monitoring transactions after disbursement. By doing so the USEXIM hoped to coalesce governmental support for the programme under one umbrella document. But the practicality of documenting such transactions in the Anglo-American tradition of contract law — whereby the lenders try to protect themselves from every eventuality — created a process which quickly ballooned into literally hundreds of pages of relatively of sophisticated financial commitments. Eugene Lawson, the then Vice-Chairman of USEXIM, provides the following explanation for the added complexity:

- Firstly, USEXIM had never attempted such an umbrella transaction before;
- secondly, the World Bank insisted on its involvement and the inclusion of a number of technical provisions and procedures;
- thirdly, the US Congress was leery about the size of the credits and prior congressional approval of any transaction by USEXIM in excess of \$100 million was a necessary;

²⁰⁹ “Russian Oil and Gas Framework Agreement,” reproduced in USEXIM, Handbook for Users of Financing Under Eximbank’s Oil and Gas Framework Agreement, (Washington, DC.: USEXIM, n.d.): pp 25-43. On file with author.

- lastly, the increasing level of corruption in Russia.²¹⁰

In short, by trying to satisfy the interests of all parties concerned, what started out as a very simple concept became increasingly complex. For instance, OGFA had to be designed to satisfy the criteria for the World Bank's negative pledge waiver (see §5.2.1.2.2.2). The optimism expressed by Russia's business community when the programme was first announced was to be replaced by extreme scepticism in the worst case to reserved caution at best. In the words of one Gazprom executive

“the US Eximbank has proposed to Russian borrowers a procedure which is too cumbersome. It requires too much documentation and the revelation of confidential information.”²¹¹

Perhaps, but this is the modern world of international banking and finance. This lack of common business language²¹² between the East and the West is an unfortunate reality, one which will take years, if not generations, to reconcile, and even then foreign credits will not be forthcoming unless adequate protections are in place. For the time being however, we are faced with a situation of two disparate extremes: a high risk investment environment from which commercial banks are naturally averse, and potential domestic clients who have little appreciation for the legal niceties of a credit agreement which runs hundreds of pages, but is necessary to codify the assurances sought by lenders. Some idea of OGFA's complexity is provided by the schematic shown in Figure 5.9. In hindsight, perhaps we can forgive its creators for producing such complex procedures and lengthy documentation. They were obviously under pressure to create a credit mechanism which could withstand the uncertainties of the Russian petroleum industry, but in so doing, the task of marketing OGFA to potential domestic clients became much more difficult as Russian companies were generally uncomfortable with its complexity and onerous commitments.

²¹⁰ Opening remarks by Eugene Lawson (President of US-Russia Business Council) on Day one of the Adam Smith Conference (1995) *supra* note 151.

²¹¹ “No Free Lunch Here,” *R.P.I.* Dec.1993/Jan.1994, p 65.

²¹² Eugene M. Khartukov and Tatyana P. Kulakova, “Pandora's Box of the Russian Petroleum Industry,” *OPEC Bulletin*, Sept. 1994, p 13.

It was not just Russian disillusionment of OGFA that was proving to be an obstacle. The Russian government's mandatory obligation that 50% of all hard currency revenues from exports be converted into roubles was, from the western perspective, a serious impediment. Considering the assignment of the product sales agreement was the cornerstone of OGFA's security package, an obligation to first convert half this amount to roubles was completely unacceptable. Since OGFA stipulates that incremental production must be able to generate dollar revenues in excess of 150% of debt service plus mandatory payments and fees,²¹³ a 50% mandatory hard currency conversion would at the extreme necessitate a cover ratio of 3:1 rather than 1.5:1.²¹⁴ Until such a time as the rouble becomes fully convertible and is internationally recognised as a stable currency such reasoning will prevail. Only in April 1995 did the Russian Government finally waive the commitment for those specific entities approved to receive funds under OGFA.²¹⁵ Similarly, the decision to impose a combined 23% VAT on both loans and equipment imports has proved equally contentious, until it was partially reversed (for loans only) in the summer of 1994.²¹⁶

²¹³ §6.01(b), OGFA in USEXIM Handbook *supra* note 209, p 36.

²¹⁴ Strictly speaking this is not really true because roubles can be instantly reconverted to dollars under current law at an insignificant loss — but the risk that this may not always be the case was one which Western creditors were not willing to assume.

²¹⁵ Decree No. 418, "On Support to Priority Investment Projects Financed Under the Russian-American Framework Agreement of July 6, 1993 for the Russian Oil/Gas Industry," 27 Apr. 1995 reprinted in B.R.P.M., 12 May, 1995, pp 5-6.

²¹⁶ *Supra* note 107.

On the western side, there was the added delay caused by the Board's difficulty in stipulating the criteria for determining who could be considered a suitable "creditworthy offtake purchaser" for the purposes of entering into the product sales agreement which is to be assigned as security for the loan guarantee.²¹⁷

Despite the underlying problems which plagued OGFA, its signing and subsequent approvals of individual transactions were announced with much fan-fare in the press. The preliminary commitment of \$500 million which was offered in July 1993 and designed to expedite the approval process, appears to have been fully subscribed by September 1994, when USEXIM signed agreements to support a combination of \$870 million of exports to Nizhnevartovskneftegas, Permneft, Tatneft, and Chernogorneft.²¹⁸ By February 1995, it was reported that USEXIM's Board had formally approved 11 different deals under OGFA which would provide financing in an aggregate amount exceeding \$1.3 billion.²¹⁹ A full account of USEXIM supported projects is found in Appendix D.6. Considering that one year later, Russia's Ministry of Fuel and Energy was reporting that a total of \$3.7 billion worth of loans were potentially on the table, one may get the impression that OGFA was becoming a resounding success. However, this was not the case: of this amount only 7 out of the possible 18 deals (which accounts for only 21% of the total value cited by MFE) have been signed; Tatneft reduced its original loan by almost 75%; Permneft has either cut its intended loan by about two thirds or has cancelled it altogether; and the first disbursement of funds under OGFA only occurred in October 1995 for Tomskneft to purchase a gas compression facility.²²⁰ One can now appreciate that the experience of the USEXIM is remarkably similar to that of the MLAs. And while a representative of Citibank in Moscow concluded upon the lifting of the 50%

²¹⁷ David R. Slade, "USEXIM Bank Financing for CIS Oil and Gas Projects," Paper presented to the Adam Smith Conference (1995) *supra* note 151.

²¹⁸ "Breaking the Ice," R.P.I., Nov. 1994, pp 66-70.

²¹⁹ Slade (1995) *supra* note .

²²⁰ "Chase closes Exim finance," E.E.E.Report, Oct. 1995, p 37; and USEXIM Annual Report 1995, p 14.

hard currency conversion obligation that “it would be difficult to see how the remaining obstacles [problems of tax and pipeline access] could prevent it [OGFA] from happening”²²¹ — such an assessment seems overly optimistic if not naive. With only one deal closed during the remainder of 1995, even the waiver of the 50% mandatory conversion obligation did not constitute the removal of the final obstacle, as everyone would have believed it would. When Permneft reportedly annulled its credit agreement in November 1995 it stated that because taxation would absorb such a large proportion of the loan, the company doubted the project would be financially viable.²²² Interestingly the preferential treatment OFGA has enjoyed since April 1995 was in effect neutralised in June 1996 when the Russian Government declared the rouble convertible for current account purposes by accepting Article 8 of the IMF Agreement and thereby alleviating all Russian exporters of the requirement to immediately exchange 50% of their hard currency earnings.²²³ If the hard currency conversion had been the sole obstacle to OGFA, then we should have witnessed a rash of disbursements during the past year, but this has not been the case. And now with full current account convertibility assured, theoretically the stated obstacle to OGFA has been completely eradicated.

We conclude that while OGFA represents an innovative and focused effort to make available a large pool of US-based export credits to the Russian oil and gas sector it has been bedevilled by the volatile regulatory and fiscal climate of Russia. It is not so clear cut as to say that western practices and standards of international banking and finance, and Russian business are immiscible. Rather there is a lack of appreciation by the latter towards the former. Furthermore Russian Production Associations are very much restricted by the environment in which they operate even though some are proving themselves to be the most learned students of capitalism. It brings us back to the point of

²²¹ “US Oil Loans Closer,” Capital Markets Report, 18 May 1995, p 4.

²²² “Permneft to Annual \$270 million credit from Citibank,” OMRI Economic Digest, 16 Nov. 1995.

²²³ However restrictions still exist with respect to capital accounts (i.e. limiting the ability of Russian companies to invest hard currency abroad). “Russia formally adopts rouble convertibility on current account,” OMRI Daily Digest, No. 107, Part I, 3 Jun. 1996.

whether exogenous efforts by the western governments or institutions are capable of circumventing the obstacles of the emerging markets both from the point of view of encouraging FDI and the availability of western credits. OGFA was an instrument for the latter, but for all the efforts undertaken the results hitherto have been a disappointment. OGFA remains a bilateral and hands on approach to encouraging the flow of western capital (through the use of export credits) as opposed the Energy Charter Treaty which is an international effort to provide a framework of investment protection and guarantees to encourage FDI in the energy sector. However, in our opinion, neither the hands-on approach of OGFA nor the more aloof Energy Charter Treaty has had the desired effect to date. However, some external observers do believe that OGFA offers some qualified benefits (in addition to attracting some criticism). Herman Mulder of ABN AMRO suggests that the European Union should consider its own European Private Investment Scheme (EPIS) which would combine the private sector orientation of OGFA (i.e. no direct sovereign guarantees) with the energy-import orientation of Japan.²²⁴ Given that OGFA has so far failed to deliver, there is ample reason for re-examining what is the optimal solution — for some the EPIS is one such possibility. But ultimately, we feel that there is a practical limit on what can be achieved in the interim as long as the FSU's investment climate remains volatile and unpredictable. The suggestion by Mulder that a Western European official entity should offer extended political risk guarantees beyond the traditional (ECA/MIGA) risk categories to include a stability clause covering taxes, ownership, contracts, fair dispute settlements, etc. essentially shifts the investment risk back on to western taxpayers (albeit in the form of guarantees which may or may not be called upon) — the very thing which the US Congress was anxious to avoid in the first place. In the case of European Union member states there may be more of a political impetus to assisting the FSRs (just as the Energy Charter Treaty began as a European

²²⁴ Japan typically provides financial support to projects which will improve her own energy situation by open up avenues to alternative sources of energy imports. Herman, Mulder, "European Energy Private Investment Scheme The need for a credible European Investment Program now." Paper presented to the CBI Conference on the Business Implications of the European Energy Charter Treaty, London, 14 Feb. 1995, p 7.

based initiative) given their closer proximity to the FSU, but this is not a foregone conclusion.

The crux of the issue lies in the distinction between aid and credits. As long as the West wishes to avoid the former, credits will only be extended where it is justifiable on a commercial basis and this appears to be the underpinning of USEXIM's philosophy as reflected by OGFA and their PIAs supporting limited recourse project financing. Unfortunately, such schemes are ultimately a hostage to underlying political and economic environments in which the project operates.

5.3.2 Other ECAs

Given the poor success of OGFA hitherto, it is worth examining the efforts other ECAs. Essentially, all programmes similar to OGFA are a form of pre-export financing as credits are extended with the intention of generating incremental production, a portion of which will be available for repayment. However, there are some notable differences in the approach of individual ECAs, recalling that the activities of a specific ECA reflect the political needs and goals of their host nation. Appendix D.7 provides a compilation of some of the more notable export credit deals (excluding the principal deals of USEXIM), and indicates that approximately another \$3.6 billion has been offered to the petroleum industry of the FSU. When considering multisourced projects (i.e. involving more than one ECA, and in this case the USEXIM) this figure rises to \$3.8 billion whose total projects cost is an estimated \$4.5 billion. The ratio of export credits to total project costs turns out to be 85% which is coincidentally the maximum permissible as stipulated by the OECD Consensus.²²⁵ However, such figures are at best an approximate, as they have been derived from press reports. Appendix D.7.2 also lists three additional unconfirmed export credit packages, two of which will provide another \$1.1 billion.

²²⁵ Art. 3, "OECD Consensus," Kayaloff (1988) *supra* note 191, p 147.

There has been criticism that the USEXIM's export credits from America can only be used to support expensively produced US goods and services. In comparison the Japanese Export-Import Bank (JEXIM) offers added flexibility via untied loans (i.e. loans are not tied to the procurement of goods and services from Japan) to foreign institutions for high priority projects and economic restructuring programs in developing countries.²²⁶ The most pertinent example being the proposed \$700 million loan from Mitsui to LUKoil and guaranteed by JEXIM for the purchase of production equipment — only 20% of goods have to be sourced from Japan.²²⁷ Signed in 1994 it was to be the first large commercial loan offered without a sovereign guarantee. Chevron agreed to purchase from LUKoil approximately 70,000 bopd for export over a period of eight years (180 MMbbls in total) and the proceeds from the sale are to be deposited by Russia's Imperial Bank, in which LUKoil has a stake, into an escrow account at the Bank of Tokyo Trust Co. in New York.²²⁸ As one can appreciate the mechanics of this arrangement are very similar to OGFA vis-a-vis the use of escrow accounts, a suitable offtake purchaser, etc. — the principal difference lies in their respective philosophies regarding the actual use of the credits. While the untied nature of Mitsui's loan makes it more attractive in theory, in reality it has succumbed to the same pitfalls of OGFA. As of April 1996 the deal had not closed due to the prohibitive nature of the high import duties. The success of these programmes has become conditional upon acquiring exemptions from the hostile tax regime. Unless the tax regime improves, exemptions remain a necessary fact of life, without which no progress will be made.

²²⁶ Most importantly eligible borrowers, include *inter alia*, foreign corporations designated by the Japanese Ministry of Finance, who meet the following criteria: corporations which assume operations that were previously executing by foreign governments; corporations that are in charge of electricity, gas, communication or transportation etc. provided that such designated corporations are limited to those in which a foreign government is involved regarding decisions of price of the product supplied or other important business matters; and corporations which execute operations contributing to the development of industry and economy utilising the expertise of a private enterprise provided that a foreign government and the private enterprise are both shareholders of the corporation. The Export-Import Bank of Japan, "Guide to the Export-Import Bank of Japan," Feb. 1994, p 21.

²²⁷ "LUKoil satisfied with Mitsui talks," E.E.E. Report, Dec. 1994, pp 18-19.

²²⁸ "Taxes for oil companies restrict Mitsui's \$700 million loan to LUKoil and Chevron Deal," Interfax Petroleum Report, 5-12 Apr. 1996, p 6.

The second notable feature of Appendix D.7 is the presence of pre-export financing deals, similar to Mitsui's, but using a regional focus in order to take advantage of their associated political leverage within the Russian Federation. Germany has been particularly active in promoting such a credit-barter type arrangement, for example with Tatarstan and Tyumen, with ongoing negotiations for a second agreements. The Tyumen-1 Credit Barter Arrangement is illustrative of such schemes.²²⁹ In order to support the economic development of the Tyumen region and to counteract steady decreases in the centralised budget, the Oblast's Administration was authorised to independently dispose of a portion of products produced locally. To this end a Special Trade Agreement was signed between the Tyumen Regional Government and the Republic of Germany in January 1993. In September 1993, Sibneftebank signed a Basic Agreement with Deutsche Bank for a credit of DM 290 million (≈\$590 million) to be repaid from the delivery of oil produced in the Oblast. An offtake contract was then concluded in November 1993 with the German firm Veba Oel. Although supported by Hermes and guaranteed by the Administration of the Tyumen Oblast on the basis of its large known oil reserves, the keystone that came from the Russian Government was the granting to the Oblast an export quota of 1 MMtpy for 3 years. We believe that the political leverage which regions can exert on the federal government may allow them to achieve the stability of conditions which permit such programs to go ahead as opposed to individual company deals. This feature is probably strengthened further as one moves towards the autonomous republics of Tatarstan and Bashkortostan.

5.3.3 ECA Summary

The ECAs of the West have been active in their pursuit of extending credits to the FSU. While their individual approaches vary, all essentially utilise a form of pre-export financing in which credits are extended to domestic producers in exchange for an assignment of future sales proceeds from creditworthy off-take purchasers into an escrow account. There does not appear to be a realistic alternative. However, export credits have

²²⁹ "Credit-Barter Agreement between the Tyumen Oblast and Germany," B.R.P.M., 28 May 1996, pp 3-4; and R.P.I. Dec.1993 / Jan.1994, p 46.

been subject to the same uncertainties that have plagued MLAs. Even the innovation of OGFA with its legal provisions against all eventualities has not proven that successful. Similarly, untied credits offered by JEXIM — which have clear advantages over OGFA — have remained beyond the reach of Russian oil and gas producers. Overall the provision of export credits on the scale first envisioned by the West in accordance with the G-7 pledge has been well below expectations. Should the FSRs provide the assurances and guarantees necessary then the export credits may materialise but this has a precondition: the unimpeded imports of foreign sourced goods and services. Host governments are undoubtedly being pressured by their own domestic manufacturing industry not to give any advantages to foreign equipment suppliers, but until a time that rouble based buyer and supplier credits are available on financially equivalent terms such a policy essentially prevents domestic enterprises from acquiring equipment from any other source. The choice is either to be penalised for using western export credits by onerous customs and import duties or charged exorbitant interest rates for utilising rouble credits from a very thin domestic market. Faced with such choices, it is understandable that domestic producers often choose to do nothing. A potential glimmer of hope, in the case of Russia, may lie with credit-barter arrangements of the type previously negotiated between Regional Administrations and Germany. Perhaps the regions themselves can exert greater political leverage on the Federal government in order to assure that the necessary conditions for project implementation are granted.

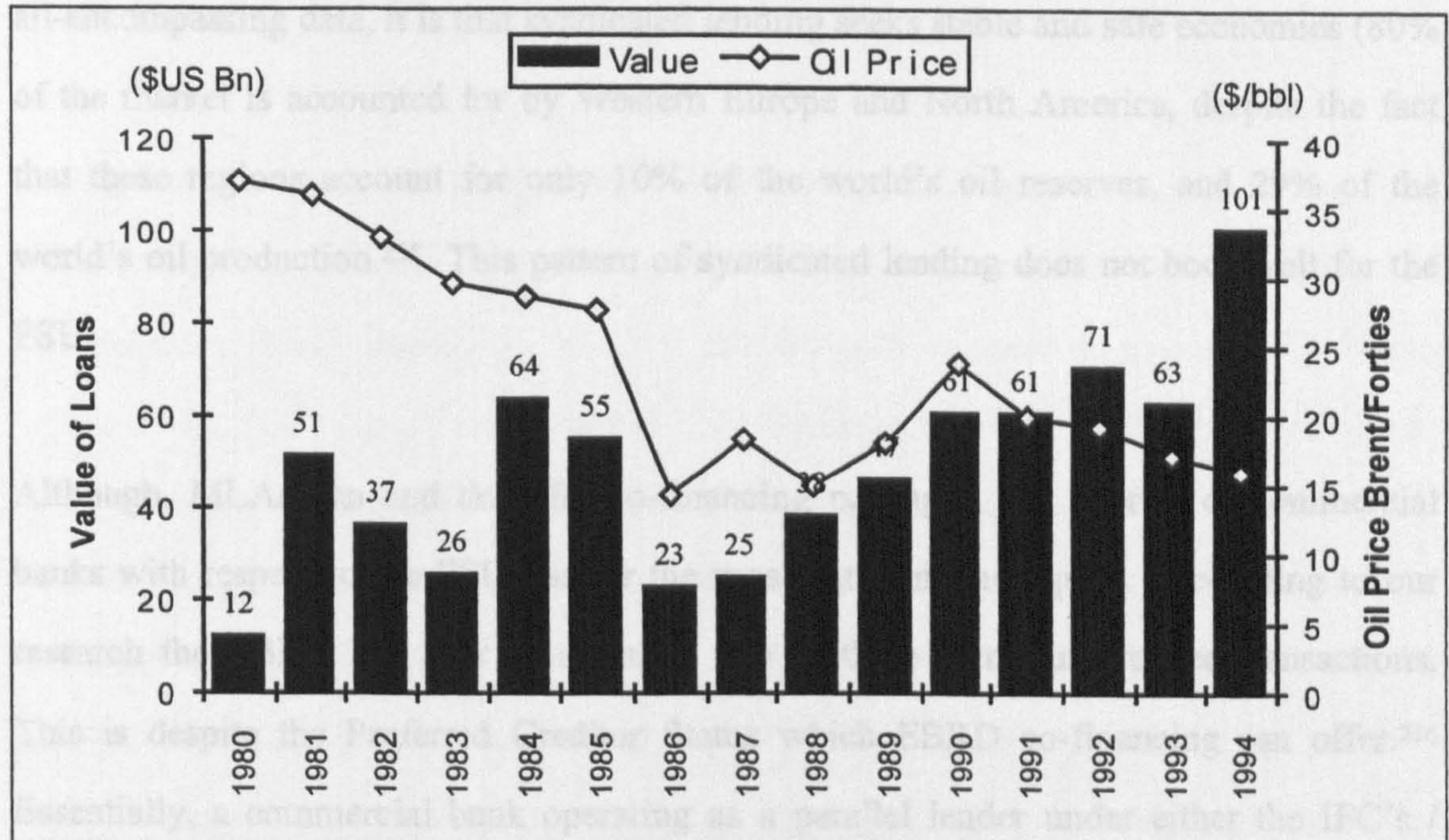
5.4 Commercial Bank Lending

Despite the preponderant use of internally generated cash flow by Major IOCs, the oil and gas industry has an established record as being a premier user of external capital in the international financial markets.²³⁰ As one moves away from the Major IOCs towards the Independents and then to the small upstream or E&P Companies the role of the syndicated debt market becomes increasingly important. Syndicated debt is a loan in

²³⁰ Petroleum Finance Company and Price Waterhouse World Petroleum Industry Group, Competition for Capital in the International Oil & Gas Industry, (New York, NY.: PIW Publications, Nov. 1995): p 25; Michael E. Humphries, "The competitive environment for oil and gas financing," Energy Policy, 23 (1995): pp 991-1000; and Petroleum Finance Company, Competition for Capital in the International Oil & Gas Industry, (Washington, DC.: PFC Ltd., Aug. 1993).

which a group of banks gets together to provide capital to the company on a pro rata basis under identical terms and conditions contained within a common credit agreement.²³¹ Usually such an arrangement will be one of the three following styles: corporate revolving credit facilities; working capital facilities, or project finance.²³² Figure 5.10, compiled from Euromoney's Loanware, presents a graph of the value of the syndicated oil and gas loans versus oil price for the years 1980-1994.

Figure 5.10 Syndicated Oil & Gas Loans versus Oil Price



Source: Euromoney Loanware as cited in Pavey (1994) *infra* note 234, pp 35-40; Nigel Pavey, "Borrowers never had it so good," *Petroleum Economist*, June 1995, pp 20-21; and Platt's as cited in *BP Statistical Review of World Energy*, June 1994, June 1995, p 12.

Compared to our earlier analysis of upstream capital expenditures (see Table 4.2) there is no overall correlation with the level of syndicated oil and gas loans and oil prices, although there exists a strong short-term correlation in relation to the 1986 oil price collapse.²³³ Given the aggregate levels of lending, one can appreciate that this is an important source of funds for the oil and gas industry. But, this data set has a wide remit and therefore should be treated with caution. Firstly, it includes financing for both

²³¹ Peter Wiseman, "Syndicated Facilities," in Terry (1994) *supra* note 85, pp 259-291.

²³² *Supra* note 230, PFC (1993) p 12; and PFC&PW (1995) p 29.

²³³ The correlation of oil prices with the value of syndicated loans produces a coefficient of -0.14521 for the years 1981-1994; 0.84185 for the years 1984-90; and 0.14376 for the years 1984-1994.

upstream and downstream sectors of the business. Secondly, the data set makes no distinction between oil and gas. Thirdly, and perhaps most importantly, is the regional breakdown of the world-wide lending levels. Euromoney has indicated that of the total \$907.6 billion in syndicated oil and gas lending during the period 1980-1993, \$558.8 billion (61.6%) was for North America, \$174 billion (19.2%) was for Western Europe, \$77.4 billion (8.5%) was for Asia, \$70.6 billion (7.8%) was for Latin America, and \$26.8 (2.9%) was for the Middle East.²³⁴ If one can make any generalisations at all from such all-encompassing data, it is that syndicated lending seeks stable and safe economies (80% of the market is accounted for by Western Europe and North America, despite the fact that these regions account for only 10% of the world's oil reserves, and 29% of the world's oil production.²³⁵ This pattern of syndicated lending does not bode well for the FSU.

Although, MLAs can and do offer co-financing packages, the interest of commercial banks with respect to the FSU has for the most part remained quiet. According to our research the EBRD has only co-arranged two to three petroleum related transactions. This is despite the Preferred Creditor Status which EBRD co-financing can offer.²³⁶ Essentially, a commercial bank operating as a parallel lender under either the IFC's / EBRD's B-Loan structure, or in a pre-export financing deal using a dedicated offshore escrow account as found under OGFA, would be exempt from the mandatory provisioning requirements imposed by their central banks.²³⁷ The effect of the latter

²³⁴ Nigel Pavey, "Energy Finance Markets: Keener pricing for the industry but only for top quality names," Petroleum Economist, June 1994, p 40.

²³⁵ BP Statistical Review of World Energy 1996, pp 4-6.

²³⁶ Under the EBRD's B-Loan structure — adapted from the IFC's similar technique — the EBRD lends on its own books under the A-Loan, but then sells down participation's to private sector commercial banks for all or a portion under a B-Loan. Because the EBRD remains the lender of record under such a structure for the entire debt, the project borrower has no-direct lending record with the commercial banks. On the subject of parallel lending under a B-Loan Structure *see* Vinter (1995) *supra* note 87, pp 104-105; David Slade, "New opportunities for project financing in Russia," P.F.I., 2 Mar. 1995, p 35; and Morais (1988) *supra* note 10.

²³⁷ Mulder (1995) *supra* note 224. In 1980's the Basle Committee — a forum for discussion by the international bank supervisors of the OECD jurisdictions — initiated work on improving the understanding of risks in the banking system and to developing objective supervisory standards. Their work culminated

regulations are to restrict the extent to which commercial banks can expand their risk taking activities, because of the opportunity cost associated with having a higher level of risk-weighted assets for which they are obliged to maintain a minimum level of capital resources as a provision against possible loss.²³⁸ While the agreement on capital adequacy established by the Basle Committee in 1988 is not a legally binding document nor does it constitute an international convention or treaty, each representative country has nevertheless committed itself to ensuring that the banks it supervises will meet the agreed minima capital adequacy ratios.²³⁹

In spite of the added advantages that MLA co-financing may offer, the commercial banking sector's continued wariness of the FSU is a function of their perception of political risk. It is a perception which is diametrically opposite to that of IOCs²⁴⁰ and explains why IOCs have flocked to the FSU while commercial banks have held back. IOCs, as equity investors, will enjoy in the upside of a successful project, a bank's profit is limited to a fixed margin over the cost of lending and they are therefore reluctant (and justifiably so) to take any down-side risk. Therefore, any attempt to draw a parallel between petroleum industry operations and a standard measure of political risk used by the commercial banking industry is practically meaningless. IOCs are driven by

in 1988 with a report on the "International Convergence of Capital Measurement and Capital Standards" which laid down, *inter alia*, standards for capital adequacy ratios and treatment of off-balance-sheet transactions. See Joseph J. Norton, "Trends in International Bank Supervision," in Joseph J. Norton and Raymond M. Auerback eds., International Finance in the 1990's, (Oxford: Blackwell Publishers, 1993): 72-73; and Joseph J. Norton, "The Work of the Basle Committee on Bank Adequacy and the July 1988 Report on International Convergence of Capital Measurements and Capital Standards," Int'l Lawyer, 12 (1989): pp 245-263.

²³⁸ The process is quite simple whereby the various categories of bank assets — both on and off-balance sheet — are assigned a risk weighting category (e.g. 100% for commercial loans, 0% for loans to OECD Governments, plus a number of stages in between). The amounts in each category are multiplied by their respective risk factors whose sum becomes the total Risk-Weighted Assets. The banks are then required to maintain a minimum capital base equivalent 8% of the total of Risk-Weighted Assets. John Willingham, "Principles of Lending—Part V," in Terry (1994) *supra* note 85, pp 196-199.

²³⁹ George Emir Morgan, "Capital Adequacy, in Peter Newman, Murray Milgate, John Eatwell eds. The New Palgrave Dictionary of Money and Finance, Vol. I A-E, (London: MacMillian Press Limited, 1992): pp 284 - 287; and Peter C. Hayward, "Basle Committee on Banking Supervision," in The New Palgrave Dictionary of Money and Finance, Vol. I A-E (1992): pp 185-188.

²⁴⁰ Jan R. Prins, "Energy Finance in the Emerging Markets," Paper presented to CEPMLP's Financing International Oil and Gas Operations — A Business Seminar, St. Andrews, Scotland, 18-19 Sept. 1995, p 8.

favourable geology and the applicable tax regime, unfortunately the former respects no political boundaries. IOCs continue to operate in some of the most inhospitable political climates in the world (e.g. Algeria, Angola, Myanmar, Nigeria, Russia, Yemen etc.), but not so in the case of commercial banks. For these reasons, it is illuminating to examine the relative position of FSRs as determined by standard country risk rating surveys that are regularly published.

5.4.1 Country Risk Rating Survey

The purpose of a country risk rating survey is to provide a comparative standing of individual countries with respect to the overall level of country risk exposure a foreign investor is theoretically exposed. Essentially, the concept of country risk can be divided into two components:²⁴¹ a) Political Country Risks which encompass the traditional political risks of war, nationalisation, expropriation, confiscation and any form of governmental interference, but also includes the risk of currency inconvertibility or restrictions on repatriation; and b) Economic Country Risks which provide a measure of the economic well being of a particular country which would affect a borrower's ability to repay debt and thus includes an assessment of inflation, currency devaluation and sovereign creditworthiness. For our purposes, we have chosen the survey published by Euromoney²⁴² which uses a weighted average methodology to compute an overall country risk rating for each country.²⁴³

²⁴¹ *Ibid.*, p 10. On the subject of Country Risk Assessment see Stocks, Michael. "Country Risk Assessment and Sovereign Debt Rescheduling." in Terry (1994) *supra* note 85, pp 471-509; "How to Rate a State," *Euromoney*, Sept. 1992, pp 61-70; John Calverly, Country Risk Analysis, 2nd ed. (London: Butterworths, 1990); and Charles R. Kennedy Jr., Political Risk Management, (London: Quorum Books, 1987).

²⁴² Other country risk rating services, not covered herein, are published by the Institutional Investor and International Country Risk Guide (ICRG).

²⁴³ *Economic Data* (25%) from Euromoney's global economic performance projections for the current and subsequent year; *Political Risk* (25%) by polling political risk analysts, risk insurance brokers and bank credit officers; *Debt Indicators* (10%) calculated from the World Bank's World Debt Tables; *Debt in Default or Rescheduled* (10%) based on World Bank's World Debt Tables; *Credit Ratings* (10%) from average of Moody's and Standard & Poor's sovereign ratings; *Access to Bank Finance* (5%) is taken from disbursements levels of long-term private debt as reported in the World Bank's World Bank Debt Tables; *Access to Short-Term Finance* (5%) is essentially a measure of available ECA coverage; *Access to International Bond and Syndicated Loan Markets* (5%) reflecting Euromoney's own analysis; and *Access to and Discount on Forfeiting* (5%) from data supplied by certain commercial banks. "Soft landing or recession?" *Euromoney*, Sept. 1995, p 306.

It should be understood that country risk ratings although presented in the form of a quantitative result is not an exact science as element of discretionary judgement is always present. As a result even the most strictly score-based systems possess both strengths and weaknesses²⁴⁴ and because investors are not equal (i.e. some are more risk averse than others) care must be taken when interpreting a final figure which is essentially a summation of many different factors. However, as a general indicator of the attitude of commercial banks, Country Risk Rating Surveys try to address three key questions: does the country have or is likely to develop a balance of payments problem; is this a problem that may affect bank debt servicing; and what are the chances of the government implementing corrective policies?²⁴⁵

Clearly, the successor states of the FSU which are undergoing profound changes in social, economic and political spheres will rank very poorly on a scale measuring country risk. Figure 5.11 illustrates just how poorly the region has ranked over the past five years. For comparison purposes, countries such as the United States, Switzerland, Luxembourg, the Netherlands and Japan have typically jostled for the top three positions whereas Iraq is ranked consistently near the bottom. One of the most dominant features of this illustration is dramatic worsening of the perception of the USSR during 1991 and the further decline of Russia afterwards.²⁴⁶ For reasons of simplicity, we have chosen to present the Baltic States and the 12 CIS member states in smaller regional groupings. The three Baltic States rank more favourably than any of the other areas with either Russia or NE Central Asia being the next most favourable area. In fact both Uzbekistan and Kazakhstan have been ranked more favourably than Russia since 1993, the latter's

²⁴⁴ Caverly (1990) *supra* note 241, pp 161-168.

²⁴⁵ *Ibid.*, p 152.

²⁴⁶ Given the size of Russia, it is somewhat simplistic to confer a rating which applies the country as a whole. Indeed, the Moscow University, has published an investment risk survey but on an intra-Russian level. See Eugene M. Khartukov, "Investing in Russia' Oil and Gas: Fiscal Terms, Risks and Rewards," *O.G.L.T.R.* 12 (1994): p 123 citing *Predprinimatel'sky klimat v Rossii*, Moscow University, 10 May 1993. Interestingly enough, even in 1993, this survey rated the North Caucasus, which includes the Chechen Republic, as the least favourable area within the whole of Russia. Acknowledging events of the autumn of 1994 in which Russian forces entered into open conflict with Chechen Rebels this prescient assessment seems quite justified and gives some credence to risk rating surveys.

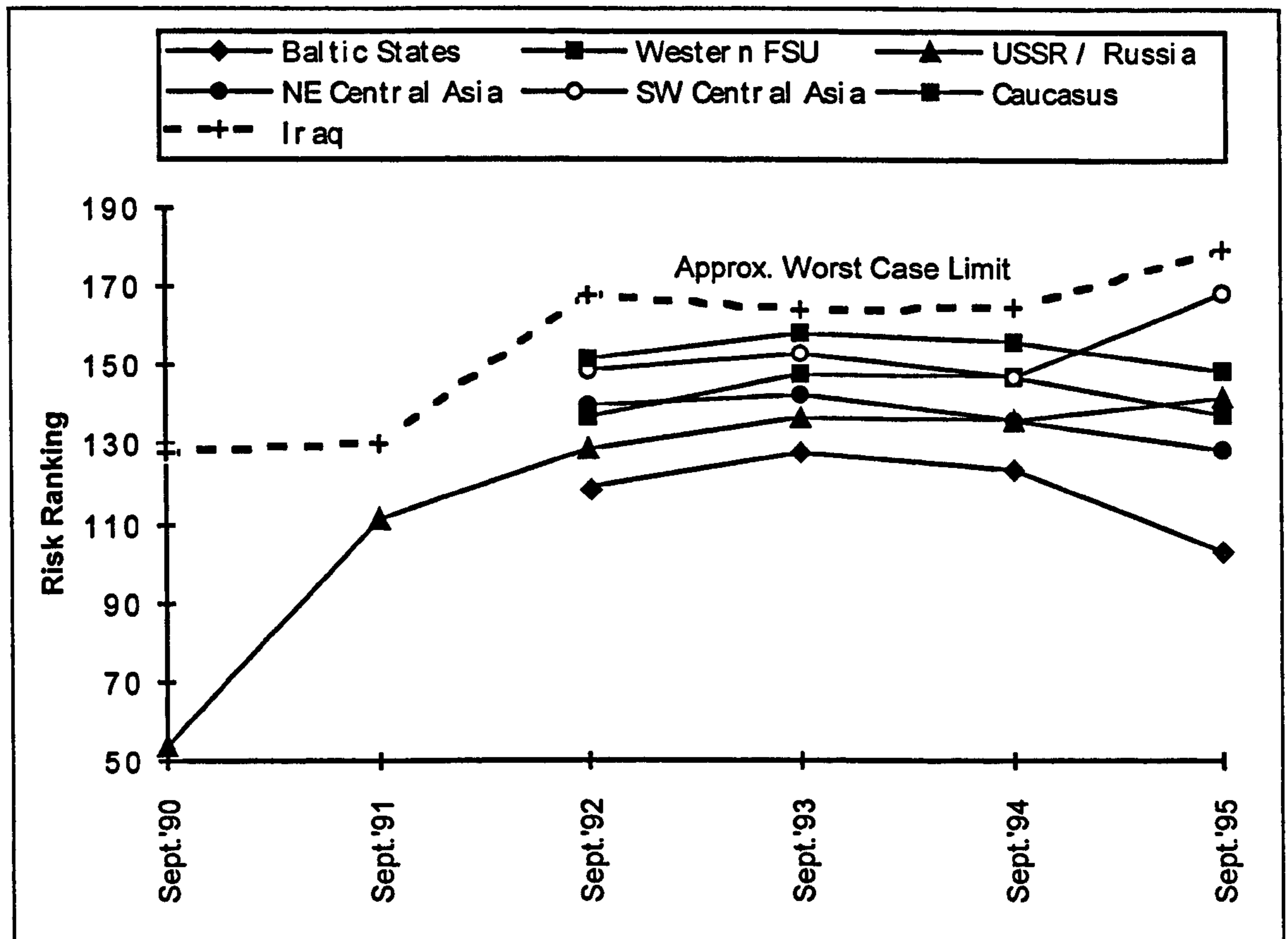
ranking very much influenced by the country's positive attitude towards foreign investment and the dominant central authority of its President, Nursultan Nazerbayev. At the other extreme, we find SE Central Asia and the three Caucasus states of Armenia, Azerbaijan and Georgia.²⁴⁷ The position of the latter grouping is heavily influenced by the fact that Armenia and Azerbaijan are engaged in a protracted war-cum-fragile cease-fire over Nagorno-Karabakh, an Armenian populated enclave in Azerbaijan, while Georgia itself is suffering from political instability in Abkhazia and South Ossetia. The ranking of SE Central Asia has been poor due to ethnic tensions in Tajikistan and associated cross-border conflicts with Afghanistan. The final classification, called Western FSU (Ukraine, Moldova and Belarus) generally ranks somewhere in the middle. In sum, the average ranking of CIS member states in 1995 stood at 144th with Kazakhstan being the most favourable at 108th,²⁴⁸ while the average ranking of the Baltic States was 103rd. Obviously, one could go into great detail in explaining the individual rankings of each year, but that is not really necessary. It is enough to appreciate the highly uncertain nature of these emerging economies and that the once held belief that "...the most stable regime [in 1983]...is probably that of the Soviet Union, and for that reason the Soviet Union is regarded as a perfectly acceptable political risk in banking terms"²⁴⁹ could not be further from the truth today.

²⁴⁷ Although in fact Armenia's individual position had risen to 122nd in 1995 from 162nd in 1994. For analyses of the geopolitical complexities plaguing the region see Jonathan Aves, Georgia, From Chaos to Stability, (London, RIIA, 1996) and Shireen T. Hunter, The Transcaucasus in Transition Nation-Building and Conflict, (Washington, DC: CSIS, 1994); Jonathon Aves, Post-Soviet Transcaucasia, (London: RIIA, 1993).

²⁴⁸ The 1995 individual rankings of each country was as follows: Estonia (76th); Kazakhstan (108th); Latvia (116th); Lithuania (118th); Armenia (122nd); Belarus (134th); Turkmenistan (136th); Ukraine (138th); Moldova (141st); Russia (142nd); Uzbekistan (143rd); Georgia (151st); Kyrgyzstan (161st); Azerbaijan (175th); and Tajikistan (176th).

²⁴⁹ G. Miller (Chairman, Morgan Grenfell Energy Services Ltd., 1983) cited by Hasan Zakariya, "Political risk insurance in petroleum investment," in Petroleum Investment Policies in Developing Countries, Nicky Beredjick and Thomas Wälde Eds. (London: Graham & Trotman, 1988): p 207.

Figure 5.11 Country Risk Ranking



Source: "Country Risk," *Euromoney*, Sept. 1991, 1992, 1993, 1994 and 1995.

¹ For 1990 and 1991 the rating is for the USSR, 1992 onwards it is the Russian Federation alone. The Baltic States consist of Latvia, Lithuania and Estonia. Western FSU consists of Ukraine, Moldova and Belarus. Central Asia has been divided into two groupings: north-east Central Asia consisting of Kazakhstan, Turkmenistan and Uzbekistan; and south-east Central Asia consisting of Kyrgyzstan and Tajikistan. Caucasus combines Armenia, Azerbaijan, and Georgia.

² Iraq's ranking, shown for comparison, approximates the worst ranked country in the years shown.

³ The upwards shift between 1991 and 1992 is also a function of more countries being included in the survey as a direct result of the dissolution of the USSR and certain countries in Eastern Europe.

Perhaps the most telling indicator of the commercial banking sectors unwillingness to provide capital is highlighted by the Access to Bank Finance category in *Euromoney's* weighted average country risk rating. In their September 1995 survey, all 12 CIS member states and the three Baltic Republics were assigned a value 0, (with the exception of Ukraine which received a score of 0.04) on a scale of 0 to 10 where a score of 10 is enjoyed by OECD member countries. The harsh reality is that western commercial bank financing remains beyond the reach of the FSU's petroleum industry, despite the few exceptional circumstances under which lending has been achieved through official co-financing programmes. Country risk remains a major obstacle to mobilising large-scale commercial credits.

According to the views of one bank the following three essential preconditions must be met before commercial debt financing will be available:²⁵⁰ increased political predictability; successful renegotiation of past Soviet debt;²⁵¹ and the general recognition that financial contracts impose certain rights and binding obligations on the parties and in the case of default by the borrower remedies are available which are enforceable law. Arguably progress has been made on all three fronts, but as the Access to Bank Finance measure above attests, the FSU still has a long way to go.

5.4.2 Political Risk Ranking of the World's Oil Reserves

To further explain the differing attitudes towards the FSU between commercial banks and IOCs we have constructed a Political Risk Ranking of the World's Oil Reserves by combining the distribution of world oil reserves as of the end of 1994 with Euromoney's September 1995 country risk rating. The reserve distribution was then sorted in a descending order of country risk ratings (i.e. from the most favourable to the least favourable) and presented in groupings of ten.²⁵² Furthermore an assumption was made as to whether the oil reserves were accessible to western oil companies (i.e. Open) or whether they were not (i.e. Closed). A summary of the results is found in Figure 5.12 while individual country details are reproduced in Appendix E including a full page graphical representation. The columns represent the percentage of world oil reserves

²⁵⁰ "What Bankers Want Before Lending to Russia," P.I.W., 22 Feb. 1996, p 9.

²⁵¹ In 1993 the FSRs (excluding the Baltic States) signed an agreement whereby Russia assumed full responsibility for the external hard currency debt of the USSR, in exchange for the other successor states forgoing any claims on assets located within the territory of the Russia. As of beginning of 1996 Russia's external debt stood at \$120.4 billion of which \$103 billion was ex-USSR debt, including \$20 billion to former COMECON countries, and \$17.4 billion of debt acquired since 1992. In April 1996 the Paris Club of creditors agreed to reschedule Russia's official debt, while the November 1995 preliminary rescheduling agreement with the London Club of creditors has yet to get into effect. For discussion on the history of ex-Soviet debt and Russia's negotiations with both the London and Paris Club of creditors for its rescheduling see "Agreement with London Club is Likely to be Implemented," OMRI Daily Digest, No. 157, Part I, 14 Aug. 1996; George Bowley, "Russian debt deal ready for creditor banks," Financial Times, 2 May 1996, p 2; "Russia set to raise funds overseas after debt deal," Financial Times, 17 Nov. 1995, p 18; Russian Economic Trends, Vol. 5., No. 1 (1995): pp 93-94; US GAO/GGD-95-60 (1995)*supra* note 207, pp 58-80; Economic Bulletin for Europe 47 (1995): pp 106-107; and Economic Bulletin for Europe 46 (1994): p 115.

²⁵² Because the BP Statistical Review of World Energy does not list every individual country (i.e. it employs 'Other Categories' in which the very minor reserves levels of the remaining countries are aggregated), the cumulative total of the world's reserves only reaches 99%. The residual 1% of oil reserves are spread throughout the whole spectrum of country risk rankings and therefore their exclusion does not materially alter our analysis.

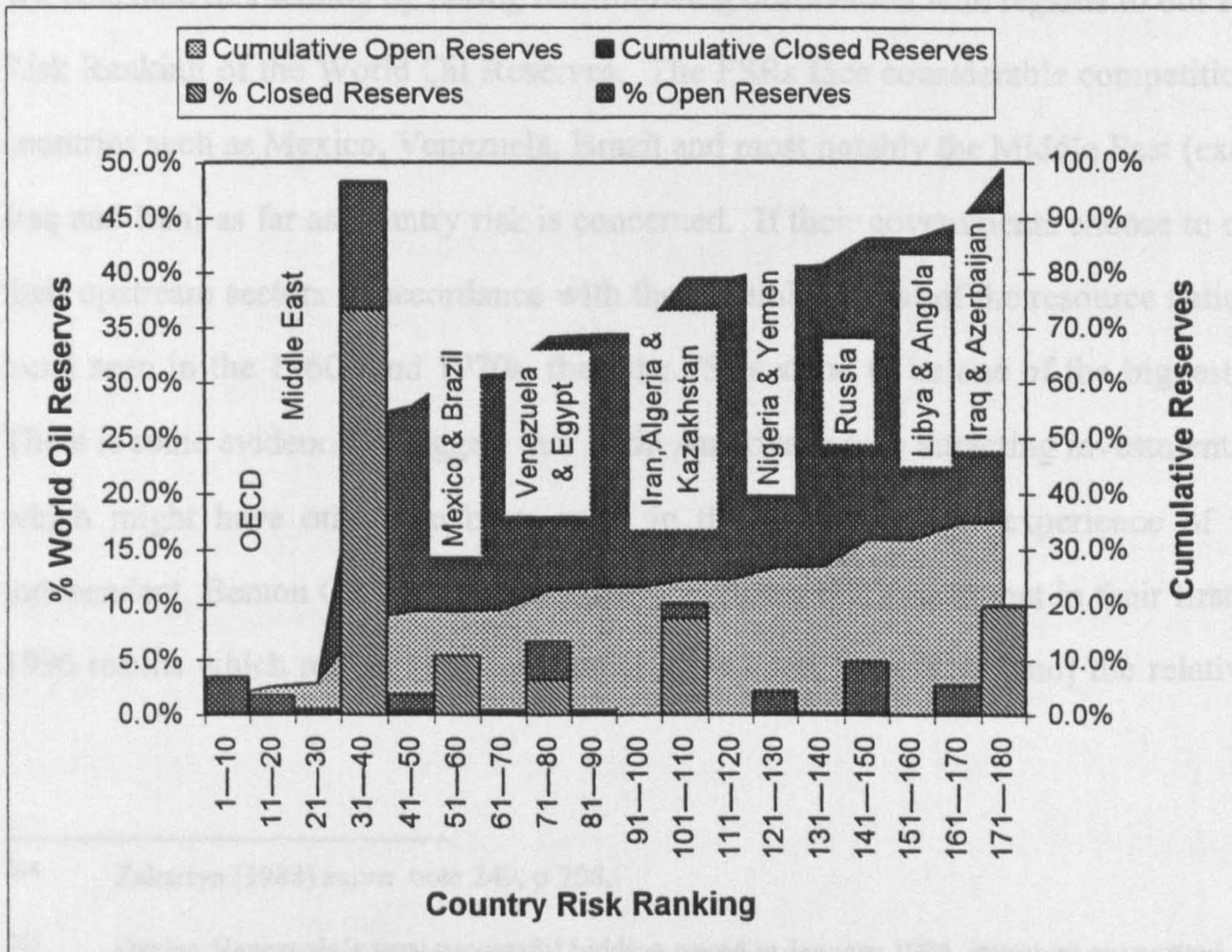
within the groupings of ten risk-ranked countries and include some of the names of key petroleum producing nations. The area graph in the background portrays the cumulative level of reserves across the whole country risk ranking spectrum.

The most salient feature is that countries which commercial banks view favourably are by and large not where the world's principal oil reserves are located. The top twenty rated countries account for only 5.2% of the world's oil reserves yet this region accounts for 80% of the syndicated debt market supplied to the oil and gas industry.²⁵³ The biggest portion of the world's oil reserves are dominated by the countries ranked 31-40 (namely those in the Middle East excluding Iraq and Iran which rank much more poorly). After that, the grouping becomes far less structured, but best characterised by a long tail extending to the right. The further one moves out along this tail the more poorly rated the countries are at least from the perception of commercial banks. High risk countries with significant levels of reserves include Iran (101st), Kazakhstan (108th), Nigeria (125th), Russia (142nd), Libya (166th), Angola (167th), Azerbaijan (175th) and Iraq (180th). But many countries choose not to open their upstream petroleum sector to foreign direct investment. The diagonal hatched pattern of the columns or the dark stipple pattern of the area graph in Figure 5.12 portray those reserves which are essentially 'off-limits' to western IOCs. While the FSU possesses only 5.6% of the world's oil reserves, these represent 16% of all open reserves. Combined with the perception that the FSU is under-explored (see discussion in §3.3) it is understandable why IOCs have expressed so much interest in the FSU despite the high political risk ranking of individual FSRs.

²⁵³ *Supra* main text at note 234.

Figure 5.12 Political Risk Ranking of the World's Oil Reserves

Country Grouping According to Risk Ranking	% Open Reserves	% Closed Reserves	Cumulative % Open Reserves	Cumulative % Closed Reserves
1—10	3.4%	0.0%	3.4%	0.0%
11—20	1.8%	0.0%	5.2%	0.0%
21—30	0.5%	0.0%	5.7%	0.0%
31—40	11.5%	36.7%	17.2%	36.7%
41—50	1.6%	0.3%	18.8%	37.0%
51—60	0.0%	5.4%	18.8%	42.4%
61—70	0.4%	0.0%	19.2%	42.4%
71—80	3.5%	3.2%	22.7%	45.6%
81—90	0.4%	0.0%	23.1%	45.6%
91—100	0.0%	0.0%	23.1%	45.6%
101—110	1.4%	8.8%	24.5%	54.4%
111—120	0.0%	0.0%	24.5%	54.4%
121—130	2.2%	0.0%	26.7%	54.4%
131—140	0.2%	0.0%	26.9%	54.4%
141—150	4.9%	0.0%	31.8%	54.4%
151—160	0.0%	0.0%	31.8%	54.4%
161—170	2.8%	0.0%	34.6%	54.4%
171—180	0.1%	9.9%	34.7%	64.3%
Total	34.7%	64.3%		



The observation by an executive of Exxon in 1978 that “that there are few countries where political risk is a totally insurmountable factor”²⁵⁴ concurs with the distribution of open reserves across the entire spectrum of country risk rankings. Unfortunately the same cannot be said for commercial banks. Thus, even though commercial banks have long supported the international oil industry, FSRs rank very poorly according to country risk and there is no getting around this fact. Those who complain of the lack of commercial bank support in the FSU fail to appreciate the commercial banker’s view of risk. We believe that Figure 5.12 demonstrates why foreign capital if it is to play a major role in the FSU’s petroleum industry will be in the form of equity investment by the IOCs. They are realistically the only class of investor which can earn a potential rate of return commensurate with the level of risk. Commercial banks are naturally risk averse as their business does not permit them to participate in the upside potential of an investment.

We conclude this section by noting the following observation with regards to our Political Risk Ranking of the World Oil Reserves. The FSRs face considerable competition from countries such as Mexico, Venezuela, Brazil and most notably the Middle East (excluding Iraq and Iran) as far as country risk is concerned. If their governments choose to open up their upstream sectors in accordance with the general reversal of the resource nationalism trend seen in the 1960s and 1970s, then the FSRs stand to be one of the biggest losers. There is some evidence to suggest that Latin America is now attracting investment dollars which might have otherwise been spent in the FSU.²⁵⁵ The experience of the US independent, Benton Oil and Gas Company, reaffirms this assessment in their first half of 1996 results which reflect “the substantial growth...in Venezuela [and] the relative slow

²⁵⁴ Zakariya (1988) *supra* note 249, p 208.

²⁵⁵ During Venezuela’s very successful bidding round in January 1996, investors committed themselves to spending \$10 billion dollars on development over the next decade and \$1 billion of risk capital on exploration over the next five years. Raymond Colitt, “Venezuela hails success of oil exploration bids,” Financial Times, 26 Jan. 1996, p 4.

growth of Geoilbent in Russia”²⁵⁶ and that “of the 1996 expenditures, \$30 million was attributable to the development of the South Monagas Unit in Venezuela [and] \$3.0 million related to the development of the North Gubkinskoye Field in Russia.”²⁵⁷ Ultimately, the real danger comes from the Middle East. Should this region permit FDI in upstream activities the strategies of IOCs would undergo a fundamental geographic shift. Not only would IOCs be eager to tap into the largest and lowest cost reserve base of the world, but many of these countries are also less risky from a commercial banker’s point of view compared to the FSU.

5.5 Conclusion

We have analysed the activities and attitude of the multilateral agencies (including the World Bank, IFC and EBRD), OPIC, export credit agencies and commercial banks towards the petroleum sector of the FSU. As far as commercial banks are concerned the FSU is a high risk business environment for which they are naturally reluctant to extend credits. Thus, there is ample justification for making available official sources of financing from the West. But given the difficulties associated with this sector, there is some evidence to suggest that this close relationship is beginning to wane. These organisations support activities in many different countries across all industrial sectors and therefore there is a practical limit to the level of funding which may be provided. Despite all the efforts expended by such programmes, the aggregate level of credit has remained well below expectations. It appears that MLAs, OPIC and ECAs, increasingly driven by quasi-commercial criteria, have embraced the currently fashionable project financing. But the outcome of this philosophy is that the disbursement process has proven to be exceedingly slow because the official agencies have also found themselves unable to cope with the volatile business climate which plagues all foreign investors. Western promises of aid have been offered in the form of hard credits with all their associated legal trappings. Western governments, driven by their own domestic economic

²⁵⁶ Benton Oil and Gas Company, Form 10-Q, 12 Aug. 1996, p 14.

²⁵⁷ *Ibid.* p 19.

and political considerations, have judged this to be the most appropriate form of support. But it would be naive to believe that these agencies offer the panacea which investors seek. Firstly, because of the limited extent of such credits and secondly, due to their inability to circumvent the problems which plague all forms of investment. The responsibility as to whether the \$2.2 billion in credits hitherto approved by MLAs will be successfully drawn down lies with the FSRs themselves. If they choose to provide the prerequisite conditions then disbursement will occur, if not, even the best intentioned efforts will amount to naught. Perhaps the most classic example of this scenario is the case of the OGFA. Penalised by onerous import tariffs and customs duties Russian Production Associations, are essentially prevented from acquiring the equipment they need to use the export credits on offer by the West. As there is still no equivalent domestic supply of rouble based buyer or supplier credits on comparable terms they are at an impasse.

It has proved very difficult, if not impossible, to enhance the large scale flow of debt capital to the petroleum sector of the FSU, and until such a time as the domestic political and commercial environment permit petroleum-related projects to earn sufficient revenues to cover repayment, barring the case of true aid whereby the ultimate recourse lies with western taxpayers, this situation is unlikely to change. If and when this happens the impetus for MLA support will naturally fade, but the fact remains that during this transition period, MLAs and ECAs have been unable to provide that bridging role on the scale which everyone had hoped. Even if they could, it is not certain that IOCs would openly embrace their support. For instance, although Royal/Dutch Shell has previously participated in IFC sponsored projects (outside of the FSU) the company will not accept any project that relies on a government guarantee in order to assure its viability.²⁵⁸ Furthermore, organisations like the EBRD and the IFC are in reality not an easy source of credits, although they may be portrayed as such.

²⁵⁸ Stephen Hodge (Group Treasurer of Royal Dutch/Shell) in "Money Men Survey Market Mosaic," Petroleum Economist, June 1992, p 62.

Part IV

INVESTMENT RISKS

6. INTRODUCTION TO INVESTMENT RISKS

“While it would be naive to assume commercial risks can be completely eliminated, there are a number of ways to minimise them.” (P. Kennel, Senior Vice-President of Amoco Eurasia Petroleum Company, 1995)¹

6.1 Introduction

All business activity entails a degree of risk. An investor who commits capital for the purpose of making an investment does so in the belief of making a profit. Any obstacles which may preclude or hinder an investor from doing so constitute investment risks. In order for an investor to accept a greater degree of risk a commensurate (i.e. higher of level return) must be anticipated — this axiom is known as the risk-reward function.

From our point of view, foreign investment is necessary to assure the long-term viability of the FSU's petroleum industry and the failure to attract such investment is an unacceptable outcome. But western investors are faced with a daunting spectrum of investment risks, all of which must be overcome or mitigated to the extent that will permit a project to proceed. Table 6.1 on the following page reproduces the results of a survey on investment risk in Russia, others are in existence,² but we believe the example shown herein to be indicative of such polls. In the survey 42 western companies were asked to rank each of the disincentives (1 being the most important) within the six categories and also rank each of the categories. The fact that Russia's legal system is the most significant barrier to investment is hardly surprising. Many of the issues mentioned are by no means unique to the FSU nor the oil industry (e.g. legal risk, taxes, restrictions on exports or the repatriation of profits, etc.) but they tend to be exacerbated by the uncertainties associated with the current transition process. In this sense, the smoothing

¹ “Amoco expands operations in Eurasia,” ARCCI Business Report 3, no. 2 (1995): p 13.

² See also Ernst & Young, “Investment in emerging markets — Opportunity versus Risk,” 1995; Centre for Cooperation with Economies in Transition, Assessing Investment Opportunities in Economies in Transition, (Paris: OECD, 1994); and Arthur D. Little/CentreInvest, “Taxation of Oil Companies in Russia: International Comparison,” Report for the Ministry of Finance of the Russian Federation and Seminar on Taxation of Petroleum Companies in Russia, Jun. 1993.

of the commercial interface between the FSU and the global economy is one of the keys to reducing the level of business/operating risk in the FSU.

Table 6.1 Survey of Investment Disincentives in 1995

Legal Disincentives — Category Rank 1.5	Average Rank
1. Fears about shareholder rights	2.6
2. Weak contract law	2.9
3. Securities market regulations	3.0
4. General red tape	4.8
5. Export restrictions	5.4
6. Weak bankruptcy law	5.6
7. Import restrictions	5.8
8. Lack of legal information	5.9
Economic Disincentives — Category Rank 2.5	Average Rank
1. High Inflation	2.0
2. Incoherence of tax system	2.2
3. Variations in the exchange rate	3.2
4. Lack of education (especially business education)	3.7
5. Currency convertibility	4.4
6. Low consumer demand	5.5
Political Disincentives — Category Rank 3.1	Average Rank
1. Scepticism about commitment to reform	1.5
2. Fear of mass re-nationalisation	2.3
3. Doubts about elections	2.7
4. Fear of social unrest and civil war	4.4
5. Extreme left	4.8
6. Extreme right	5.3
Financial Disincentives — Category Rank 3.7	Average Rank
1. Repatriation of profits	2.1
2. Information about potential business partners	2.3
3. Absence of a credit rating in Russia	3.0
4. Lack of access to Russia's financial	3.4
5. Poor local banking services	4.7
6. Possibility of no IMF support	5.6
7. Lack of local investment brokers	6.9
General Disincentives — Category Rank 5.0	Average Rank
1. World-wide retreat from emerging markets	1.8
2. Discriminations against foreigners	2.2
3. Fear of crime/Mafia	2.9
4. General lack of information	3.1
Logistic Disincentives — Category Rank 5.2	Average Rank
1. Communications infrastructure	1.8
2. Transport infrastructure	2.6
3. Language barrier	3.1
4. Technological constraints	3.3
5. Lack of local consulting firms	4.2

Source: *Russian Economic Trends* 4, no. 1 (1995): p 120.

On the other hand such a generic survey tends to overlook other areas of interest. We have chosen to focus our efforts on the following risk categories: Geological Risk,

Environmental Risk, Political Risk and Transportation Risk. This break-down is by no means complete and could be further subdivided or supplemented — depending on your perspective.³ But within our grouping there are issues particular to the oil and gas industry which warrant special attention. Furthermore, by incorporating data from the FOGI Database into our analysis we can make a unique and valuable contribution to the growing body of associated literature. Geological risk and environmental risk will be discussed in the remainder of this chapter, while political risk will be addressed in Chapter 7 and transportation risk in Chapter 8.

6.2 Geological Risk

6.2.1 Discovery Risk

Geological Risk, consisting of two components, *Discovery Risk* and *Reserve Risk*, is by far the least troublesome risk in the FSU. It is the region's favourable geology which is the principle attraction for resource extraction companies in the first place. The first element, discovery risk,⁴ is the uncertainty (i.e. the probability) of an exploration effort resulting in the discovery of a commercially viable deposit of oil. The implications of discovery risk for any extractive company, be it either petroleum or mining, must be assessed because this risk is high and companies only have a limited exploration budget (i.e. risk money).⁵ In the case of a limited budget the operator is faced by two constraints:

³ *E.g.* according to the senior vice-president of Amoco Eurasia Petroleum Company only three categories of significant risk are associated with oil projects in Russia: commercial, geotechnical and engineering. *Supra* note 1. On the other hand, Peter Davies, the chief economist of the British Petroleum, classifies the principle risks of production projects as market risk, operating risk and share-holder risk. Comments made during the concluding plenary session of The Changing Politics of International Energy Investment Conference held by RIIA, BIEE, IAEE and Montreaux Energy in London, 4-5 Dec. 1995.

⁴ Brian W. Mackenzie and Zhikai Cai, Economics of Petroleum Exploration in Australia, (Kingston, ON.: Centre for Resources Studies and Australian Mineral Foundation, N.d.): p 16; and Brian Mackenzie and Roy Woodall, "Mineral Exploration Economics: The Search for Base Metals in Australia and Canada," Working Paper No. 40, Kingston, ON.: Queen's University, Centre for Resource Studies, Sept. 1987.

⁵ The Expected Monetary Value (EMV) of a an exploration effort is defined by the equation: $EMV = (\text{Reward} \times P_s) - \text{Risk Capital} \times (1 - P_s)$, where Reward is the present value of a discovery and includes the cost of successful exploration, P_s is the probability of success and Risk Capital is the cost of bonuses, dry hole costs and geological and geophysical costs, etc. Sometimes the formula is expressed as $EMV = \text{Reward} \times P_s - \text{Risk Capital}$, in this latter case the Reward is only the present value of the revenue from the discovery and does not include the actual cost of successful exploration. In the end both formulas give the same result, it is really only a matter of semantics as to how Reward is defined. The relative importance of risk dollars is clearly illustrated in the first equation. If for instance the chance of success 20% then risk dollars outweigh reward dollars by 4:1 whereas if the success ratio was around 10% the relationship changes to 9:1. In general see Daniel Johnston, International Petroleum Fiscal Systems and Production

firstly, the company must break-even in the long run; and secondly the company must avoid gambler's ruin.⁶ Therefore the total available pool of risk capital has a very significant effect on the amount of risk money the company can commit to any one given prospect. As a corollary, the greater the amount of risk capital available for a given probability of success, the greater the acceptable exposure to risk. Therefore, the smaller operator is at a distinct disadvantage compared to a large IOC and explains the farm-in activity occurring within the FSU.⁷ Despite the relative eagerness and success of entrepreneurial type companies in acquiring acreage, the original exploration and production company will likely try to farm-out⁸ to more cash-rich partners. Smaller companies are compelled to seek farm-ins with suitable partners or otherwise risk the possibility of annulment of the contract by the government if the company does not have the financial resources to satisfy the minimum work obligation (MWO).⁹ However, whether a transfer of a working interest to a third party will be permitted by a host government is another matter altogether and constitutes a potential investment risk which adds to illiquidity of an upstream interest.¹⁰ In summary the farm-in mechanism

Sharing Contacts, (Tulsa, OK.: PennWell Publishing Company, 1994): pp 18-21, 118-122; Fraser H. Allen and Richard D. Seba, Economics of Worldwide Petroleum Production, (Tulsa, OK.: OGC Publications, 1993): pp 215-218; and Arthur W. McCray, Petroleum Evaluations and Economic Decisions, (Englewood Cliffs, NJ.: Prentice-Hall Inc., 1975): pp 151-152, 157-166.

⁶ Gambler's ruin in probability theory concerns the risk of an operator with a limited amount of risk capital becoming insolvent though a continuous string of failures (i.e. a successful exploration effort is not realised by the time all the risk capital is expended). J. J. Arps and J. L. Arps, "Prudent Risk Taking," reprinted in SPE Reprint Series No. 16 Economics and Finance, 1982 ed. (Dallas, TX.: SPE, 1982): p 138.

⁷ Illustrative examples taken from the FOGI Database are as follows: In June 1994, Canadian Occidental acquired a 40% working interest in Turan Petroleum's QAM project in the Southern Turgay Basin of Kazakhstan; In July 1995 Pecten International, a subsidiary of Shell proposed a farm-in for a 40% working interest in foreign participation (i.e. 20% of total) of the onshore Rioni Basin and offshore Black Sea licence (total acreage 22,500 sq. km) in Georgia, held by the Georgian British Oil Company, a joint venture between JKC Oil & Gas plc and Georgian Oil; or Exxon's decision in Sept. 1995 to take a 50% stake in Oryx's Mertvyi Kultuk 12,200 sq. km exploration block in Kazakhstan.

⁸ On the general subject of the farm-out/farm-in mechanism see Sally Gibson, "Farm-Out Agreements," O.G.L.T.R. 11 (1993): pp 45-51.

⁹ E.g. in Kazakhstan the government terminated the exploration and production licence for the Kenbai field which was held by Munai JV on 5th July 1995. The domestic partners requested the cancellation because they claimed Biedermann (US) failed to satisfy the contractual obligations. Essentially Biedermann was unable secure financing to carry out the minimum work obligation (MWO). "Biedermann Blues: The Last Note," R.P.I., Oct. 1994, p 48.

¹⁰ E.g. the failed attempt by Larmag, a Dutch energy company, to farm-out part of its working interest in its Turkmenistan based project in the summer of 1995 to the IPC of Canada. Apparently the

represents a practical means of diversifying discovery risk and is being employed throughout the FSU by western companies.

World-wide the probability of success for a wild-cat well (i.e. a greenfield exploration well in a previously unexplored area) is approximately 13% — slightly less than one in eight wildcat wells result in an commercial discovery.¹¹ The historical experience in the FSU appears to be only half as good. Although FSU discovery rate figures are scarce we calculated that during the period 1966-1970 and 1971-1975 the probability of discovery was only 1:13.4 (7.5%) and 1:15.4 (6.5%) respectively.¹² One likely explanation for this difference is that Soviet exploration geologists did not have access to the same standard of technology which was available to western firms elsewhere in the world — a situation which is now changing. Yet the current interest of western companies is, for the most part, focused on existing deposits rather than greenfield exploration. This is quite logical as the plentiful existence of previously discovered petroleum deposits which are yet undeveloped significantly reduces the magnitude of geological risk because the element of discovery has already been removed from the chain of events. Table 6.2, reproduced from data presented in Chapter 3, shows the sectorial breakdown of the 292 potential upstream projects in the FSU involving western investors. The bulk of these projects (48.3%) involves the development of existing fields. The next largest category (25.7%) contain an element of exploration combined with development of existing reserves.

IPC's demand for operatorship was refused. However, by Oct. 1995 it was being reported that a 30% farm-in by Dragon Oil (Ireland) was accepted, leaving Larmag with a 20% interest and Balkannevitgazsenagat (formerly Balkaneftekhimprom) with a 50% interest. See "Diminishing Interest," R.P.I., Oct. 1995, pp 51-52; and "Project Briefs," R.P.I., Nov. 1995; p 65.

¹¹ Daniel Johnston, Oil Company Financial Analysis in Non-technical Language, (Tulsa, OK.: PennWell Publishing Co., 1992): p 161.

¹² Discovery rates were calculated by the dividing number of new fields discovered by the number of exploration wells completed. Original figures presented in Thane Gustafson, Crisis amid Plenty The Politics of Soviet Energy under Brezhnev and Gorbachev, (Oxford: Princeton University Press, 1991): p 75.

Table 6.2 Potential Upstream Projects in the FSU involving Foreign Investors

Type	Number	Percentage	Percentage
Pure Exploration	21	7.2%	7.2%
Exploration & Development	75	25.7%	92.8%
Development	141	48.3%	
Rehabilitation & Workovers	55	18.8%	
Total	292	100%	100%

Source: FOGI Database

The next category (18.8%) is well rehabilitation or workover contracts in currently producing fields in an effort to raise incremental production. The smallest category is pure exploration contracts (7.2%) — this is the only activity in the FSU which involves a significant degree of discovery risk. Nevertheless the region's favourable geology is a mitigating factor. Therefore according our analysis, 93% of upstream projects involving western participation in the FSU are oriented towards previously discovered deposits of hydrocarbons. We conclude that one of the overall strategies of foreign oil companies operating in the FSU at the present time is to minimise discovery risk by concentrating efforts on known deposits.

6.2.2 Reserve Risk

This is not to say that geological risk is non-existent. On the contrary, reserve risk, i.e. the risk that recoverable reserves are not as large as expected, is still present. In the case of a marginal deposit, a lower than expected recovery can undermine the economic viability of a project. As 93% of the proposed and operational projects involving western investors encompass previously discovered deposits based on Soviet-era evaluation and classification techniques, reserve risk cannot be ignored. Furthermore, reserve estimation for rehabilitation projects based on previously producing fields will be more difficult to assess, as compared with green field deposits, due to formation damage caused by past practices of predatory exploitation and the extensive use of water flooding.¹³ In the meantime, the international oil community is trying to reconcile the discrepancy between

¹³ This is particularly relevant in the older producing regions of the Volga Urals and Western Siberia see Marshall I. Goldman, The Enigma of Soviet Petroleum Half-empty or half-full? (London: George Allen & Unwin Ltd., 1980): pp 34, 121-125; Leslie Dienes, Istvan Dobozi and Marian Radetzki, Energy and Economic Reform in the Former Soviet Union, (London: The MacMillan Press Ltd., 1994): pp 42, 48, 51-53.

the Russian classification of reserves and that produced by the Society of Petroleum Engineers (SPE).

6.2.3 Comparison of Reserve Classification Systems

Historically, FSU oil reserves have been classified as state secrets thus verification and/or reconciliation of the Russian classification system versus the western notion of commercially recoverable reserves has been difficult. Considerable disagreement still exists between geologists as to whether Russian estimates are realistic. Russian reserve estimates have traditionally been based on technical feasibility rather than economic feasibility, thus giving an inherent upward bias from a western perspective. Similarly, unrealistic recovery rates (e.g. 100%) were sometimes used, thus creating a further upward bias on reserves estimates. As the management of the oil industry in the USSR was rent-seeking as opposed to profit-seeking,¹⁴ rewards were extracted from the State on the basis of meeting planned targets. Thus reserve figures were manipulated by rent-seeking state enterprises. Initial estimates of oil and gas reserves could be inflated in order to gain the maximum allocation of state credits, but once a field was put into production the reserves could then be down-graded to reduce the annual production schedule set by Moscow.¹⁵ It is paramount that western investors be able to quantify this uncertainty — a comparison between Russian reserve figures and their western equivalent is necessary. Figure 6.1 is a general correlation between the Russian reserve classification system and that of the SPE.¹⁶ According to the American system “...reserves are considered proved if commercial producibility of the reservoir is supported by actual production or formation tests.”¹⁷ Whereas, unproved reserves, divisible into probable

¹⁴ Anders Åslund, How Russia Became A Market Economy, (Washington, DC.: The Brookings Institution, 1995): p 161. ‘Rent-seeking’ behaviour is the effort to gain income by controlling the supply of a scarce resource or factor of production. See also Janos Kornai “The Soft Budget Constraint,” in The Road to Capitalism Economic Transformation in Eastern Europe and the Former Soviet Union, David Kennett and Marc Leiberman eds., (Orlando, FL.: The Dryden Press, 1992): pp 15-26.

¹⁵ Joseph A. Kliger, Business Ventures in the Former Soviet Union: Negotiation and Protocol Do’s and Don’ts, (Tulsa, OK.: PennWell Publishing Company, 1994): p 132.

¹⁶ “Definitions for Oil & Gas Reserves,” reprinted in Allen & Seba (1993) *supra* note 5, pp 47-49.

¹⁷ *Ibid.*, p 48.

and possible categories, are those “reserves...based on geologic and/or engineering data similar to that used in estimates of proved reserves; but technical, contractual, economic, or regulatory uncertainties preclude such reserves being classified as proved.”¹⁸ If reserves fall into the proved and probable category they are referred to as *2P* reserves, whereas if the possible category is also included they become classified as *3P* reserves.

Figure 6.1 Comparison of Reserve Classification Systems

Russian Reserve Classification		SPE Reserve Classification		
A	Proven Reserves under Production	Proved - Producing	3P	2P
B	Reserves under Development	Proved - Undeveloped		
C1	Industrial, <i>Promyshlennye zapasy</i>	Probable - Undeveloped		
C2	Prospective, <i>Perspektivnye zapasy</i>	Possible (Geological?)		
D0	Potential			
D1, D2	Hypothetical			

Under the Russian Classification system, once a geological structure has been confirmed by an exploration/prospecting well (*poiskovoeye burenie*) the reserves are classified as *C2* which approximates the SPE classification of Possible.¹⁹ Once these reserves are confirmed as commercially exploitable by appraisal drilling, alternatively known as outlining wells (*razvedochnoye burenie*), they are classified as *C1* roughly corresponding to the SPE classification of *Probable*.²⁰ Reserves under development are classified as *B* corresponding to SPE classification of *Proved-Undeveloped* and actual reserves under production are classified as *A* corresponding to the *Proved-Developed* category.²¹ Finally the Russian system contains two other very loose categories for which there seems to be no western equivalent. These are recoverable reserves in undeveloped formations which are either classified as *D0 - Potential Reserves*, or *D1&D2-*

¹⁸ *Ibid.*, p 49.

¹⁹ Gustafson (1989) *supra* note 12, p 71.

²⁰ *Ibid.*

²¹ Colin Glazebrook (Executive Director of Trans-Georgian Petroleum Ltd.), “Trans Georgian Petroleum, Exploration, Production and Refinery Projects in the Republic of Georgia Summary,” Personal Communication held in author’s file, 9 Jan. 1995.

*Hypothetical Reserves.*²² The Russian Petroleum Investor espouses an adjusted formula to estimate the SPE equivalent of 2P reserves from Russian reserve data:²³

$\text{Proven + Probable (2P) Reserves} = A + B + k(C1),$ <p style="text-align: center;">where k is a factor between 0.7 - 0.9</p>
--

The intent of the formula is to discount Russian reserves, although the correction appears to be small and only applies to the C1 category. Therefore, it seems possible to loosely correlate Soviet reserve figures with their western counterparts, although the analysis cannot be extended to Russian periphery classifications as there is no realistic western equivalent. But at least the *A*, *B* and *C1* categories have a western analogy. However, such a conclusion must be judged more as a 'rule of thumb' as opposed to a fundamental truth. Certainly for the purpose of raising financing such a correlation will not be acceptable, and therefore the prudent investor has little choice other than to re-evaluate the reserves as the principle means of reducing reserve risk.

6.2.4 Reserve Re-evaluation

The general premise that Russian reserve figures are over-estimated has a two-fold significance. Firstly, if Russian reserves are over-optimistic then the capitalisation/reserve ratio for Russian oil companies²⁴ is artificially low. Therefore their stock is not as undervalued as they appear, thus making them less attractive for investors from a potential capital gains perspective. Similarly, if reserves are being booked²⁵ based on technical viability, without regard for commercial, the earning potential of these assets is being overstated. These are serious concerns for portfolio investors, but maybe less of a concern for IOCs who purchase blocks of equity in a domestic company for the purposes of forming a strategic alliance, as was the case of ARCO buying into LUKoil.

²² "A Second Look," R.P.I., Mar. 1995, p 61.

²³ "A Matter of Semantics," R.P.I., Mar. 1995, p 60.

²⁴ This would apply equally to any domestic FSU companies who's stock is openly traded on an exchange. Hitherto, only Russia has developed an active stock market for oil and gas stocks. Kazakhstan will likely be next as it has a nascent stock market and is in the process of privatising Yuzhneftegaz, Aktyubinskneft and the Chimkent Refinery.

²⁵ "Booked" means recording the reserves as an asset on the balance sheet.

Secondly, for any investor (either domestic or foreign) trying to raise financing for a upstream development project, the reserves represent the key cash generating asset to service debt and earn a profit. Companies which raise equity financing risk a serious devaluation of their stock if their reserve estimates are overestimated.²⁶ Similarly, companies who choose a project financing approach based on Russian reserve estimates would theoretically face much more stringent coverage ratios. However, it may be stated as a fundamental principle of investment banking, that a project sponsor could not raise western sourced debt capital without first re-evaluating those reserves according to internationally accepted standards.²⁷

While data on coverage ratios in the FSU is difficult to obtain, project financing experience gained in the North Sea provides an illustrative analogy. For instance, when the North Sea oil province initially opened-up project sponsors faced much tougher Loan Life Cover Ratios (LLCRs) and Project Life Cover Ratios (PLCRs)²⁸ than is the case today. A 1976 credit agreement involving the Bank of Scotland used a PLCR between 2.25 - 2.50:1 — a figure which can be assumed as being representative of that period.²⁹ Today LLCR and PLCR have typically fallen to 1.4 - 1.5:1 and 1.75 - 2.0:1 respectively for the North Sea.³⁰ The loosening up of coverage ratios is indicative of the progression

²⁶ This was the case of Vanguard Petroleum, an Australian firm which raised equity financing for the development of oil fields in Khanty-Mansiysk region of Russia. The reserve estimates for the Yuzhnoye field was subsequently lowered by 55%, causing its stock to drop from a high of 99.25 pence in 1994 to a mid-March price of 22.75 pence and also jeopardised an EBRD loan. "Guesstimates," *R.P.I.*, Apr. 1995, p 67.

²⁷ Author's interview with Andrew W. Wright (manager of N.M. Rothschild & Sons Ltd.), London, 7 Dec. 1995; and with Luke Bridgeman & Vadim Benyatov of Deutsche Morgan Grenfell, London, 7 Sept. 1995.

²⁸ LLCR is calculated by dividing the net present value of the future cash flow during the remaining loan life by the debt outstanding at the beginning of the discounting period. Similarly the PLCR is calculated by dividing the net present value of the total future cash flow by the debt outstanding at the beginning of the discounting period. The difference between the two is known as a Buffer which can be relied upon if the project under-performs.

²⁹ In this particular case the covenants within the credit agreement did not include the use of the LLCR, however, it would not be unreasonable to assume that if it had the then LLCR would be approximately 20-25% less than the PLCR based on today's figures. These assumptions are based on a written correspondence with K.J. Simpson (Assistant Manager, International Division, Oil & Energy Department, Bank of Scotland) dated 22 Nov. 1995, held in the author's personal file.

³⁰ *Ibid.* and Ian Ross (Chief Manager, International Division, Oil & Energy Department, Bank of

of banks' evaluation of risk — both geological and technical risks associated with North Sea projects have been reduced over time. In the case of the 1972 Forties field financing, the consortium of banks were willing to take on geological risk but they were not willing to assume the technical risk of extraction.³¹ The banks assumed reservoir risk because the size and quality of the deposit was amply supported by extensive well data. But, they did not take on the technical risk of extraction because of the uncertainty of operating in the harsh frontier conditions of the North Sea.

In the FSU, sole reliance on Russian reserve figures would be unacceptable from the point of view of raising external financing or indeed as part of a prudent company's internal due diligence procedures. The point of this discussion is to illustrate that any ambiguity surrounding reserve estimates or technical feasibility will penalise a project sponsor's ability to raise credit. While the current PLCRs and LLCRs seen in the North Sea could be considered the barest minimum in the context of the FSU it seems intuitive that a premium would be applied to account for the additional country risks. Taken at face value this would be true, but there are other instruments for mitigating risks. N.M. Rothschild used a LLCR and a PLCR of approximately 1.5:1 and 2:1 respectively for a mining venture in the CIS, because it used political risk insurance to mitigate the risks of expropriation and the inability to export gold.³² Therefore the costs of mitigating other country risks were already internalised into the financial structure and accounted for in the LLCR and PLCR, and as such an additional premium was not applied to these ratios.

Scotland), "Financing Independent Oil Projects," Presentation to CPMLP, University of Dundee, Dundee, 4 Feb. 1994; Stephen Mills, "Project Financing of Oil and Gas Field Developments: The Banker's View," *O.G.L.T.R.* 11/12 (1993): p 364; and A.S. Whyatt, "The Anatomy and importance of Project Finance for Oil and Gas Developments," SPE # 24247, 1992, p 3.

³¹ Quentin Morris, "How BP raised its £360 million (or why there were 170 pages of legal documentation)," *Euromoney* Aug. 1972, p 16.

³² While not explicitly stated, the likely reference is to the Zarafshan-Newmont gold heap-leaching project at the Marantau mine in Uzbekistan. Author's interview with Andrew W. Wright (manager of N.M. Rothschild & Sons Ltd.), London, 7 Dec. 1995.

But the fact remains that internationally accepted reserve re-evaluation is the basic starting point and in this regard a project evaluated purely on a geological basis can be treated equally to a project in the Americas or anywhere else in the world. Additional measures to eliminate other risks will be built into the project's financial structure as further costs, but the basic LLCR and a PLCR of approximately 1.5:1 and 2:1 respectively seem reasonable. But in order to get to this stage, the geological ambiguity surrounding reserve estimates must be brought into line with western expectations, recognising however that reservoir risk can never be completely removed. As long as differences remain between western standards of reserve estimates and the original Russian figures (even if only perceived), prudent companies must opt to have their reserves re-evaluated using the SPE classification scheme which hinges crucially on commercial viability. This applies equally to domestic firms which are seeking financing from international sources.³³ Chernogorneft opted for re-evaluation using both the Russian and western classification systems.³⁴ Similarly, LUKoil began this task in 1995 and Gazprom is apparently planning to do the same.³⁵ The importance of checking and verifying reserve figures is a commercial reality, part of every investor's due diligence.

6.2.5 Additional Strategies for Reducing Reserve Risk

Reserve risk can be further mitigated by using a staggered investment approach. Initially, the foreign company will need to expend risk capital from internal cash flow to prove-up reserves (this is an unavoidable expense for which commercial bank financing will not be available). As the old saying goes "...one does not ask one's banker for a loan to play roulette!"³⁶ The prior existence of reserves alone is not enough to satisfy the concerns of external creditors, otherwise raising financing would not be the challenge that is today in CIS. Companies will, in all likelihood, have to go as far as establishing early production

³³ CS First Boston, Russian Oil Production Sector A Gusher in Russia? Part I, (London: CS First Boston, 2 Mar. 1995): p 13.

³⁴ *Ibid.*

³⁵ "A Second Look," R.P.I., Mar. 1995, p 61.

³⁶ Alain Brion, "Oil - a risk business," Petroleum Review, Apr. 1989, p 190.

before further development financing can be sought. If one is seeking external financing it is necessary to establish the revenue generating capability of the asset, not just in theory but in practice. Such a strategy does not eliminate reserve risk altogether, but the additional information gained in establishing early production reduces some of the uncertainty.

Perhaps the ultimate method to reduce reserve risk is to transfer it altogether to another party, and this is what was achieved by Phibro Energy and Anglo-Suisse in their 1990 JV agreement with Varyeganneftegas. Consider the following excerpt from Article 1.9.1.3:

“...in the event that the extraction from the Tagrinsky and West-Varyegansky fields fall[s] short of the minimum required capacity of these fields [75 MMt], or in the event that the extraction from the Roslavlsky field falls short of the required minimum capacity of the field [40 MMt], Varyeganneftegas will present additional deposit fields for the exclusive exploration and production by the joint venture sufficient to meet the required minimum extraction from all the fields.”³⁷ (emphasis added)

This is truly remarkable, the western partners are guaranteed access to reserves of 115 MMt (836 MMbbls) even if the original fields fail to provide such reserves. This is the essence of the attraction of the FSU from a geological perspective — the plentiful existence of known but hitherto undeveloped deposits. The White Nights JV is but one of the many deals with western partners in the FSU, and is not a particularly large project. But those who have followed the saga of the White Nights JV will realise, even the presence of guaranteed reserves has done little to compensate for the myriad of other investments risks plaguing this particular project. However, the idea of transferring reserve risk to the domestic partner is innovative, but we suspect this strategy was only possible during the earliest times of contact between domestic companies and western investors. We have been unable to find similar provisions in other contracts and doubt whether such concessions would be acceptable to domestic partners today.

³⁷ Art. 1(9)(1)(3), “White Nights Contract of 12 Oct. 1990 (Phibro Energy/Anglo-Suisse)” English Translation and excerpts from *reprinted* in *Basic Oil Law’s Russia & NIS*, Vol. 1 (New York, NY.: Barrows, 1993): p 300; and “The White Nights Contract: Selected Excerpts,” *P.I.W.*, 5 Aug. 1995, p 1.

6.2.6 Geological Risk Summary

While the emphasis of western companies activities is the development of previously discovered deposits, geological risk remains low, although reserve risk is exacerbated by an information gap. As the gap is narrowed, reserve risk will decrease to a point more in line with international expectations. In the case of green field exploration, discovery risk exists but is mitigated to by the region's favourable geology. Overall, geological risk is minor as compared to other investment risks and should decrease with time.

The significance of current western companies strategies is that the majority of potential projects being considered require development financing as opposed to exploration financing (i.e. risk capital). Risk capital has typically been sourced from a company's internal cash flow. The only real exceptions being selective World Bank support for exploration activities in oil importing countries in the early 1980s and the use of public drilling funds in the US in the late 1960s. In general, exploration is not debt financed. On the other hand, debt financing (either syndicated loans or project financing) is suited to development projects. This does not imply that such financing will be arranged in the FSU but at least the 93% of possible western upstream activity in the FSU is theoretically suited for debt financing should a company's internal funds be insufficient.

Reserve re-evaluation and a staggered investment strategy are being employed to reduce reserve risk, while farm-in's represent a practical means of spreading such risk. The idea of transferring reserve risk to the domestic partner has been tried and exemplifies the difference between development based projects and pure exploration plays.³⁸ But we feel it is unlikely that domestic companies will be willing to make such concessions in the future. As far as we can ascertain this approach has not been widely employed.

³⁸ Arthur D. Little, "Oil and Gas Agreements for the Development Existing Reserves," Paper presented at the APIN Fall Conference, 12 Oct. 1995.

6.3 Environmental Risk

The environmental track record of industry in the FSU has been abysmal.³⁹ Because former centrally planned economies concentrated on production with little regard for proper pricing (i.e. subsidisation), waste and energy inefficiency were endemic.⁴⁰ The energy sector has been perhaps the worst culprit. A report by the MFE estimates that energy sector enterprises are responsible for 48% of harmful atmospheric emissions, 35% of waste water and over 30% of all solid wastes in Russia.⁴¹ Within the petroleum industry the principal sources of damage are oil spills caused by environmentally unsound production, drilling and pipeline operations including the flaring of associated gas.⁴² Over a long period of time a massive environmental debt has accumulated.⁴³ A debt which unfortunately continues to grow⁴⁴ but must be eventually cleared.

In view of the domestic shortage of investment funds, FDI offers a realistic means of amortising eco-debts at the present time. Multinational corporations acting as 'good corporate citizens' will invest in measures to improve and clean-up the local environment associated with their operations. But a clear distinction needs to be made between voluntary and/or pre-agreed actions taken to help amortise past eco-debts and strict liability for past eco-debts. The uncertainty surrounding environmental requirements is

³⁹ Murray Feshback, Ecological Disaster: Cleaning Up the Hidden Legacy of the Soviet Regime, (New York, NY.: Twentieth Century Fund Press, 1995); and Murray Feshback and Alfred Friendly Jr., Ecocide in the USSR, (New York, NY.: Basic Books, 1992).

⁴⁰ US Congress, Office of Technology Assessment, Energy Efficiency Technologies for Central and Eastern Europe, OTA-E-562 (Washington, DC.: US Government Printing Office, May 1993): pp 53-56.

⁴¹ IEA, Energy Policy of the Russian Federation 1995 Survey, (Paris: IEA/OECD, 1995): p 71.

⁴² *Ibid.*, p 96.

⁴³ Steven W. Popper, "Conversion, Regional Economies, and Direct Foreign Investment in Russia." in The Former Soviet Union in Transition, US Congress, Eds. Richard F. Kaufman and John P. Hardt (Armonk, NY.: M. E. Sharpe, 1993): pp 767-782.

⁴⁴ The frequency at which further incidents of environmental damage occur was exemplified by an oil spill in the Komi region during the autumn of 1994. Officials records from the Russian Ministry for Civil Defence, Emergency Situations and Elimination of Natural Calamities show that 32 major pipeline accidents occurred in 1993 alone. Moreover, it has been estimated that 10 - 20% [sic] of all oil shipped through pipelines is lost due to leakage. Justin Dye and John Patterson, "The Komi spill was not an isolated incident," Petroleum Review, Dec. 1994, p 566.

recognised by the EBRD as a “...major deterrent to those considering investing”.⁴⁵ The IEA goes one step further by stating that “a key issue will be finding a means to protect new operators from financial liability for pre-existing environmental damage.”⁴⁶

A natural side-effect of current IOC strategy to minimise geological risk by concentrating efforts on known deposits has been to increase their exposure to eco-debts. Previous production has left a legacy of environmental damage associated with individual deposits, many of which still possess reserves that are attractive to foreign investors. Is it realistic to expect IOCs to take responsibility for this damage? That depends on whether a western company can calculate to a reasonable degree of certainty, the limits of its exposure to past eco-debts — no company will write a blank cheque for environmental risks. Furthermore, the severity of this disincentive will partially depend on a company’s alternative investment opportunities. A company which lacks any alternatives is more likely to take on the risk of potential environmental liability. Consider, for instance, the position of Dana Petroleum, an Irish based exploration company which sought listing on the London Stock Exchange (LSE) in the spring of 1996. Its principal activity is to develop jointly with some Russian companies the Vat-Yoganskoye and Sortymyskoye oil fields in Western Siberia. In its prospectus, it included the following environmental caveat to its potential shareholders.

“The Company’s operations are subject to the environmental risks inherent in the oil and gas industry. The legal framework for environmental liability and clean-up [in Russia] is not yet fully developed. Local, regional and national authorities may adopt stricter environmental standards than those now in effect and may move towards more stringent enforcement of existing laws and regulations. *The level of pollution and potential clean-up is impossible to assess against the current legal framework* and without a consistent interpretation and enforcement of laws by the Government.

The Company is unable to predict the effect of any additional regulations that may be adopted in the future, including whether any such laws or regulations would increase the cost to the Company of doing business or

⁴⁵ Jacques de Larosière (President of the EBRD), “Forward” in EBRD, Investors’ Environmental Guidelines; Bulgaria, Czech Republic and Slovak Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, (London: Graham & Trotman/Martinus Nijhoff, 1994): p xxiii.

⁴⁶ IEA (1995) *supra* note 41, p 96.

require alternation or cessation of its operations in any area. Accordingly, *the extent of potential liability, if any, for the costs of abatement of environmental hazards cannot be accurately determined and, consequently, no assurances can be given that the costs of implementing environmental measures in the future will not be material.*"⁴⁷

For small exploration and production companies the securing of one or more contracts in the FSU often represents the "big opportunity" or the "spring-board" for launching a new international company. For such a company, a decision not to invest due to potential environmental liabilities would mean for all intents and purposes the cessation of the company's entire operations or its very *raison d'être*. It is clear that Dana recognises this risk and warns its shareholders of the possible adverse financial consequences, but nevertheless the project proceeds, as it must. The fact that Dana successfully raised £11.7 million (\$18 million)⁴⁸ suggests that investors have discounted this risk. JKX Oil & Gas plc is another exploration company with upstream prospects in Ukraine, Georgia and Dagestan (an autonomous republic of the Russian Federation). Their placing and public offer was oversubscribed 2.1 times on the LSE in July 1995.⁴⁹ In the case of JKX their prospectus contained no explicit environmental caveat, only a warning that future legislative changes may have adverse consequence on the company's operations.⁵⁰ Whether the shareholders of these companies are really aware of the potential environmental liabilities is thus debatable, if they are, then the environmental risk is being heavily discounted, but this would not be so surprising as these stocks are generally of a speculative nature. Clearly shareholders in these companies are not risk-averse.

Environmental concerns are equally valid to suppliers of debt capital who are concerned about their potential liability as a lender (i.e. issue of "lender liability").⁵¹ In project

⁴⁷ Dana Petroleum plc., Admission to the Official lists of the London Stock Exchange and Irish Stock Exchange, Placing, Open Offer and Intermediate Offer, Dec. 1995, p 23.

⁴⁸ "Dana Petroleum Raises £11.7 million," Financial Times, 25 Jan. 1996, p 28; and author's telephone conversation with Thomas Cross (CEO, Dana Petroleum) on 1st Feb. 1996.

⁴⁹ "News in Brief," Petroleum Review, Aug. 1995, p 343.

⁵⁰ JKX Oil & Gas plc., Placing and Public Offer, Jun. 1995, p 29.

⁵¹ See Patrica Thomas, Chairman, Environmental Liability: IBA Section on Business Law 7th

financing a lender could be made directly liable for non-compliance as a result of their participation in the project. Institutions such as the EBRD and IFC carry out stringent environmental due diligence and evaluation process to assess "...environmental, health, and safety risk and liabilities associated with past and present practices, potential future impacts, and appraise the adequacy of mitigation measures selected to reduce adverse environmental impacts."⁵² Perhaps the EBRD's announcement (in May 1995, just two months prior to JKX's public placing) to approve an \$8 million loan for the Poltava project gave some comfort to potential shareholders in allaying any environmental fears by inferring that the outcome of the bank's environmental audit must have been favourable. In the case of portfolio investors such as pension funds or mutual funds, their managers have a fiduciary duty to protect their stock-holders. Management could be found negligent for investing money in a venture which resulted in an onerous environmental liability causing a substantial loss to the fund.

In summary the legacy of environmental damage in the FSU is widespread — each FSR has inherited a substantial amount of eco-debts which must be amortised. In view of the domestic shortage of investment funds, foreign direct investment offers a realistic means of paying off these debts. However, a distinction needs to be made between a voluntary or pre-agreed response and compulsory expenditures imposed retroactively because of an incurred liability for past environmental damage. Companies which act as 'good corporate citizens' are willing to assist in improving the local conditions of their operations, but they will be strongly opposed to having those obligations legally forced upon them. Under the present circumstances, the uncertain treatment of liability for past damage is a disincentive for investment. Furthermore, western companies pursuing a

Residential Seminar on Environmental Law, 9-13 June 1990, Switzerland. IBA Series. (London: Graham & Trotman, 1991); M.J. Kiernan., "Corporate Greening," Environment Resources Journal, Mar. 1993; and "Rethink on Lender Liability," Environment Resources Journal, May 1993.

⁵² Mehrdad Nazari (Environmental Appraisal Unit, EBRD), "Environmental Appraisal of Mining Projects: A Lenders Approach and Perspective," Paper presented to the CPMLP International Mining Investment and Regulation Seminar 1995, University of Dundee, Scotland, 4-8 Sept. 1995, p 3.

strategy which concentrates on existing deposits rather than greenfield sites increase their exposure to environmental liability as many of the sites are already contaminated.

6.4 Conclusion

Geological Risk appears to be the least acute of all, particularly as the focus of western interest is previously discovered deposits, but its two components differ widely. As long as IOCs are not engaging in pure exploration, discovery risk is essentially negligible. However, the risk that insufficient reserves exist is exacerbated by the current information gap. Until a time when FSU reserve estimates are reconciled with the more pervasive standard developed by the SPE, reserve risk remains higher than is normally the case. Reserve re-evaluation, a staggered investment strategy and farm-ins are the principal means available for mitigating or diversifying reserve risk. The innovative approach of Phibro and Anglo-Suisse to transfer reserve risk to the local partner is unlikely to be acceptable in the future and will probably become a relic of the early transition period.

There is little doubt that the legacy of environmental damage in the FSU is widespread and liability for past damage is an investment risk for foreign investors. But, because 93% of potential upstream projects involve existing deposits this suggests that western investors do believe the risks associated with environmental liability are outweighed by the potential rewards. The success of public placements by companies such as Dana Petroleum or JKC Oil and Gas support this viewpoint. We argued that for these small companies, their FSU operations represent their core activity — a decision not to invest would mean for all intents and purposes, the cessation of the company's entire operations. Major IOCs will likely take a much more critical view of environmental liability as they have 'deep pockets'. The extensive Environmental Impact Assessment carried out by Arthur D. Little on behalf of the North Caspian Seismic Consortium attests to the environmental awareness of the largest oil companies in the FSU. However, in this particular case liability for past environmental damage was less of an issue, as their activities in the north-eastern quadrant of the Caspian Sea represents one of the largest and most important greenfield exploration ventures in the FSU.

7. POLITICAL RISK

7.1 What is Political Risk?

Political risk is and always will be an unavoidable aspect of international business.¹ Despite substantial analysis and literature on the subject², political risk suffers from definitional ambiguities. Little consensus as to what actually constitutes political risk exists.³ As far as the oil industry is concerned political risk can be broadly defined as anything non-geological.⁴ We choose to define political risk as the probability of a commercial operation being adversely affected *by politically caused actions or circumstances over which a foreign investor has little or no control*. Our definition undoubtedly has a wide ambit, as it not only includes the traditional risks of expropriation and nationalisation, but also includes restrictions on foreign exchange or profit repatriation, adverse tax changes, abrogation of contracts, insecurity of tenure, forced re-negotiation, or even discriminatory access to export routes/quotas. In any of these latter

¹ Lax (1983) *infra* note 2, p 175.

² On the general subject of political risk in the international oil industry see Andrew Seck, "Investing in the Former Soviet Union's Oil Industry: The Energy Charter Treaty and its Implications for Mitigating Political Risk," in The Energy Charter Treaty: An East-West Gateway for Investment & Trade, Ed. Thomas W. Walde, (London: Kluwer Law International, 1996): pp 110-134; Proceedings of AIPN 1996 Fall Conference on Managing Political Risk in the Next Millennium, Banff, Alberta, 22-25 Sept. 1996. Paul E. Comeaux & N. Stephan Kinsella, "Political Risk and Petroleum Investment in Russia," Currents (Summer, 1993): pp 48-56; M.V. Makhija, "Government Intervention in the Venezuelan Petroleum Industry An Empirical Investigation of Political Risk," J.I.B.S. 24 (1993): pp 531-555; Panos E. Cavoulacos, Charles R. Blitzer and David G. Laughton, "Project-Level Political Risk and Petroleum Project Evaluation," Working Paper no. 6-89, Institute for Financial Research, Faculty of Business, University of Alberta, Sept. 1992; James Bond and Ted Gorton, "Non-Commercial Risk and Financing Energy Investments in the Least Developed Countries," paper presented at the SPE Conference on Oil & Gas Economics, Finance and Management, London, 28-29 Apr. 1992; Thomas Stauffer, "Political Risk and Overseas Oil Investment." SPE Technical Paper #18514 (1988); Hansen Zakariya, "Political Risk Insurance in Petroleum Investment," in Nicky Beredjick and Thomas Wälde eds., Petroleum Investment Policies in Developing Countries, (London: Graham & Trotman, 1988): pp 205-233; H. G. Broadman, "Political Risk in the International Oil Industry," Energy Policy 14 (1986): pp 178-180; R.E. Megill, Review of Political Risk and the International Oil and Gas Industry, by H.L. Lax, A.A.P.G. Bulletin 67 (1983): p 2265; H.L. Lax, Political Risk in the International Oil and Gas Industry, (Boston, MA.: International Human Resources Development Corp., 1983); C.A. Gebelin, C.E. Pearson and M. Silbergh, "Assessing Political Risk of Oil Investment Ventures," *reprinted* in Economics & Finance, SPE Reprint Series No. 16, (Dallas, TX.: SPE, 1982): pp 67-72; and F. Ghadar, "Political Risk and the Erosion of Control - The Case of the Oil Industry," C.J.W.B. 17 (1982): pp 47-51.

³ Jeffrey D. Simon, "Political Risk Assessment: Past Trends And Future Prospects," C.J.W.B. (Fall, 1982): p 62. In this article, eighteen definitions of political risk (from different sources) are presented, none are identical yet all possess similarities.

⁴ Bond and Gorton (1992) *supra* note 2, p 8.

circumstances, the key is a unilateral change⁵ in circumstances imposed on a foreign investor to their detriment under the auspices of the government or one of its agents. However, politically motivated actions outside the authority of the government may also impose hardship on foreign investors. Non-governmental forms of insecurity such as insurgency, civil war, terrorism or rioting can be of equal concern. Political risk may be a singular measure, like nationalisation, or it could be more gradual whereby the compounded effect of many minor actions may have the equivalent effect of the former (often referred to as creeping expropriation). Here the dilemma is to distinguish between what is legitimate regulation on behalf of a government and what constitutes concerted discriminatory action directed against a foreign investor.⁶

In light of the above, an investor must continually anticipate, identify and monitor political risks in response to a changing investment climate — this is particularly relevant to the FSU where the situation is extremely fluid and IOCs are contemplating capital intensive, long-term upstream projects. In §5.4.2 we ranked the world's oil reserves according to Euromoney's country risk ranking in order to illustrate the differing attitudes towards political risk between IOCs and commercial banks. This chapter builds on this earlier discussion. Our aim is not to reinvent the "political risk wheel" but rather to provide a current analysis as it pertains to foreign investments in the oil industries of the FSU and provide some new insight into what is already a well established area of research.

7.2 Nationalisation and Expropriation

Traditionally, political risk was more commonly known as hostile government actions such as the wholesale expropriation and nationalisation of investors' assets — indeed the frequency of such actions in the oil industry in the 1960s and 1970s contributed to the

⁵ Unilateral in the sense that the foreign investor has little or no control.

⁶ Abba Kolo, "State Regulation of Foreign Property Rights: Between legitimate regulation and nationalisation - an analysis of current international economic law in light of the jurisprudence by the Iran/US claims Tribunal" Ph.D. diss., CEPMLP, University of Dundee, 1994.

stature of political risk. For IOCs operating in the FSU the conditions of entry are radically different to the initial circumstances experienced by the global oil industry which eventually led to the Middle Eastern expropriations. In a study from the 1980s Fariborz Ghadar, argued that "...a significant part of political risk results from erosion of control."⁷ As an IOC loses control of its operations, political risk increases. "Nationalisation is merely the last step in a logical sequence that occurs when the firm loses control over the crucial elements of its operation."⁸ By comparing the change in level of state ownership surrounding ten such nationalisations,⁹ the initial position of the foreign investor vis-à-vis the government is shown to be a crucial ingredient. In each of these cases the foreign investor entered or created a nascent production operation in which the percentage of state control was very low (typically less than ten percent). At that point in time, the state's primary concern was monetary (i.e. extracting an economic rent from the foreign company).¹⁰ As the nation's economy expands, the host government desires an assimilation of the oil industry enclave into the rest of its economy.¹¹ This event marks the beginning of conflict between the two parties and the erosion of control by the foreign investor. The graphs for each country presented in Ghadar's article are not identical, but they are all similar in the fact that the increased percentage of state participation is shown as a line trending upwards from left to right (some of which are reproduced in Figure 7.1). The exact pattern is dependent on the individual actions taken by each government.

⁷ Ghadar (1982) *supra* note 2, p 47.

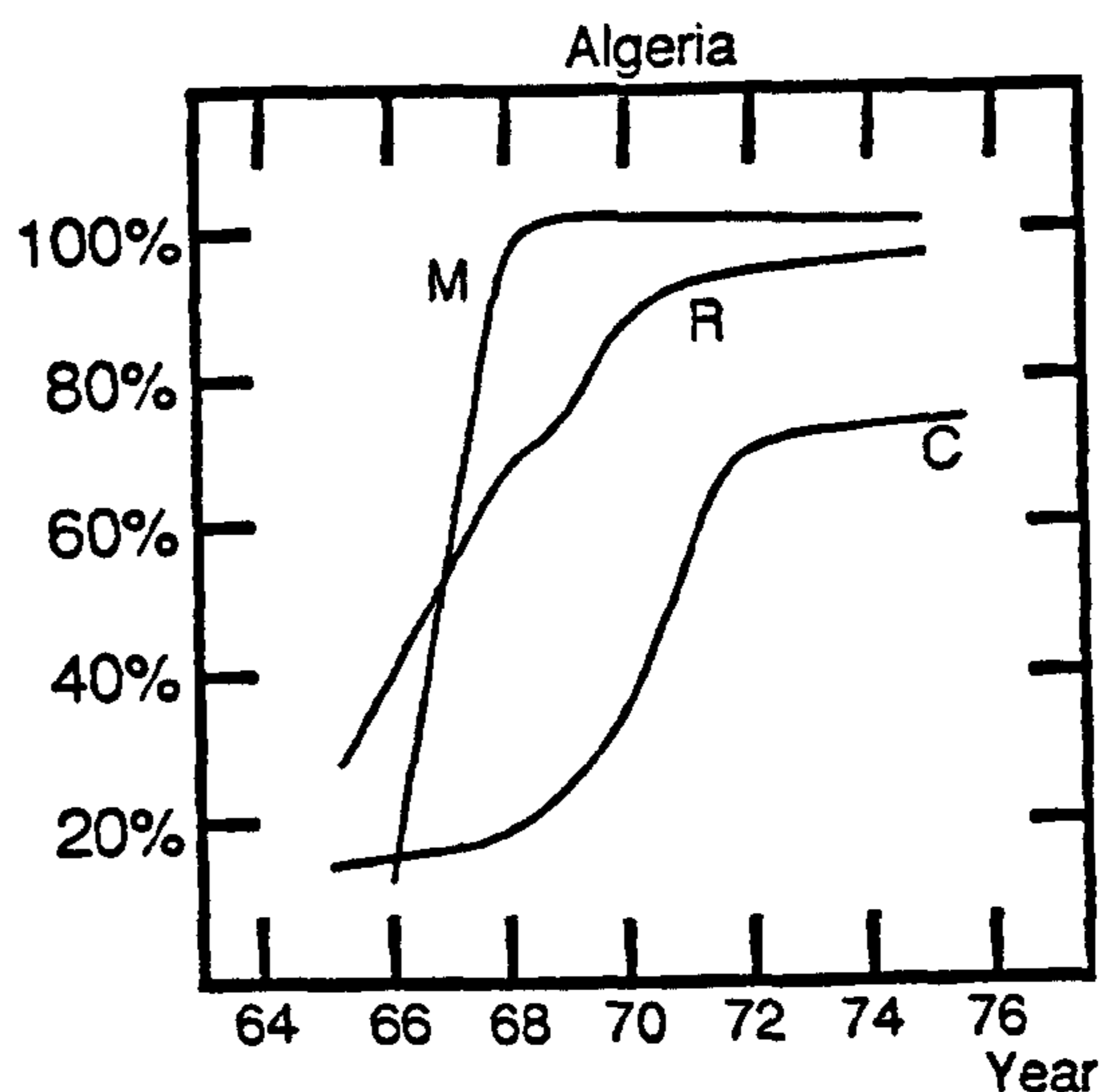
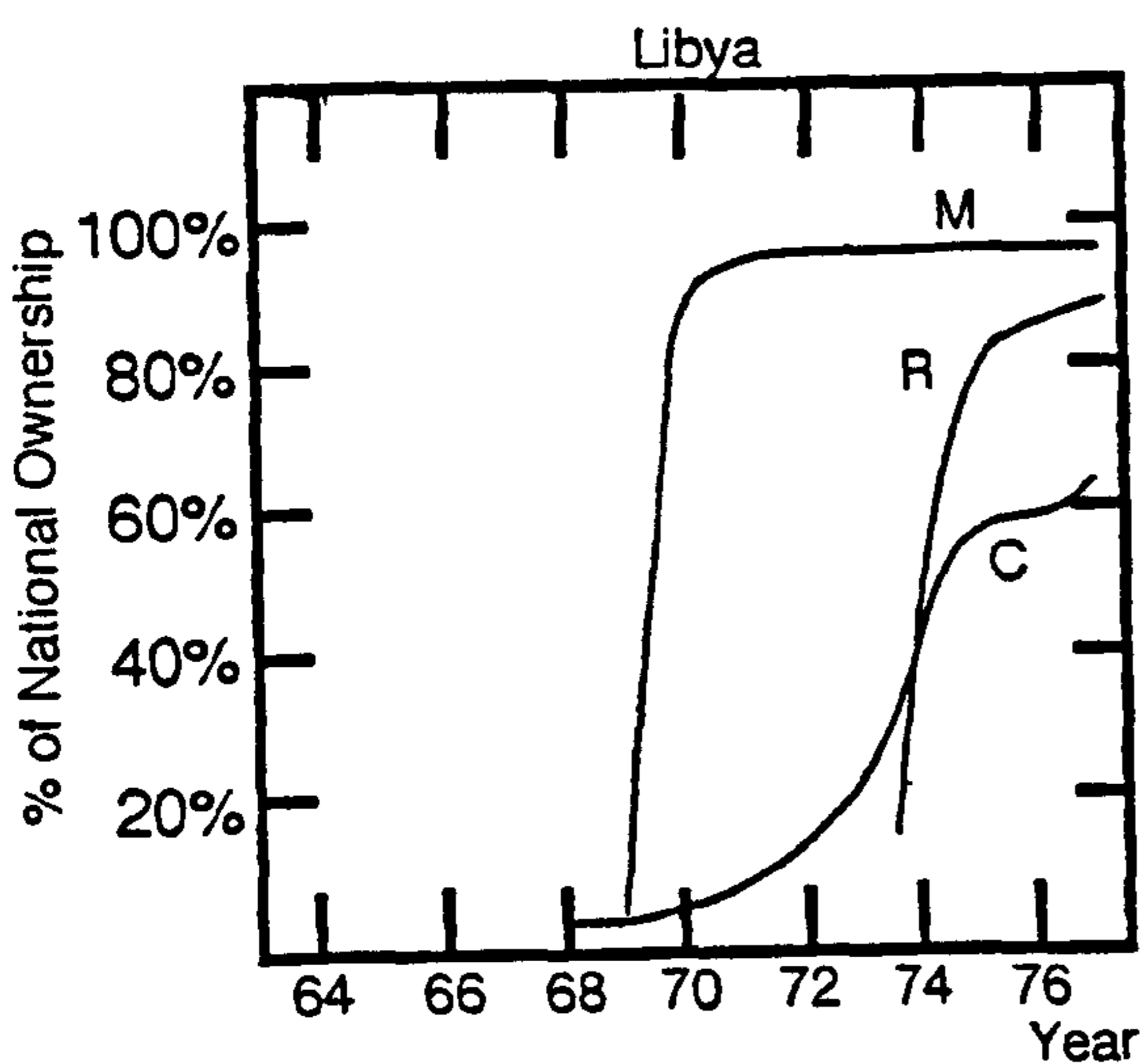
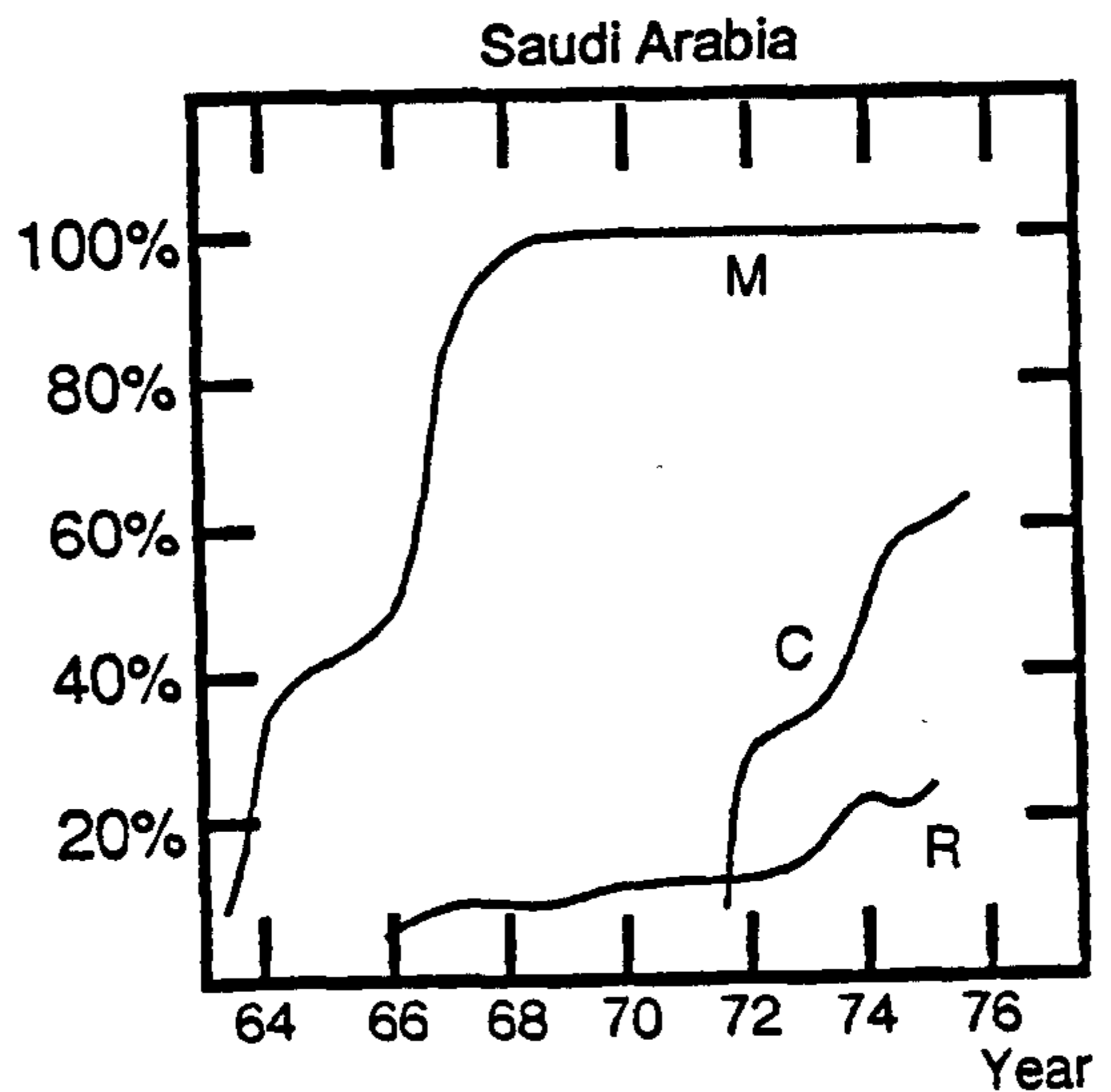
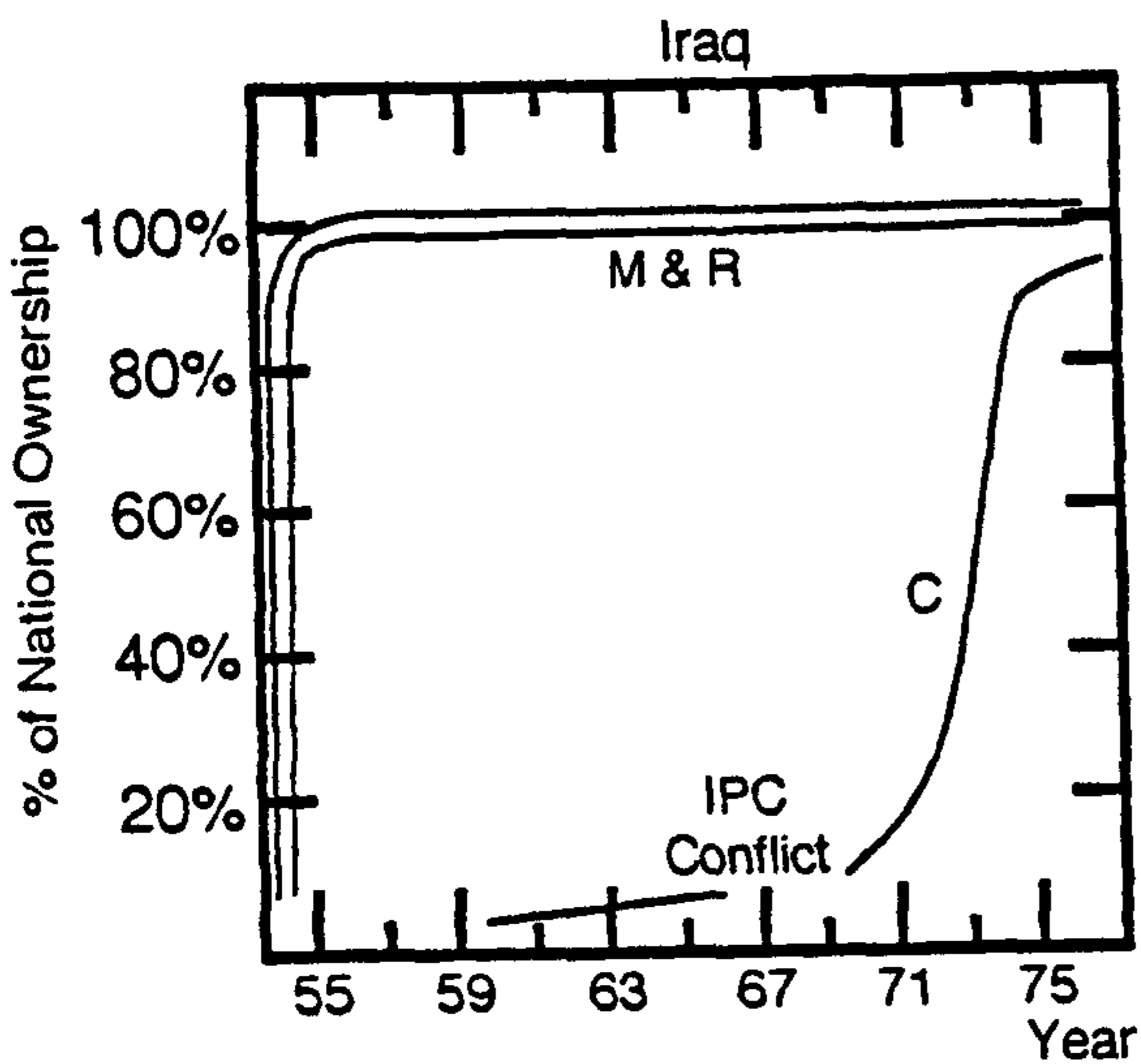
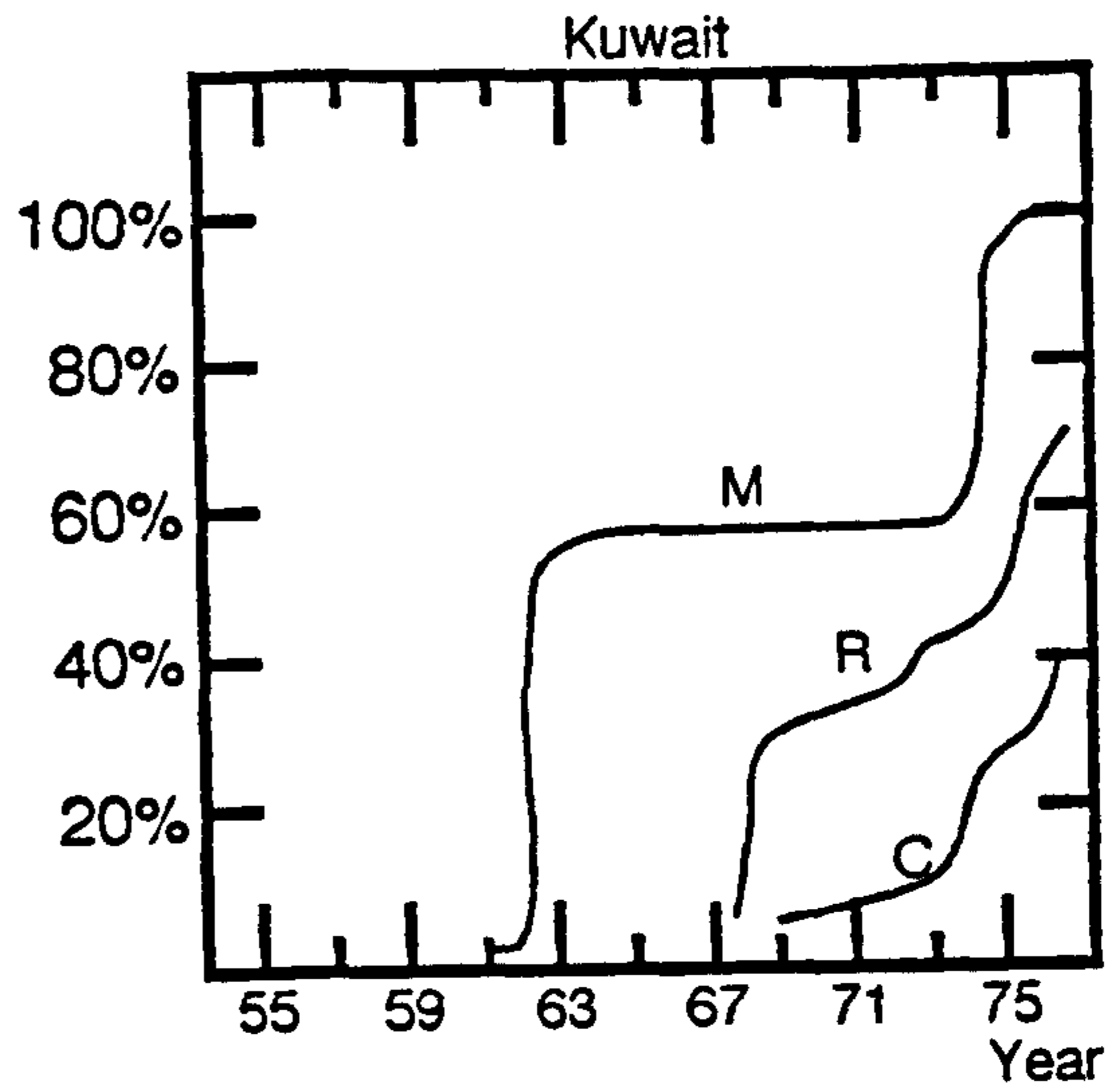
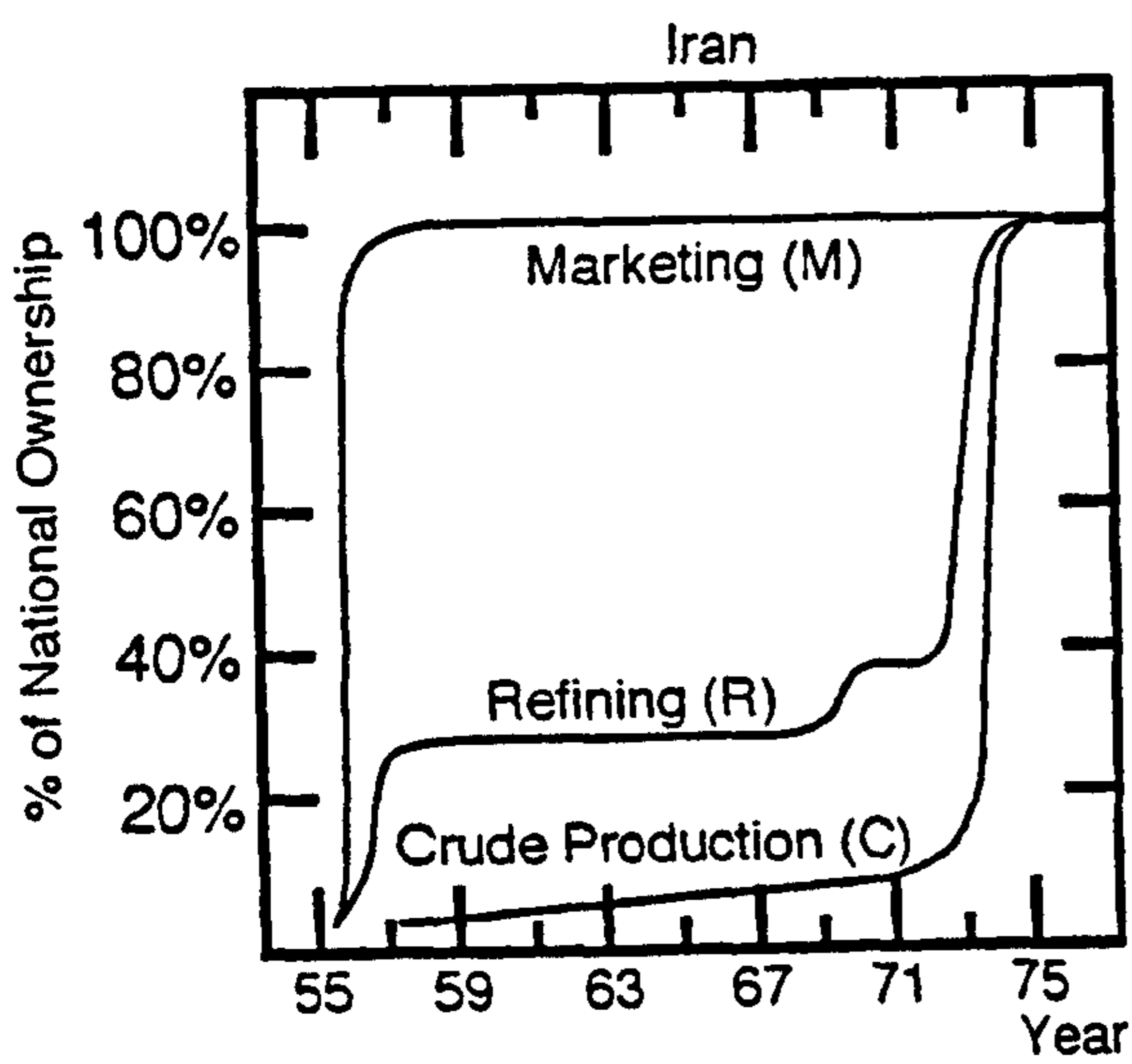
⁸ *Ibid.*

⁹ Iran, Indonesia, Iraq, Kuwait, Venezuela, Saudi Arabia, Algeria, Libya, Nigeria and Abu Dhabi.

¹⁰ Ghadar (1982) *supra* note 2, p 48.

¹¹ This usually begins with the desire for a two way interaction between the local economy and the enclave oil industry (e.g. supplying the local market with petroleum, foreign companies will purchase goods and services from the local economy and train nationals for employment). Typically, the loss of foreign control begins in the domestic marketing, followed by refining, and then finally in the crude production operations themselves. Ghadar (1982) *supra* note 2, pp 50-51.

Figure 7.1 Change of State Ownership in Some Key Petroleum Producing Countries¹²



Contrasted with the current situation in the FSU, an entirely different perception of nationalisation or expropriation arises. When the FSU dissolved in 1991, all three segments of the existing oil industry, marketing, refining and production were 100% owned by the state — the exact inverse of the experience in the Middle-East, Mexico or for that matter Baku at the turn of this century. Of the three principal oil producing FSRs, Azerbaijan, Kazakhstan and Russia, only the latter has hitherto established a significant change in domestic ownership. Azerbaijan has indicated that it has no intention of privatising its production although it is actively attracting foreign investment.¹³ Similarly, Kazakhstan has been very successful in attracting foreign investment, but has hitherto only tried to privatise three of its oil industry enterprises (Aktubinskneft, Chimkent Oil Refinery and Yuzhneftegas).

The case of Russia is quite striking by comparison. The Russian State began to divest its interest in the oil sector in the spring and summer of 1993 when it created the holding companies of LUKoil, Surgutneftegas, and Yukos. Since then others have been added making a total of 14 vertically integrated companies. While most of the production chain is under the control of private operators the state still maintains a 40 to 50% golden share in many of the firms. The exceptions appear to be LUKoil and KomiTEK in which the state only maintains a 20% interest.¹⁴ Earlier the Russian Government announced its intention not to reduce its holding until at least the end of the decade although the controversial loan for shares scheme has at least temporarily relinquished some of the government's holding. Ultimately, the final ownership structure of Russia's oil industry remains uncertain. Meanwhile foreign oil companies through the use of JVs are actively involved in oil production, but their contribution to total Russian oil production remains quite small.

¹³ Fuad Kuliev (Acting Prime Minister, Azerbaijan) responding to a question at the Adam Smith Institute's Third International Conference on Marketisation of the Former Soviet Union: Financing the Oil and Gas Sector Vienna, 22-23 Feb. 1995, see Andrew Seck, "Summary of Question and Answers," in Part II Documentation.

¹⁴ "Gaining Ground," R.P.I., Aug. 1996, p 11.

Table 7.1 Contribution of Joint Ventures to Russian Oil Production and Exports

	1992	1993	1994	1995
Total Production (MMt)	395.1 ¹	351.8 ¹	317.9 ⁵	306.8 ⁶
JV Exclusive Product (MMt)	1.9 ¹	9.1 ¹	8.4 ⁵	10.8 ⁶
JV Production (% of Total)	0.5% ¹	2.6% ¹	2.6% ⁵	3.5% ⁶
Total Exports ex-FSU (MMt)	66.2 ²	79.8 ²	91.8 ⁵	95.6 ⁴
JV Exports (MMt)	4.6 ³	7.8 ³	9.7 ⁵	11.5 ⁵
JV Exports (% of Total)	7% ³	10% ³	10.6% ⁵	12% ⁵
JV Exports (MMt) MFE forecast	N/A	10.0 ⁷	12.6 ⁷	15.3 ⁷

¹ PlanEcon Energy Report 5, no. 1 (Apr. 1995): p 6.

² IEA, *Energy Policy of the Russian Federation 1995 Survey*, p 130.

³ *Ibid.*, pp 120-121.

⁴ *Interfax Petroleum Report*, 9-16 Feb. 1996, p 3.

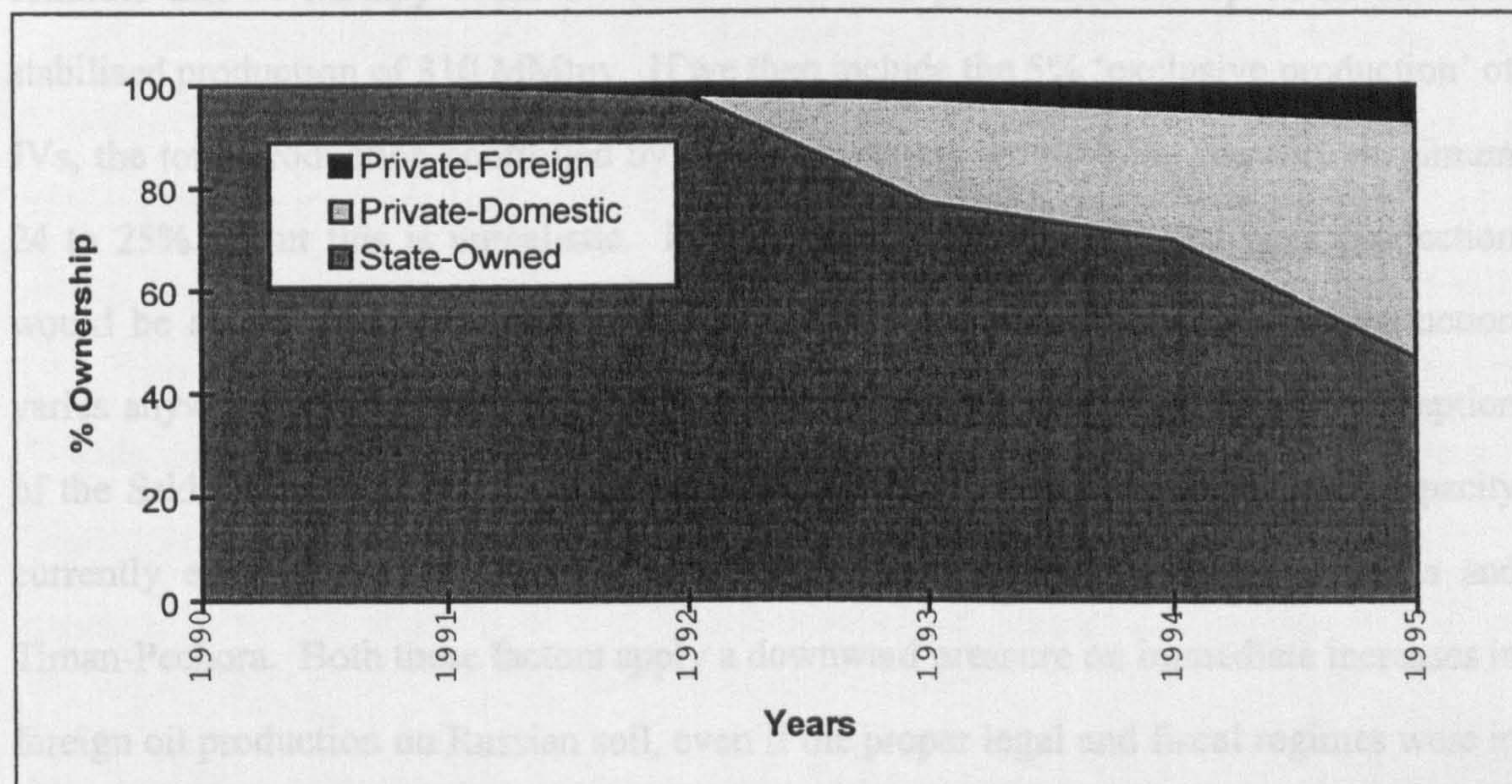
⁵ "Trading Places," *R.P.I.*, Feb. 1996, p 46.

⁶ "Appendix: Oil Production in 1995," *R.P.I.*, Mar. 1996, p 85.

⁷ Igor K. Lavrovsky, "Case Study of Joint Ventures in the Oil Sector of Russia," Aug. 1993, p 9.

Table 7.1 shows that in Russian JVs their exclusive production has only increased to 3.5% of the total production by 1995. Foreign investors enjoy a slightly better position with respect to hard currency exports (i.e. outside of the FSU) which have increased from 7% in 1992 to 12% in 1995, but are still below early Russian MFE estimates. So, although foreign companies are now operating in Russia their direct responsibility for production has remained quite small. This data can now be combined with the ongoing changes of the domestic industry to reveal a more complete ownership structure of Russian oil production.

Figure 7.2 Estimated Ownership Structure of Russian Oil Production



The results contrast sharply with those of Ghadar's study. The dominance of foreign control does not exist — the most essential precondition of expropriation is absent. As to what will happen in the future, increased foreign involvement is likely as it is necessary. But based on the 1991 starting position foreign domination of the Russian oil industry is extremely unlikely (nor desirable). Even if the PSA framework is established in the next year or so and subsequent investment takes place, foreign controlled production will likely remain below 25%, even by the year 2010 in the best of circumstances. Consider the following calculations based on estimated production rates for some the proposed PSAs in Russia.

Table 7.2 Potential Contribution of Early PSAs to Russian Oil Production

Foreign Company	PSA Name	Start-up Prod. (MMtpy)	Peak Prod. (MMtpy)
Total	Kharyaginskoye		4
Timan Pechora Co.	Varandeykoye	6	11
Amoco	Priobskoye		20
Shell/Evikhon	Salymkoye PSA		6
Conoco	Northern Area		6
Exxon/SODECO	Sakhalin - I		23
MMMMS	Sakhalin - II	6	10
Total			80

Source: FOGI Database

Assuming the worst case scenario (from a foreign dominance perspective) that all these projects proceed and achieve peak production by the year 2010, one may generously estimate that 80 MMtpy could be added to Russian production on-top of an assumed stabilised production of 310 MMtpy. If we then include the 5% 'exclusive production' of JVs, the total production controlled by foreign investors would be at the very maximum 24 to 25%. But this is unrealistic. Firstly, it is highly unlikely that peak production would be achieved so quickly — from the limited data available, start-up production varies anywhere from 50% to 60% of peak production; and secondly, with the exception of the Sakhalin projects which can use tankers for export, insufficient pipeline capacity currently exists to handle such an increase in production from Western Siberia and Timan-Pechora. Both these factors apply a downward pressure on immediate increases in foreign oil production on Russian soil, even if the proper legal and fiscal regimes were in place. Furthermore, just because these projects involve foreign investors, does not mean

the latter control 100% of the production. Consider the MMMMS production sharing arrangement which contains the following terms: a royalty of 6%; a profit tax of 32%; and a before tax profit oil split for MMMMS of 90:10 if FIRR is less than 17.5%, 50:50 if FIRR is between 17.5% and 24%, and 30:70 if FIRR is greater than 24%.¹⁵ Thus, it is somewhat unfair to attribute all the production of these projects to the category of foreign production — both Russia and the domestic partners will share in the revenues. However, the time needed to reach peak production and the limitation of existing export infrastructure will constrain increases in foreign ‘controlled’ production in a physical sense and are easily appreciated. The division of revenue argument may not necessarily be appreciated by nationalists who are opposed to any foreign involvement at all costs. In their eyes a PSA is still a foreign-dominated project irrespective of the fiscal details.

Given that foreign controlled production will be less than 25% of the total, the impetus for a one-off expropriation or nationalisation of foreign oil producing assets should not exist. The crucial ingredient outlined in Ghadar’s study is missing. Thus, we believe the risk of out-right expropriation or nationalisation is minimal.

This should not be construed as believing that Ghadar’s earlier study is the only thesis on expropriation. After all history never repeats itself exactly. Nevertheless, the key ingredient which Ghadar identified — the foreign domination factor — remains true. What likely varies over time and across cultures is the threshold level which triggers a hostile and nationalistic reaction. In the case of Russia, the actual percentage of FDI may not be so relevant as the public’s perception of it whether justified or not. Perhaps only 10% foreign controlled production would be enough to be considered a national threat. Despite the obvious uncertainties of establishing that critical hurdle rate, we believe it is important, that proponents of FDI grasp the thrust of Ghadar’s earlier argument, as a means of placating the concerns of Russians who fear foreign domination of their oil

¹⁵ “All’s Well That Ends Well,” R.P.I., July/Aug. 1994, pp 53-55, 58.

industry; concerns which seem unjustified. However, this assessment is most relevant to the case of Russia where such a large oil industry already exists.

In the case of the smaller producers such as Azerbaijan, Kazakhstan, Uzbekistan or Turkmenistan, such assessment is less straightforward. None of these countries are likely to privatise their oil sectors to the same extent as Russia has done, but due to their smaller size, large one-off foreign investments, such as Chevron's Tengiz project or AIOC'S offshore development project in the Caspian Sea could account for a substantial portion of the host country's future production.

Oil production in Azerbaijan has been declining at an average of 5.1% per annum since its peak to result in a production level of 9.1 MMt in 1995. According to AIOC's projections, their project alone could be producing 700,000 bopd (35 MMtpy) in fifteen years time. Thus, this single project (for which SOCAR has a 10% equity stake) could account for 89% of Azerbaijan's production of crude oil in the year 2010. This is an extreme illustration as the calculations assume a continuing decline of existing production with no additional projects, which is unlikely to be the case. We do not believe that the current Azeri Government would even consider an outright expropriation of a foreign company's producing assets. The downside of such a response is overwhelmingly in favour of the international community at the present time.¹⁶ But it is important to realise that conditions may arise similar to the situation which led to previous expropriations in the Middle-East — the overwhelming dominance of production by foreign oil companies.

¹⁶ The geopolitics of the Transcaucasus is highly complex. Azerbaijan, located at the cross-roads of three former empires — the Persian, the Ottoman, and most recently the Russian — needs a western counter-balance to the latter. The country itself could not afford to turn its back on the West, unless it was willing to subordinate itself to the Russian Federation.

Now consider the production forecast for Kazakhstan.

Table 7.3 Forecast of Oil Production in Kazakhstan

	1995 ²	1996	1997	1998	1999	2000	2005	2010
Total Oil Production (MMt) ¹	20.6	26.3	30.6	33.5	40.0	47.2	61.0	71.0
Percentage by Joint Ventures (%)	13.9%	29.6%	30.1%	30.9%	37.3%	38.5%	48.7%	57%

¹ All figures from 1996 onwards are based on estimates provided by Munaigaz. "Kazakhstan Hopes to Triple its Oil Output by the Year 2010," Interfax Petroleum Report, 17-24 Nov. 1995, p 10.

² Interfax Petroleum Report, 12- 19 Jan. 1996, p 22.

In 1995 JVs with foreign partners accounted for 13.9% of all oil production in Kazakhstan (a percentage which is considerably higher than the 1995 figure for Russia). Clearly the Government of Kazakhstan intends that foreign investment will play a very large role in the development of its oil industry. By the year 2010 some 57% of Kazakhstan's oil production will come from foreign companies — with the TengizChevroil JV contributing about 36 MMt (i.e. 51% of total oil production or 89% of foreign contributions). It seems that Kazakhstan's intended production profile is quite balanced with respect to the interests of both foreign companies and state-owned companies. Whether such a profile will materialise is a matter of conjecture similar to that provided for Azerbaijan. But comparing the two, other things being equal, Kazakhstan's scenario is less exposed to the risks of nationalisation or expropriation because of a more balanced production profile between foreign investors and domestic entities.

Somewhere there exists a balance, clearly foreign interests can expand considerably in all oil producing FSRs, more so than they have done to-date, without raising the sceptre of outright nationalisation. We conclude the risk of out-right expropriation or nationalisation is extremely low at the present time. But it will be up to both parties, particularly the foreign companies to manage their assets in such a manner that an equitable distribution of rewards remains for as long a period as possible. The analysis carried out by Ghadar in 1982 is just as relevant today and must not be forgotten. The essential precondition of expropriation or nationalisation is the overwhelming dominance of foreign interests in a country's oil production. Equally though, the occurrence of

actual losses due to nationalisation are in fact quite rare.¹⁷ But one must never be too complacent about the future even if the risks are at present quite low. As stated earlier political risks must be continually anticipated, identified and monitored in response to a changing investment climate. What is of immediate concern for foreign investors is risk of creeping expropriation due to the nascent legal and fiscal regimes.

7.3 Creeping Expropriation

Creeping expropriation is the risk of unilateral renegotiation, government sponsored interference with operations or adverse tax changes having the equivalent effect of expropriation. A host state may decide to take advantage of its position during the project cycle due to a condition known as obsolescing bargaining.¹⁸ As Raymond Vernon, the father of the theory explains, the initial concession contract between an investor and host government will likely be tilted towards the former in order to compensate for high up-front risks associated with a resource extractive project. But once a project is on-line and profitable, the bargaining position shifts in favour of the host state. The investor having incurred sunk costs must do everything to keep the project a going concern in order to recover its investment, even if this requires making further concessions. A host state may use this weakness to gain a larger share of the economic rent, either through renegotiation or a change in the fiscal regime. It has been recognised that "...few large natural resource concessions in underdeveloped countries remain long unchanged."¹⁹

The fact that 93% of potential upstream projects in the FSU involve existing deposits should theoretically lessen the risk of obsolescing bargaining because discovery risk has,

¹⁷ Study cited in Bond and Gorton (1992) *supra* p 8.

¹⁸ Raymond Vernon, Sovereignty at Bay: The Multinational Spread of US Enterprises, (London: Longman Group Ltd., 1971): pp 46-53; Raymond Vernon, Storm over the Multinationals: The Real Issues, (London: The Macmillan Press Ltd., 1977): p 151; and J.M. Chermak, "Political risk analysis Past and Present," Resources Policy, 18, no 3 (1992): p 170.

¹⁹ Theodore H. Moran, Multinational Corporations and the Politics of Dependence: Copper in Chile, (Princeton, NJ.: Princeton University Press, 1974).

to some extent, been removed from the chain of events. Thus when a contract is being negotiated a much better understanding of the future revenues (uncertainties in future oil prices, etc. notwithstanding) will be known rather than at the beginning of an exploration contract. Assuming a more equitable distribution of profits is achieved from the outset, there should not be the same impetus for renegotiation. While this sounds fine in theory it does break-down in practice. Even if revenue forecasts are closer to their actual values, opportunistic behaviour by the state is still possible, nor is opportunism the sole preserve of governments. Companies can be just as guilty and bring the risk of creeping expropriation on themselves. In the case of an existing deposit both parties may be negotiating from a position of better geological knowledge, but there is little to stop an unscrupulous investor from negotiating a less than ideal contract for the host government. One can only speculate as to what portion of contracts entered into immediately following the dissolution of the FSU, fall into this category.²⁰ As officials in FSRs become more knowledgeable in the ways of international business transactions, foreign investor opportunism will be less feasible.

In the FSU, government opportunism is a very real threat because of the nascent legal and fiscal framework. The absence of pervasive "economic legality"²¹ described as a mutually consistent set of laws and the belief in the stability and enforcement of those laws, affords foreign investors with few defences against adverse changes of terms in the future. It has long been recognised that the 'absence of a clear legal and fiscal framework' is the principal impediment to foreign investment in the FSU.²² Barring true

²⁰ *E.g. see* Joseph A. Kliger, Business Ventures in the Former Soviet Union: Negotiation and Protocol Do's and Don'ts, (Tulsa, OK.: PennWell Publishing Company, 1994): pp 89-90.

²¹ Litwack (1992) *infra* note 22, p 111.

²² From our point of view some of the better writings include: Thomas W. Wälde and James L. Gunderson "Legislative Reform in Transition Economies: Western Transplants — A short-cut to Social Market Economy Status?" I.C.L.O. 43 (1994): pp 347-378; Thomas W. Wälde, "Oil and Gas Legislation in Russia: From Texas to Siberia — Is a Russian Model Emerging?" in International Oil and Gas Investment Moving Eastward? Thomas W. Wälde and George Ndi eds. (London: Graham & Trotman, 1994): pp 235-252; Paul R. Gregory, "Creating a Legislative Framework for a Market in Energy Resources: An Economist's View," Hous.J.Int'l.L. 15 (Winter/Spring, 1993): pp 539-552; and John M. Litwack, "Legality and Market Reform in Soviet-Type Economies," in The Road to Capitalism Economic Transformation in Eastern Europe and the Former Soviet Union, David Kennett and Marc Leiberman eds.,

legislative stability the principal protection from creeping expropriation takes the form of stabilisation clauses both at the level of host country legislation and in the natural resource contracts themselves:

“The function of stabilisation clauses — their specific formulation and legal value — is best understood in the context of the negotiation and subsequent operation of a foreign investment project. The relative stability of key investment conditions responsible for the economic and financial performance of the investment venture is at the heart of investor concerns, and is therefore at the centre of both the negotiation of the specific contractual regime and the proper design of a standard regulatory regime. This is particularly so for natural resource and energy projects where duration and risk exposure is particularly long, capital investment particularly intensive, and project risk...particularly acute. *Stability of the fiscal regime...is probably the key issue for stabilisation concerns.*”²³ (emphasis added)

With this in mind, we shall briefly review the differing experiences of Kazakhstan, Turkmenistan and Russia.

7.3.1 Stabilisation Provisions in Kazakhstan

Kazakhstan’s first Law on Foreign Investment²⁴ contained no guarantees with respect to adverse changes in laws or regulations, but its current version explicitly does so:

“In the case of a deterioration of the position of a foreign investor which is the result of changes in legislation and/or entering into force and/or changes in the provisions of international treaties, the legislation which was in effect at the moment the investment was made shall apply to foreign investments for a period of 10 years, and with respect to those investments carried out in accordance with long-term contracts (more than 10 years) with authorised state bodies — until the expiry of the effective period of the contract, unless the contract stipulates otherwise. In the case of an improvement of the position of a foreign investor, which is the result of changes in legislation...the contracts...may be altered with the mutual consent of the parties for the purpose of achieving a balance of economic interests of the participants.”²⁵

(Orlando, FL.: The Dryden Press, 1992): pp 110-119.

²³ Thomas W. Wälde and George Ndi, “Stabilising International Investment Commitments: International Law Versus Contract Interpretation,” *Texas Int’l. L.J.* 31 (1996): p 220.

²⁴ “Law on Foreign Investments in the Kazakh SSR,” adopted by the Kazakh SSR Supreme Soviet, 7 Dec. 1990 as amended 8 Apr. 1993. W.E. Butler, Maryann E Gashi-Butler and Iu V. Maltsev eds. *Foreign Investment and Privatisation in Kazakhstan*, 2nd ed. (London: Clifford Chance & Interlist Publishing Ltd., 1994): pp 350-355.

²⁵ Art. 6(1), “Law #266 - XIII of the Republic of Kazakhstan Concerning Foreign Investments dated 27 Dec. 1994, adopted 20th January 1995,” English translation by Baker & McKenzie, photocopy n.d., in author’s file.

This stabilisation clause was reaffirmed in its long-awaited Petroleum Law published on 20th July 1995. Article 57 states that...

“the contractor is guaranteed protection of its rights in accordance with Kazakh Republic legislation. Amendments and supplements to the legislation which damages the contractor’s position do not apply to licences and contracts issued and concluded before such amendments and supplements were adopted.”²⁶

Kazakhstan has gone a long way towards guaranteeing the stability of investment terms, however, there is some uncertainty as to whether the fiscal terms of resource contacts are truly stabilised. The above two pieces of legislation suggest this is the case, but Article 94(4) of the Kazakhstan’s new tax code may indicate otherwise. Changes in tax legislation will apply, with the only remedy being the possible amendment of their contracts to restore a balance of interests.²⁷ For Kazakhstan’s most important oil project, the TengizChevroil JV, the government removed any ambiguity by issuing a special edict on stabilisation.

“The established mechanism of assessment and payment of royalties, profit tax, value added tax, and other mandatory payments defined by the pertinent Agreement is to be preserved during the entire period of activity of said joint venture enterprise.”²⁸

7.3.2 Stabilisation Provisions in Russia

Soviet stabilisation clauses first emerged under the reforms initiated by Gorbachev. The 1987 “Law on the State Enterprise” prescribed stable taxes for state enterprises for a period of five years while the 1988 “Law on Co-operation”, also provided stable tax rates for at least a five year period for co-operatives. It was another five years before Russia would offer a semblance of legislative stability to foreign investors. Decree No. 1466, “On Improving Work with Foreign Investment,” dated 27 Sept. 1993 stated

²⁶ Art. 57, “Presidential Decree of the Kazakh Republic with the Force of a Law on Oil,” first published on 20 July 1995 in *Kazakhtanskaya Pravda*, but dated 28 June 1995 and entered into effect on 1 July 1995. Photocopy n.d. in author’s file.

²⁷ Art. 94(4), Decree No. 2235 On Taxes and Other Obligatory Payments to the Budget, dated 24 Apr. 1995. See Jonathan H. Hines and Natalya V. Brainina, “Kazakhstan paves its Legal Road for Resource and Other Large-Scale Investments: Some Bumps Remain,” *International Practitioners Notebook*, nos. 58 & 59, Aug. 1995.

²⁸ Art. 3, Edict of the President of the Republic of Kazakhstan “On Activities of the TengizChevroil Joint Venture,” dated 8 Apr. 1994, reprinted in Barrows, *Russian & NIS Basic Oil Laws & Contracts*, Supp. 16 (New York, NY.: Barrows Company, 1996): p 71.

“that it be established that newly issued normative acts defining the conditions of operation on the territory of the Russian Federation for foreign enterprises and joint ventures shall not apply for a term of three years to those enterprises and ventures that exist at the moment of issuance of such acts. This provision will not apply to normative acts creating more beneficial conditions of operation on the territory of the Russian Federation for foreign enterprises and joint ventures.”²⁹

These rights were subsequently extended to PSAs with the promulgation of Decree No. 2285 dated 24 Dec. 1993.

“Should legislative acts passed in the Russian Federation create norms adversely affecting the economic conditions of the investor’s operations under a production-sharing agreement during its term of validity, *the agreement shall be amended so as to guarantee commercial results that the investor could have achieved under the legislation, effective as of the date the agreement was made.* The procedure for amending a production-sharing agreement as aforementioned shall be defined in the agreement.”³⁰ (emphasis added)

In theory the above two clauses were to stabilise legislative provisions governing JVs for a period of three years, and possibly for the entire term of a PSA. Unfortunately, the effectiveness of Decree No. 1466 appeared to last all of three months when Decree No. 2270 introduced a variety of new taxes.³¹ All subsequent efforts by foreign investors to invoke the protection of Decree No. 1466 have been in vain. The stabilisation provision was simply ignored or it provided too many loop-holes allowing the Government ample room to manoeuvre. Russia finally enacted its “Law on PSA” on 30 December 1995³² and western investors recognised it as an important milestone but were disappointed on a number of counts including the stabilisation clause. While Article 17(2) allows a PSA to be amended to guarantee the same commercial results to the investor in the event of a change in legislation; Article 17(1) enables the government to alter the conditions of the

²⁹ “A Matter of Semantics,” R.P.I., May 1994, p 26.

³⁰ Art. 11, Decree No. 2285 of the President of the Russian Federation, “On Matters Pertaining to Production Sharing in the Use of Underground Resources,” dated 24 Dec. 1993 *reprinted* in R.P.I., Feb. 1994, pp 74-75; and Petroconsultants, Acreage, Laws & Tax: CIS - Russia, V-R-8, pp 1-2.

³¹ Decree No. 2270 of the President of the Russian Federation, “On Changes in Taxation and in the Relationship Between Budgets of Different Levels,” dated 22 Dec. 1993.

³² Russian Federation Federal Law No. 225-FZ “On Production Sharing Agreements,” dated 30 Dec. 1995 *reprinted* in FBIS-SOV-96-020-S, 30 Jan. 1996, pp 35-44; and Russia & NIS Basic Oil Laws & Contracts, Supp. 16, pp 90-103.

PSA in response to a “a substantial change in circumstances.” Foreign investors have sought clarification of the wording but would prefer the offending provision be deleted.

As the instability of Russia’s legal and fiscal regime is recognised as the principal impediment to foreign investment, the need for an enforceable grandfather clause is paramount. The essence of a PSA is to isolate the contract from such instability. This mechanism does not eliminate the risk of obsolescing bargaining (that is unpreventable following sunk costs), but it does help to discourage host government opportunism. Hitherto Russia has not provided the contractual stability which IOCs seek.

7.3.3 Stabilisation Provisions in Turkmenistan

In September 1994 Turkmenistan embarked on renegotiating three oil production JV contracts: Keymir JV involving Bidas of Argentina; Yashlar JV also with Bidas; and the Larmag-Cheleken JV with Larmag Energy of the Netherlands. According to Khekim Ishanov, the Minister of Oil and Gas, these renegotiations were necessary to correct the mistakes of the past and assure Turkmenistan a greater share of the benefits.³³ The subsequent Minister, Amangeldy Esenov, maintains that their efforts were “an elaboration of certain clauses with the JVs charter documents and agreements...concluded to the mutual satisfaction of all parties involved.”³⁴ Semantics notwithstanding, the underlying reality is a unilateral renegotiation and is a classic example of *ex post* creeping expropriation. To the best of our knowledge the only stabilisation clause in existence is Article 20 of the “Law On Foreign Investments in Turkmenistan” which states that:

“in case of change in legislation concerning foreign investments, a foreign investor’s requirement the Law, that was in force at the moment of investment registration, is used for the period of 10 year [sic].”³⁵

³³ “Quick Fix,” R.P.I., Nov. 1994, pp 48-48.

³⁴ “Esenov on Investment,” R.P.I., Apr. 1995, pp 48-52.

³⁵ Art. 20, “Law of Turkmenistan About Foreign Investments in Turkmenistan,” dated 19 May 1993 as amended 8 Oct 1993. Department of Contractual and Legal Affairs The Ministry of Oil and Gas of Turkmenistan, Photocopy, 21 Sept. 1995 held in author’s file.

As this grandfather clause deals solely with legislative changes it does not provide any protection against the aforementioned cases of contractual renegotiation. If the JV documents contained a stabilisation clause we can surmise that they too appear to have been ineffective.

The significance of the Turkmen renegotiations is that it seriously tarnished the reputation of the country's administration. Without knowing the full details of each contract we cannot pass judgement, but perhaps some of the original agreements were unfairly biased in the favour of the foreign companies. For instance, the Keymir JV renegotiation involved a change in the division of base oil. The original contract stipulated that the government was to receive 10% of the 'base oil' — normally defined as the decline curve without foreign investment. Under the revised contract Turkmenistan would receive 100%. As to whether this was an unreasonable demand we can only speculate. But it seems the original treatment of 'base oil' by Bidas is not typical in the FSU. From contracts to which we have access, 'base oil' is treated as belonging solely to the domestic partner while the foreign partner shares in a portion of the incremental production.³⁶ In Russia a JV's 'own production' is calculated as the excess above the base amount.³⁷ Perhaps Turkmenistan was justified in renegotiating the Keymir JV contract with Bidas; but it is also worthwhile to reflect on the experience of another major oil producer. When Indonesia signed their first PSC with the Independent Indonesia American Petroleum Company (ILAPCO) in 1966, the terms were considered favourable to ILAPCO and formed a basis for future contracts which became known as the first generation PSCs.³⁸ In response to Indonesia's flourishing oil industry and rising

³⁶ Azerbaijan — "Agreement on the Formation and Business of the Joint Venture 'Ansad Petrol'" reprinted in Russian & NIS Basic Oil Laws & Contracts, Supp. 5, pp 16-34; Kazakhstan — Art. 2(6)(3), "Service Contract No. 3-95 Between Uzenmunaigas and Double Eagle Energy Co. Inc." dated 14 Feb. 1995, Photocopy. held in the author's file; Kazakhstan — Art. 1(4)(14), "Service Contract No. 9 Between Manistaumunaigas and Double Eagle Energy Co. Inc." dated 26 Dec. 1994, Photocopy held in the author's file.

³⁷ *Se* Petroconsultants, Acreage, Laws & Tax: CIS-Russia, (London: Petroconsultants, Sept./Aug. 1994): pp 93-94.

³⁸ Zhiguo Gao, International Petroleum Contracts: Current Trends and New Directions, (London: Graham & Trotman/Martinus Nijhoff, 1994): pp 68-69.

oil prices, the bargaining position began to shift and Indonesia chose to tighten the terms in the second and third generation PSCs. But Indonesia never discriminated against any single PSC, even the most favourable.³⁹ The long-term success of Indonesia's oil industry suggests this is a message worth impressing upon Turkmenistan. A country's good reputation is a precondition for attracting FDI over the long-term. It is unfortunate that Turkmenistan chose to tarnish its reputation over the operations of three small JVs. Only in the summer of 1996 did Turkmenistan finally conclude its first two PSAs (the first with Petronas (Malaysia) and the second with Monument Oil & Gas of the UK). One can be certain that these PSAs contain stabilisation clauses.

7.3.4 Summary of Stabilisation Provisions

Of the three countries surveyed, Kazakhstan has made the greatest progress in guaranteeing the stability of contractual terms and conditions for foreign investors. Whether or not Turkmenistan was justified in renegotiating three JV contracts is a moot point, but the government undoubtedly damaged its reputation for a period of time. Although Russia initially attracted the greatest deal of attention from IOCs, the country has hitherto failed to capitalise on this opportunity by not providing, *inter alia*, adequate protection from legislative changes. We believe the PSA mechanism with its built-in stabilisation clause is a means of reducing exposure to creeping expropriation which is a concern in the FSU today. Whether or not the stabilisation clause can truly achieve its purported goal over a long period of time is debatable and the author's Wälde and Ndi have examined this issue in some detail.⁴⁰ But regardless of one's views on this discussion, at the present time, the mere existence of a stabilisation clause(s) remains on the check-list of investor's pre-conditions.

³⁹ This requires some qualification in that Indonesia, following the example of the United States in imposing a "windfall profits tax" on oil companies in the face of rising oil prices, raised the profit oil split from 65/35 to 85/15 on all contracts in 1976. The Indonesian government's decision was largely based on an IMF report which advocated that oil company profits in Indonesia "appeared to be very high by historical standards and even more so by international comparison." See Donald F. Todd, "An Indonesian Experience," in The Oil Finders: A Collection of Stories About Exploration, Ed. Allen G. Hatley, (Utopia, TX.: Centex Press, 1995): p 115.

⁴⁰ "From a practical point of view, therefore, the degree of protection which the stabilisation clause can offer to the foreign investor under international law is by no means easily determined." *Supra* note 23, p 247.

7.4 Ex Post versus Ex Ante Political Risks

The preceding analyses on political risk has been carried out from an *ex post* perspective, that is, once an investment has been made and is an ongoing concern. The bargaining position of the investor is weakened (and potential exposure to risk increased) once sunk costs are incurred, particularly before pay back has been reached. While the phenomenon of 'obsolescing bargaining' is applicable to the FSU it does not provide a complete picture. The investment process in the FSU should be segregated into two time frames: the *ex post* position which is the typical perspective used in political risk analysis; and the *ex ante* period when a potential investor is considering an investment. Given the high transaction costs associated with securing a deal in FSRs the exposure to risk in the pre-investment stage is very real. Not in the sense that a physical asset may be lost, but in the time, money and management resources expended to obtain a deal.

The *ex ante* phase of an investment cycle typically begins with a desk top study followed by further researching, country visits, possibly setting up representative offices, submitting application for tenders, and negotiating. We refer to these as the transaction costs of securing a deal. Obviously, the investor is less exposed to risk at *ex ante* stage as compared to its position after the investment has been made, but there is still an opportunity cost at risk particularly for smaller companies with limited financial and managerial resources. Companies can only pursue a limited number of opportunities at once and resources directed to a specific proposal will be to the detriment of other possible projects. Thus the cost of failure in the pre-investment stage for one project is not just the monetary costs on that specific project, but could also include the opportunity cost of foregoing other opportunities. As the Chairman of Ramco Oil Services plc (UK) stated in their 1993 Annual Report "although we have no external costs in connection with our Caspian Sea interests, *we are carrying an increased overhead in support of our strategic objectives.*"⁴¹ Therefore exposure to political risks at the pre-investment stage does carry consequences for a foreign investor. Consider the following, in May 1993, the

⁴¹ Ramco Oil Services plc., Annual Report and Accounts 1993, p 9.

Russian Prime Minister, Victor Chernomydrin, denounced a contract with Conoco for the exploration and development of the Shtokomanovskoye natural gas and condensate field even though the company had completed the feasibility study in 1992. Conoco, acting in good faith had signed a deal, carried out the required feasibility study only to be told that Gazprom and Rosshelf were to be awarded the development license. This is a classic example of a *ex ante* political risk. Finally, in October 1995, Conoco along with Neste, Total and Norsk Hydro signed a protocol of intent with Gazprom and Rosshelf to examine a joint development programme for Shtokomanovskoye. Conoco is not out of the picture just yet, but they now acknowledge the “management burden required for success.”⁴² Conoco will likely succeed in the end but the costs incurred will run tens of millions of dollars. Not insignificant transaction costs. While the large IOCs can weather the peaks and troughs of the *ex ante* investment stage, it is highly unlikely that E&P companies or even some of the independents can assume such risks. Unless, a small company is astute enough and probably lucky enough to enjoy a ‘free carry’ through the torturous negotiation period lasting a number of years, the *ex ante* cost of securing a deal in the FSU may be too prohibitive.

There is no doubt that the lure of the FSU’s hydrocarbon potential has whet the appetite of many IOCs. But the cost of securing a deal is high. Only as the commercial interface is smoothed between the East and West will transaction costs be lowered. In the meantime, the *ex ante* risk of expending valuable resources without a result (a version of gambler’s ruin) remains a real concern. The corollary is that only those with ‘deep pockets’ should venture into the FSU’s oil industry.

⁴² David Rossiter (Vice President of Conoco) presenting a talk entitled, “Russian energy: experience of an international producer,” The Changing Politics of International Energy Investment Conference held by RIIA, BIEE, IAEE and Montreaux Energy in London, 4-5 Dec. 1995.

7.5 Risk of Russian Hegemony

FSRs were initially encouraged to “take all the sovereignty you can swallow.”⁴³ This attitude reflected the pragmatic approach of reformers who wished to relinquish Russia’s commitment to costly subsidies which helped bind the former empire, but were also impeding macroeconomic reforms.⁴⁴ At the same time Russian attentions were drawn away from the peripheries towards their own heightened internal turmoil. But, as Russia’s economic transformation has progressed, policy makers are re-examining Russia’s role in its near abroad. The West must adopt a pragmatic approach which recognises that Russia has and will play a major role in the future development of its near abroad.

Those states which offer little attraction for Russian business concerns will inevitably be pushed back to the periphery of her influence, unless other political considerations prevail.⁴⁵ In states with significant deposits of petroleum, foreign and Russian oil interests will meet. We have identified three pillars of Russian policy which have a direct bearing on petroleum developments in its near abroad: Russian claims of equity compensation for deposits previously discovered; the legal status of the Caspian Sea; and control over export routes. The latter subject is addressed separately in Chapter 8.

7.5.1 Resurgence of Russian Hegemony

Western oil companies investing in FSRs must contend with Russian hegemony. Its existence is undeniable, the uncertainty lies in the degree to which Russian hegemony will prevail and how IOCs can best accommodate Russia. The oil industry which was

⁴³ Quoting Boris Yeltsin from a speech in 1990. Jack F. Matlock Jr., Autopsy on an Empire, (New York, NY.: Random House, 1995): p 398.

⁴⁴ William E. Schmickle, “The Yeltsin Revolution and Russian Export Protectionism,” in *supra* Palmieri (1994): p 72. For further discussion on the Russian policy debate in Central Asia and the Transcaucasus see Irina Zviagelskaia, The Russian Policy Debate on Central Asia, (London: RIIA, 1995); Mohiaddin Mesbahi ed. Central Asia and the Caucasus after the Soviet Union, (Gainesville, FL.: University Press of Florida, 1994); and Shireen T. Hunter, The Transcaucasus in Transition: Nation-building and Conflict, (Washington, DC.: CSIS, 1994); and Jonathan Aves, Post-Soviet Transcaucasia, (London: RIIA, Feb. 1993).

⁴⁵ Zviagelskaia (1995) *ibid.*, p 28.

once among the confines of a single sovereign nation has now been segregated into fifteen individual republics. As one Russian commentator states...

“...distinct from the matryoshka style, quasi-political structure of the former Soviet Union, the economic structure was a complex of industries, each of which was built as a single organism with subsidiaries distributed among different political and administrative parts of the state without consideration for their possible nationalisation by the new republics. What we have now is a set of states with different levels of sovereignty that exists within a single economic area, each having different fragments of a once united oil and gas complex”⁴⁶

This segregation has been an instrumental factor in attracting foreign investment because it provided the opportunity to capitalise on existing inequalities between the remnant fragments of the oil and gas complex in each FSR. In the place of a united Soviet oil and gas complex, each petroleum producing country is now trying to establish its own vertically integrated industry from the well head to burner tip. However, officials within Russia's Fuel and Energy complex resent this loss of direct control. In 1994, the Russian Fuel and Energy Minister, Yuri Shafranik, charging that Russia would continue to produce outside her own borders stated ‘it is unforgivable to lose these markets’. On another occasion he even went so far as to say...

“Russia must have only one version of access to the resources of the Commonwealth of Independent States. We by virtue of our labour, mind, energy, have created all this....We think that it is in Russia's interest to participate in resources-related projects in other CIS countries.”⁴⁷

A confrontation between Russian and western business concerns seems inevitable as a natural consequence of the vast petroleum potential of Central Asia and the Caspian Sea. The eagerness of western firms to quickly conclude deals has further fuelled this economic rivalry. We may interpret the rejuvenation of the region's petroleum industry as a microcosm, albeit the most vital component, of the wider issue of Russia's desire to maintain ascendancy over the entire economic and geopolitical sphere of *its* near abroad.⁴⁸

⁴⁶ Alexander Arbatov et al., “Oil and Gas in the Foreign Policy of Russia,” A policy paper of the Russian Foreign Policy Fund, SWP-AP 2798, Stiftung Wissenschaft und Politik, June 1993, p 24.

⁴⁷ Press conference by Yuri Shafranik on 7 Nov. 1994 cited in Uibopuu (1995) *infra* note 90, p 121.

⁴⁸ The evolving economic-political struggle has been coined as *the new Great Game* in reference to the past *Great Game* in which Russia advanced through Central Asia towards the British colony of India

Russian dominance may be limited to the economic sphere as illustrated by the previous quote from Arbatov who recognises the region as “...a set of states with *different levels of sovereignty* that exists within a *single economic area*”⁴⁹ (emphasis added). But, even this relatively mild point of view uses the term “different levels of sovereignty” not equal levels of sovereignty. Such attitudes lean towards the possible revival of Russian imperialism. Mr. Yeltsin has even asked the UN “...to grant Russia special powers as a guarantor of peace and stability in the former countries of the USSR.”⁵⁰ The implicit reference to the Monroe doctrine is undeniable. It would in fact be unprecedented for Russia to make a clean break from her near abroad because “historical experience has shown that divorces between colonies and imperial powers have seldom meant a total and immediate rupture of relations, except where the loss of an empire has been the result of military defeat”⁵¹ and the latter condition does not apply in the case of the FSU. This fact combined with recent Russian actions and statements are persuasive arguments for a prolonged quasi-Russian empire.⁵²

during the 19th century. “The new cockpit of power for the 21st century, the great source of energy on which the industrial powers depend, lies in the oil and gas fields of Central Asia...a modern version of the Great Game.” Martin Walker, “Battle of the Black Stuff,” The Guardian, 3 Oct. 1995, p 6. For a historical account see Peter Hopkirk, The Great Game: Struggle for Empire in Central Asia, (London: John Murray (Publishers) Ltd., 1992). Other commentators, however, are cautious of using such a simple analogy. Dr. Roland Danreuther of Edinburgh University, warns that two principal factors have been over-looked. Firstly, the NIS of Transcaucasia and Central Asia are not in a political vacuum; and secondly, the expectation of Russian decline was premature. See Roland Danreuther, “The Caspian Sea in International Politics,” in Gurdon and Lloyd (1995) *supra* note 90, p 1. Dr. Fred Halliday of the London School of Economics, points to a limited strategic western interest in Central Asia and the Cacausus. Talk delivered to The Changing Politics of International Energy Investment Conference held by IAEE, BIEE, Montreaux Energy and the RIIA, in London, 4-5 Dec. 1995.

49 Arbatov (1993) *supra* note 46, p 24.

50 Mehmet Ögütçü, “Eurasian Energy Prospects: Need for a Long-Term European Strategy,” TEPSA, Feb. 1994, p 39.

51 Hunter (1994) *supra* note 44, p x.

52 Jonathan Stern, on the other hand argues that it is no longer prudent to carry-out a collective analysis of the FSU petroleum industry as a whole. The concept of the FSU may fit comfortably with our historical understanding of 20th century global divisions, but it is time to look forward and not to the past. Jonathan Stern, Review of Energy and Economic Reform in the Former Soviet Union, by Leslie Dienes, Istvan Dobozi and Marian Radetski, Energy Policy 23 (1995): p 99.

7.5.2 Russian Claims of Equity Compensation

Although Soviet oil interests shifted to the Volga-Urals and Western Siberia in the latter half of the 20th century, major deposits of petroleum were still being discovered in Central Asia and the Caspian Sea region.⁵³ Some members of Russia's oil community maintain that as the known but yet hitherto undeveloped deposits were discovered during the Soviet era, Russia has a right to participate in their development. The conjectural justification being that Soviet resources and technology discovered these deposits (i.e. the USSR absorbed the exploration risk) and thus Russia, as the successor state of the USSR, is due compensation for these efforts in as much as a right to participate in their future development. Some have gone so far as to suggest that Moscow has an "inherent proprietary interest" in the natural resources discovered in the Soviet era.⁵⁴ First Deputy Prime Minister Oleg Soskovets and Fuel and Energy Minister Yuri Shafranik have expressed the view that Azerbaijan and Central Asian Republics at least owe a debt to Russia.⁵⁵

For instance some of the more recent discoveries can be partially attributed to a major investment programme financed by the ex-Soviet Ministry of Oil (MNP) and the ex-Soviet Ministry of Geology (Mingeo) to study the principal petroleum basins of the FSU.⁵⁶ In this respect, one may recognise a quasi-moral basis for participation rights in lieu of compensation for past exploration efforts, but we believe such a position is

⁵³ E.g. in the Caspian Sea, the Guneshi, Chirag and Azeri fields were discovered in 1979, 1985 and 1987 respectively. In Kazakhstan the Uzen field was discovered in 1959, Zhetybay around 1961, while Karachaganak and Tengiz fields were discovered in 1979 and Kumkol in 1984. The Mingbulak field in Uzbekistan was discovered in 1983. In general see E.I.A, Oil and Gas Resources of the Fergana Basin (Uzbekistan, Tajikistan and Kyrgyzstan), DOE/EIA-TR-057, (Washington, DC.: GPO, Jan. 1995): p 16, Matthew J. Sagers, "The Oil Industry in the Southern-Tier Former Soviet Republics," Post-Soviet Geography 35 (1994): pp 267-298; Joseph P. Riva Jr., Petroleum Exploration Opportunities in the Former Soviet Union, (Tulsa, OK.: PennWell Publishing Company, 1994); Joseph P. Riva Jr. "The Petroleum Resources of Russia and the Commonwealth of Independent States," in The Former Soviet Union in Transition, US Congress, Eds. Richard F. Kaufman and John P. Hardt. (Armonk, NY.: M.E. Sharpe, 1993): pp 461-476; and E.N. Tiratsoo, Oilfields of the World, 3rd ed. (Houston, TX. Gulf Publishing Company, 1986): pp 117-123.

⁵⁴ "Moscow seeks Kazakh oil share as production declines," E.E.E.Report, Mar. 1994, p 3.

⁵⁵ Rosemarie Forsythe, The Politics of Oil in the Caucasus and Central Asia, (Oxford: Oxford University Press, 1996): p 55.

⁵⁶ Kliger (1994) *supra* note 20, pp 81-82.

indefensible under international law. This issue is, albeit in very peculiar circumstances, a question of 'security of tenure' following the formal dissolution of the USSR and as such must be addressed in the light of the doctrine on state succession and acquired rights. Unfortunately, when the subject of state succession is raised, one encounters a divergence of academic opinion, state practice and an absence of consistent rules of international law.⁵⁷ If Russia's position is to be justified, a contractual right to enjoy in the development of previously discovered deposits must have survived the formal dissolution of the USSR. We believe this is not the case and the balance of this section is an elaboration of our reasoning.

The question of state succession arises whenever there is a replacement of one state by another for the responsibility of international territorial relations. The most benign form of change would be that of state continuity which is completely distinguishable from state succession as the former only encompasses a change in government. Western countries invariably hold that changes in government do not affect a state's obligations and the continuity of the state.⁵⁸ In the case of the FSU the fundamental change of sovereignty is unquestionable.⁵⁹ According to the Convention on Succession of State Property adopted in 1983, the break-up of the USSR would be interpreted as a "dissolution",⁶⁰ that is, the

⁵⁷ Phillip Wood, Law and Practice of International Finance, (London: Sweet & Maxwell, 1980): p 120; Ian Brownlie, Principles of Public International Law, 4th ed. (Oxford: Clarendon Press, 1990): p 655.

⁵⁸ Wood (1980) *ibid.*

⁵⁹ Following a number of aborted attempts to negotiate a new form of political union among the FSRs, excluding the Baltic States whose succession had been recognised by the USSR State Council in August 1991, Russia, Belarus and Ukraine concluded a new agreement in December 1991 which annulled the 1922 Treaty on the formation of the Soviet Union and formed a new entity the Commonwealth of Independent States (CIS). On 21 Dec. 1991 this arrangement was extended to the 11 other FSRs — Georgia opted out but became a member in late 1993. "Alma-Ata Declaration" done on 21 Dec. 1991, UN Doc. 1/47/60 of 30 Dec. 1991 *reprinted* in I.L.M. 31 (1992): pp 148-149. According to UN Doc. ST/LEG/SER.E/10, as of 24 Dec. 1991 the USSR's membership to the UN is continued by the Russian Federation who maintains full responsibility for the rights and obligations of the USSR under the Charter of the United Nations and multilateral treaties deposited with the UN Secretary General.

⁶⁰ Art. 23, "Vienna Convention on Succession of States in Respect of State Property, Archives and Debts," adopted in 1983 (hereinafter the Convention on Succession of State Property) UN Doc. A/CONF.117/14 and *reprinted* in I.L.M. 22 (1983): pp 298-306. The convention was not universally accepted, particularly by western nations with 54 votes in favour, 11 votes against (including France, UK, Germany and the US), and 11 abstentions (including Australia, Japan & Sweden). As of the end of 1993 only eight countries were signatories, including the recent additions of Estonia (21. Oct. 1991) and Ukraine (8 Jan. 1993), and is therefore not in force.

USSR ceased to exist and each of the constituent republics became a 'newly independent state',⁶¹ hence the acronym NIS. The question is to what extent has this change affected the status of previously discovered petroleum deposits and Russia's claim to them? This is critical for foreign investors because any surviving rights may theoretically displace newly acquired rights.

The succession of state property is for the most part an acknowledged principle of customary international law and supported by jurisprudence of the ICJ.⁶² There is no doubt that each NIS enjoys sovereignty over the entire territory within its boundaries including the subsoil, and *in situ* petroleum and minerals. This principle is consistent with the United Nations General Assembly Resolution of 1803 (XVII) which recognised "...the inalienable right of all states freely to dispose of their natural wealth and resources in accordance with their national interest"⁶³ and more recently reaffirmed by ECT to which all FSRs are signatories. While the ECT maintains a states' sovereignty and sovereign right over energy resources,⁶⁴ the treaty does "...in no way prejudice the rules...governing the system of property ownership of energy resources."⁶⁵ Therefore, states have exclusive power (*imperium*) over mineral resources including petroleum in its territory and continental shelf and are free to choose the form of ownership governing their natural resources. Global practice is to vest ownership of *in situ* petroleum resources with the State or Crown who also enjoy the exclusive right to explore and exploit these resources (domainal system). A few exceptions to this rule are found in

⁶¹ Art. 2(1)(e), Convention on State Succession of Property *ibid*.

⁶² Brownlie (1990) *supra* note 57, p 658.

⁶³ UN Doc. A/RES/1803(XVII), 19 Dec. 1962 *reprinted* in *I.L.M.* 2 (1995): pp 223-226. See also P.J. Okeefe, "The United Nations and Permanent Sovereignty over Natural Resources," *J.W.T.* 8 (1974): pp 239-282; S.K. Banerjee, "The Concept of Permanent Sovereignty over Natural Resources — An Analysis," *I.J.I.L.* 8 (1968); Karol N. Gess, "Permanent Sovereignty over Natural Resources: An Analytical Review of the United Nations Declaration and its Genesis," *I.C.L.O.* 13 (1964): pp398-449; and J.N. Hyde, "Permanent Sovereignty over Natural Wealth and Resources," *A.J.I.L.* 50 (1956): pp 854-867.

⁶⁴ Art. 18(1), ECT *reprinted* in *I.L.M.* 33 (1995): pp 360-454.

⁶⁵ Art. 18(2), ECT *ibid*.

parts of the US, Canada and The Netherlands where private title to the petroleum underground by the surface owner of the land is permitted (accession system), but these instances remain firmly as exceptions not as established international practice.⁶⁶ In this regard all FSRs have vested the ownership of petroleum and mineral resources in the state.⁶⁷ Although various doctrines of state succession do exist, none question the inherent right of a successor state acquiring sovereignty over its subsoil and *in situ* petroleum and minerals⁶⁸ Therefore Russia should not try to claim a proprietary interest in the deposits situated within the sovereign territory of other FSRs. But what about a claim for future development rights in lieu of compensation for exploration risks previously incurred? Whether this position is justified depends on whether a contractual right existed prior to the cessation of the USSR; whether this right was transferred to Russia; and whether such a claim would still be recognised by a successor state.

If such rights existed, there is strong evidence that Russia would have inherited these rights. In conformity with the doctrine of Self-Abnegation⁶⁹, Russia assumed the rights and obligations of the USSR, in particular with respect to its international treaty obligations and responsibility for the sovereign debt of the USSR. The alternative

⁶⁶ In general see William T. Onorato, Legislative Frameworks Used to Foster Petroleum Development, Policy Research Working Paper 1420, (Washington, DC.: The World Bank, Feb. 1995): pp 5-6; Bernard Tavernier, An Introduction to the Regulation of the Petroleum Industry: Laws, Contracts and Conventions, International Energy and Resources Law and Policy Series, (London: Graham & Trotman / Martinus Nijhoff, 1994): pp 11-12; Ernest E. Smith et al., International Petroleum Transactions, (Denver, CO.: Rocky Mountain Mineral Law Foundation, 1993): p 4.; K.W. Blinn et al., International Petroleum Exploration and Exploitation Agreements, (New York: Barrows Company Inc., 1986): pp 21-31; and Nicolas J. Campbell Jr., "Principles of Mineral Ownership in the Civil Law and Common Law Systems," Tul. L. Rev. 31 (1956-1957): pp 303-312.

⁶⁷ *E.g.* in the case of the Kazakhstan see Art. 19, "Law on Ownership of the Republic of Kazakhstan," adopted 15 Dec. 1990, as amended 9 Apr. 1993 which states that "Land, its subsoil...and other natural resources shall be in the state-ownership of the Republic of Kazakhstan.; and Art. 3(1), "Presidential Decree of the Kazakh Republic with the Force of Law 'On Oil'," dated 28 Jul. 1995, which states "all oil in the subsoil of the Kazakh Republic is the exclusive property of the Kazakh Republic."

⁶⁸ O'Connell, D.P. State Succession in Municipal Law and International Law: Volume 1 Internal Relations. (London: Cambridge University Press, 1967): pp 3-35.

⁶⁹ The doctrine of Self-Abnegation asserts that although "...the State is formally at liberty to take over or reject whatever suits it in the previous legal order, it is in fact materially required in the interest of realising its own aims to permit on the least disturbance thereof. Therefore, in practice, it integrates within its own legal order all existing law which is compatible therewith and which is not expressly repealed." *Ibid.* p 14.

solution in the latter case of sovereign debt would have been quite complicated to carry out in practice because the theory of Universal Succession implies that a successor state must assume the obligations of the predecessor state, but in this case the successor state was in reality 12 NIS excluding the three Baltic States. This presented the practical problem of how to apportion the sovereign debt. After extensive negotiations with the other FSRs, Russia assumed the entire responsibility for the past sovereign debts of the FSU in exchange for the latter giving up any claim of 'their' assets within Russia. The strategy followed was very much in line with the doctrine of Self-Abnegation as Russia was anxious not to disturb any more than necessary her relations with her international creditors. Russia also agreed to honour all obligations resulting from international treaties concluded by the FSU and in this respect has 'slipped into the shoes of the USSR.'⁷⁰ As Russia has generally assumed responsibility for past FSU obligations, it is perfectly reasonable to expect Russia to enjoy any rights which were transferred in the process. The question is: were any future development rights in existence prior to the dissolution of the USSR? We will now examine whether the hierarchy and operations the oil and gas ministries would allow one to assume such rights did exist.

In the USSR the centrally planned economy was organised along the lines of branch economies — in the case of the petroleum industry, it was administered by the Ministry of Oil (MNP), Ministry of Gas (MGP), and Ministry of Geology (Mingeo) which operated a large number of subordinate enterprises which were typically geographically based.⁷¹ Each of these was responsible for a portion of oil and gas exploration activities — generally speaking MNP and MGP explored older provinces while Mingeo concentrated on the newer ones.⁷² MNP and MGP were combined into a single Ministry

⁷⁰ *Supra* note 59.

⁷¹ IEA, Energy Policy of the Russian Federation 1995 Survey, (Paris: IEA/OECD, 1995): p 97.

⁷² Thane Gustafson, Crisis amid Plenty: The Politics of Soviet Energy under Brezhnev and Gorbachev, (Oxford: Princeton University Press, 1989): p 70.

of Oil and Gas in 1989, but the administrative apparatus and enterprises of the Gas Industry (the pre-cursor of Gazprom) survived as an independent concern.⁷³

The process of petroleum exploration was divided into two time periods, each with their own sources of financing. The first stage, involving geophysical surveying, mapping and core-hole drilling, was conducted by Mingeo and financed predominantly by the state budget, in addition to a geological exploration fee collected by Mingeo from MNP and MGP.⁷⁴ The subsequent stage, known as deep drilling was considered capital investment which was carried out and financed by the MNP and MGP, although the latter two often contracted out the work to Mingeo. The MNP and MGP tended to favour production and appraisal drilling instead of further high risk exploratory drilling.⁷⁵ The significance of this structure is that it establishes who absorbed the exploration risk. Firstly, Mingeo assumed the greatest part of exploration risk using funds sourced directly from the state and indirectly from the state via the MNP and MGP; secondly all republics made their contributions to the state budget from which Mingeo's exploration expenses were ultimately covered; and thirdly, while the union-level headquarters in Moscow dictated and approved exploration and development plans, the actual work was carried out by the regional sub-units of each Ministry.⁷⁶ Thus it was the regional sub-unit of Mingeo which carried out the exploration, then it was the regional sub-unit of either MNP or MGP which carried out the actual production of oil and gas respectively. With the dissolution of the USSR, each FSR absorbed these regional enterprises within their own Ministries.⁷⁷

⁷³ IEA (1995) *supra* note 71, p 97.

⁷⁴ *Ibid.* p 122; and Gustafson (1989) *supra* note 72, pp 71-71.

⁷⁵ IEA (1995) *supra* note 71, p 122.

⁷⁶ Kliger (1994) *supra* note 56, p 131.

⁷⁷ Sagers (1994) *supra* note 53, p 247. *E.g.* in Turkmenistan the following independent structures evolved from the former Soviet organisations in 1992: Turkmengaz responsible for gas production and transportation; Turkmennefteprodukt responsible for distribution of refined products; Turkmengeofizika responsible for geological exploration; and Turkmenneft responsible for oil production. Subsequently these 'concerns' were absorbed into the Turkmenistan Ministry of Oil and Gas in November 1993. Similarly Azerbaijan inherited Azneft (onshore production) and Kazpomorneftegaz (offshore production) which was subsequently merged into SOCAR; Kazakhstan inherited the Mangyshlakneft, Embaneft, Aktyubinskneft and Tengizneftegas production associations; Uzbekistan acquired Uzbekneft; Tajikistan

If we were to assume that some form of security of tenure did exist between the preliminary exploration stage and the production stage, and we have no evidence to support this, then it appears logical that such rights occurred at the regional level and not between the republics and RSFSR.

Failing to identify some form of contractual right which linked both the exploration and production stage we cannot support a Russian hypothesis which espouses the right of compensation for past exploration risks previously incurred in Central Asia and the Caspian Sea *ipso jure*. Anything less than an actual contractual right or equivalent economic concession arrangement would not have survived the succession of states.⁷⁸ Furthermore, all republics made their own pro-rata contribution to the state budget from which exploration was ultimately financed.⁷⁹ RSFSR, as the largest member of the Union, undoubtedly contributed the most to the state budget, but this does not confer special compensatory rights. We conclude that Russia is neither guaranteed a stake as compensation or in fact due compensation. This will not prevent Russia from exerting her political leverage to obtain a participatory stake for her companies. Russian companies will seek to obtain such rights as would any other IOC. Acknowledging that Russia maintains a sphere of influence over its near abroad, western companies should probably accept Russian participation in the largest and most visible upstream and infrastructure projects as being inevitable. But, this is a practical conclusion based upon political realities, not upon the false premise of compensation for past exploration efforts.

acquired Tajikneft; Kyrgyzstan acquired Kyrgyzneft; and so on. See Anthony E. Reinsch, Igor Lavrovsky and Jennifer I. Considine, Oil in the Former Soviet Union: Historical Perspectives Long-Term Outlook, (Calgary: CERI, 1992): pp 22-25.

⁷⁸ Even in the case an economic concession agreement between a public authority of a successor state and the concessionaire of a predecessor it is not clear whether the successor will honour this obligation, or indeed must do so. It depends on which doctrine of state succession is followed. With respect to judicial and diplomatic practice of States it is first "necessary to inquire to what extent such practice establishes the duty of the successor state to respect the interest of a concessionaire as an acquired right. Secondly, it is necessary to examine the juridical character of such right." O'Connell (1967) *supra* note 68, p 307.

⁷⁹ This view is not necessarily shared by all Russians. E.g. A. Michurin, the President of Saratovneftegophyzika when commenting on the ownership of geological records on Kyrgyzstan held by his company was quoted as stating "Theirs! They didn't pay a penny either for seismic exploration or for well logging. It was money from the Union Oil Ministry..." Kliger (1994) *supra* note 56, p 26.

7.5.3 Legal Status of the Caspian Sea

The Caspian Sea — 750 miles north to south, 250 miles across at its widest point, covering an area of 143,243 square miles⁸⁰ — is the largest body of enclosed water in the world. Furthermore, the water is saline but not affected by tides. Although it is often referred to as land-locked it is connected to the Sea of Azov and the Black Sea via the Volga and Don Rivers together with the artificial Volga-Don Canal. Following the signing of AIOC contract in Azerbaijan, the Russian Ministry of Foreign Affairs stressed, in a letter to the British Embassy in Moscow, that there is no official demarcation of the Caspian Sea between its five littoral states and that

"...the Caspian Sea is an enclosed water reservoir with a single ecosystem and represents an object of joint use within whose boundaries all issues or activities including resource development have to be resolved with the participation of all the Caspian countries...Any steps by whichever Caspian state aimed at acquiring any kind of advantages with regard to the areas and resources...cannot be recognised...[and]...any unilateral actions are devoid of a legal basis."⁸¹

The letter has been interpreted as a warning of Russian determination to secure participation in the development of all Caspian Sea resources.⁸² The reaction of Azerbaijan's President was predictable; in a statement to the British Ambassador, he stated that "Azeri oilmen have been extracting oil from the Caspian basin since 1949. No one, no force, no country can deprive us of this right."⁸³ Access to the Caspian's rich deposits of petroleum lies at the heart of the political debate.

7.5.3.1 Geological Potential

Beneath the Caspian Sea, very favourable geology exists — the Apsheron Sill trending south-east from Baku to the Cheleken peninsula in Turkmenistan contains a high

⁸⁰ Oxford Hammond, Atlas of the World, (Oxford: Oxford University Press, 1994): p 211. For a good description of the physical features of the Caspian Sea see "Caspian Sea," The New Encyclopaedia Britannica — Vol 14 — Micropædia, 15 ed. (Chicago, IL.: University of Chicago, 1993): pp 223-226.

⁸¹ From an unofficial translation, J. Lloyd and S. Levine, "Russia demands veto over Caspian oil deals," Financial Times, 31 May 1994, p 2; and "Dear Sirs," R.P.I., Jun. 1994, p 50.

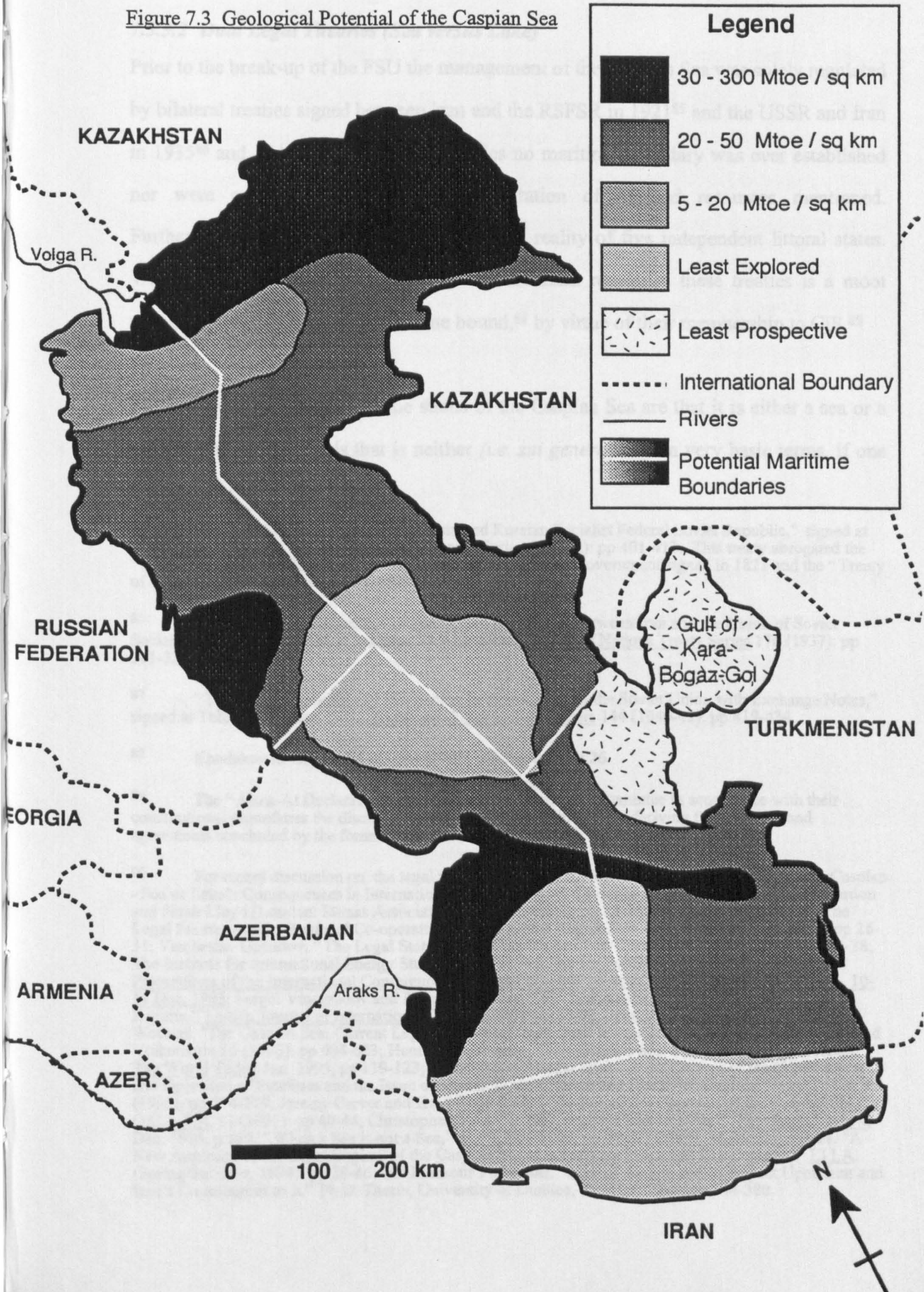
⁸² Barylski, Robert V. "Russia, The West and the Caspian Energy Hub." The Middle East Journal 49 (Spring, 1995): pp 217-232; and Lev Klepatsky and Valery Pospelov, "Manoeuvring Round the Caspian Sea," International Affairs Vol. 11-12 (1995): pp 59-65.

⁸³ "Russia not blocking the Caspian Deal," E.E.E.Report, June 1994, p 13.

concentration of known deposits. Further to the south is largely unexplored but beneath the deep waters lie promising structures such as Shakh Deniz, while in the north-eastern corner of the Caspian Sea, the North Caspian Seismic Consortium is undertaking a massive seismic and environmental study. Many experts believe the on-shore oil rich provinces of Kazakhstan extend beneath the Caspian Sea. Figure 7.3 shows the geological potential of the Caspian Sea according to a Russian based study; recoverable petroleum resources are estimated to be 7,000 MMt of oil and condensate and 5 Tcm of natural gas.⁸⁴ Although the Caspian Sea has yet to be officially demarcated we superimposed potential maritime boundaries on Figure 7.3 based on the principle of equidistance. These lines in no way imply accepted boundaries among the littoral states, nor do they summarise a consensus for their future location, their sole purpose is to illustrate the geological inferiority of a possible Russian sector which is the key to understanding Russia's stance. The sector would encompass the north-western quadrant including the Astrakhan Delta which is suspected of being predominantly gas-bearing not oil bearing. Given that Russia possesses 34% of the world's reserves of natural gas, the need for additional supplies is negligible. Oil reserves are another matter and the application of the equidistance principle would not grant Russia an automatic right to participate in the development of the southern sector nor the promising north-eastern quadrant. Therefore the ultimate goal of any Russian policy is to gain concessions that will compensate for their inherent geological disadvantage. Had Russia's territorial position been more favourable from a geological perspective (i.e. supplant Russia's position for that of Azerbaijan or Kazakhstan) Russian policy would likely be reversed as well.

⁸⁴ Business Moscow News, Nov. 9, 1994, p 12 as cited in Dorian, James P. and Peter S. Kort. "Russian Dominance Over 'Near Abroad' Linked to Energy." East-West Centre Working Papers. Energy and Minerals Series. No. 21, Sept. 1995, p 13.

Figure 7.3 Geological Potential of the Caspian Sea



7.5.3.2 Dual Legal Theories (Sea versus Lake)

Prior to the break-up of the FSU the management of the Caspian Sea was solely regulated by bilateral treaties signed between Iran and the RSFSR in 1921⁸⁵ and the USSR and Iran in 1935⁸⁶ and 1940.⁸⁷ Within these treaties no maritime boundary was ever established nor were any provisions for the exploitation of sea-bed resources mentioned. Furthermore, none reflect the current political reality of five independent littoral states. Whether Azerbaijan, Kazakhstan and Turkmenistan recognise these treaties is a moot point, but Russia considers them to be bound,⁸⁸ by virtue of their membership to CIS.⁸⁹

The two principal theories on the status of the Caspian Sea are that it is either a sea or a lake; a third alternative is that it is neither (*i.e. sui generis*).⁹⁰ In very basic terms, if one

⁸⁵ "Treaty of Friendship between Persia and Russian Socialist Federal Soviet Republic," signed at Moscow 26 Feb. 1921, League of Nations Treaty Series 9 (1922): pp 401-413. This treaty abrogated the "Boundary Treaty of Gooleston" between Iran and the Tsarist Government signed in 1821 and the "Treaty of Turmanchia" signed on 10 Feb. 1828.

⁸⁶ "Treaty of Establishment, Commerce and Navigation between Iran and the Union of Soviet Socialist Republics," signed at Teheran, 27 Aug. 1935, League of Nations Treaty Series 176 (1937): pp 301-333.

⁸⁷ "Treaty of Commerce and Navigation between Iran and the Soviet Union with Exchange Notes," signed at Teheran, 25 Mar. 1940, British and Foreign State Papers 144 (1940-42): pp 419-434.

⁸⁸ Khodakov in Gurdon and Lloyd (1995) *infra* note 90, p 26.

⁸⁹ The "Alma-At Declaration" states that its signatories "...guarantee in accordance with their constitutional procedures the discharge of the international obligations deriving from treaties and agreements concluded by the former Union of Soviet Socialist Republics." *Supra* note 59.

⁹⁰ For recent discussion on the legal status of the Caspian Sea see Rodman R. Bundy, "The Caspian - Sea or Lake?: Consequences in International Law," in Oil & Caviar in the Caspian, eds. Charles Gurdon and Sarah Lloyd (London: Menas Associates Ltd., Sept. 1995): pp 15-25; Alexander Khodakov, "The Legal Framework for Regional Co-operation in the Caspian Region," in Gurdon and Lloyd (1995): pp 26-31; Viacheslav Gizzatov, "The Legal Status of the Caspian Sea," in Gurdon and Lloyd (1995): pp 32-38; The Institute for International Energy Studies and The Institute for Political and International Studies, Proceedings of the International Conference on Oil and Gas Prospects in the Caspian Region, Tehran, 10-11 Dec. 1995; Sergei Vinogradov and Patricia Wouters, "The Caspian Sea: Quest for a New Legal Regime," Leiden Journal of International Law 9 (1996): pp 87-98; Sergei Vinogradov and Patricia Wouters, "The Caspian Sea: Current Legal Problems." Zeitschrift für ausländisches öffentliches Recht und Völkerrecht 55 (1995): pp 604-623; Henn-Jüri Uibopuu, "The Caspian Sea: a tangle of legal problems," The World Today Jun. 1995, pp 119-123; Blanche Sas, "Legal Issues in the Control of the Construction and Operation of Pipelines and the Issue of Transit in the Caspian and Black Sea Regions," O.G.L.T.R. 13 (1995): pp 274-279; Jeremy Carver and Greg Englefield, "The Future development of the Caspian Sea," O.G.L.T.R. 13 (1995): pp 40-44; Christopher Pala, "Is the Caspian a lake or a Sea?" Petroleum Review, Dec. 1994, p 569. "When a Sea is not a Sea," R.P.I. Jun. 1994, pp 49-52; Dabiri, Mohammad-Reza. "A New Approach to the Legal Regime of the Caspian Sea as a Basis for Peace and Development." I.J.I.A. (Spring/Summer, 1994): pp 29-46; and Mansour Pournouri, "Law of the Sea and its Impact Upon Iran and Iran's Contribution to it." Ph.D. Thesis, University of Dundee, CPMLS, 1991: pp 344-380.

adopts the principle that the Caspian Sea is a 'sea', its jurisdiction would be exercised by the littoral states according to principles of international law established the United Nations Convention on the Law of the Sea Treaty.⁹¹ If, on the other hand, the Caspian Sea is a 'lake' then jurisdiction might be exercised according to the exclusive rights of the riparian states and be subject to a regime of joint sovereignty (i.e. condominium). This is the solution favoured by Russia.⁹² A final possibility is to treat the Caspian Sea as *sui generis* (i.e. it is neither a lake nor a sea), in which case there is no precedent for establishing jurisdiction. Accordingly the status of the Caspian Sea is perceived as one of the most interesting international legal questions remaining in the 20th century,⁹³ and will have a direct bearing on demarcation and title to the petroleum resources.

7.5.3.3 Demarcation of the Caspian Sea

Whenever an international boundary is called into question, the resolution thereof is complicated by the existence of over-riding economic considerations. It is inconceivable to believe that the 1965 delimitation of the maritime boundary between Norway and the UK could have been carried out with the alacrity of the British negotiators had the hydrocarbon potential of the region been known.⁹⁴ When petroleum resources are known or believed to exist the shifting of an international boundary by a few kilometres could

⁹¹ This treaty represented the culmination of three conferences during the period of 1958 to 1982. UNCLOS was adopted by the 1982 UN Conference on the Law of the Sea (UNCLOS-III) on 30 Apr. 1982 by 130 votes in favour, 4 against and 17 abstentions. Strictly speaking UNCLOS refers to the final Treaty itself, whereas UNCLOS-I, UNCLOS-II, UNCLOS-III refers to the conventions which were held in 1958, 1960 and 1973-1982 respectively. For complete text of the Final Act of UNCLOS see UN Doc. A/CONF.62/122 of 21 Oct. 1982; also *reprinted* in *I.L.M.* 21 (1982): pp 1261-1354; or United Nations, The Law of the Sea: United Nations Convention on the Law of the Sea with Index and Final Act of the Third Conference on the Law of the Sea, (New York, NY.: St Martins Press Inc., 1983). As of the 30 Jun. 1994 the UNCLOS had been signed by 154 States and 3 other entities and had been ratified or acceded to by 62 States.

⁹² See Khodakov in Gurdon and Lloyd (1995) *supra* note 90, p 26; and *supra* note 81.

⁹³ William T. Onorato (Principal Counsel of the Energy & Mining Legal Department, The World Bank) conversation with the author, 21 Sept. 1995.

⁹⁴ "Agreement between the Government of the United Kingdom of Great Britain and Northern Ireland and the Government of the Kingdom of Norway Relating to the Delimitation of the Continental Shelf between the Two Countries," London, March 10, 1965, in force June 29, 1965 (ST/LEG/SER.B/15, p 775). Following the discovery of the Groningen Gas Field in 1959 on the coast of Denmark and prior to the discovery of the giant Forties oil field in the northern UK sector of the North Sea in 1970, British interests had predominantly focused on the gas-bearing southern sector. See Ian Townsend Gault, "Petroleum development offshore: legal and contractual issues," in Beredjick and Wälde (1998) *supra* note 2, p 134; and Terence Daintith and Geoffrey Willoughby eds. United Kingdom Oil and Gas Law, (London: Oyez Publishing Ltd., 1977): pp 12-14.

mean the difference of billions of dollars in revenue and therefore the process of demarcation becomes a protracted and complex affair. The Caspian Sea falls into this category.

If one advocates the application of UNCLOS then “every state has the right to establish a territorial sea.”⁹⁵ This right exists *ab nito* as part of its eminent domain and no other state may infringe on this right. With respect to the ownership of sea bed resources “this sovereignty extends...over the territorial sea as well as to its bed and subsoil.”⁹⁶ Beyond the territorial sea exists a continental shelf, which “...comprises the sea-bed and subsoil of the submarine areas,”⁹⁷ and coastal states can exercise their “sovereign rights for the purpose of exploring it and exploiting its natural resources.”⁹⁸ The creation of a 12-mile wide territorial sea and continental shelf is supported by Kazakhstan who rejects Iranian and Russian calls for common ownership.⁹⁹ As far as Azerbaijan is concerned a 12 mile territorial sea by itself does not go far enough to confirm their exclusive rights over its historical oil fields which necessitates the existence of a continental shelf. Table 7.4 presents estimates of the allocation of petroleum resources under different demarcation scenarios according to a Russian study. Complete sectorial delimitation (which we assume is closely based on the principle of equidistance) results in Russia only receiving 14% of the oil resources while Kazakhstan, Azerbaijan, and Turkmenistan would receive 43%, 36% and 7% respectively (excluding an Iranian Sector). The detrimental effect of joint or shared zone as proposed by Russia vis-a-vis the other FSRs is clearly visible.

⁹⁵ Art. 3, UNCLOS, UN Doc. A/CONF.62/122 *supra* note 91.

⁹⁶ Art. 2(2) *ibid.*

⁹⁷ Art. 76 *ibid.*

⁹⁸ Art. 77 *ibid.*

⁹⁹ “Kazakhstan Proposal over Caspian Sea Division,” OMRI Daily Digest, No. 194, Part I, 5 Oct. 1995.

Table 7.4 Proposed Allocation of Caspian Sea Recoverable Petroleum Resources

	Delimitation by Sector (Russian Variant)		Twelve-mile Territorial Sea		Twenty-five mile Territorial Sea	
	Oil (Bnt)	Gas (Tcm)	Oil (Bnt)	Gas (Tcm)	Oil (Bnt)	Gas (Tcm)
Russia	1.0	1.0	0.2	0.3	1.0	0.5
Kazakhstan	3.0	1.5	0.6	0.4	2.0	1.0
Azerbaijan	2.5	1.5	0.5	0.5	1.5	1.5
Turkmenistan	0.5	1.0	0.1	0.2	0.5	0.5
Shared Zone	N/A	N/A	5.6	3.6	2.0	1.5
Total	7.0	5.0	7.0	5.0	7.0	5.0

Source: Dorian et al (Sept. 1995) *op cit.* note 84, p 13.

Note: Bnt = billion tonnes, Tcm = trillion cubic metres and Oil includes gas condensate.

If a petroleum deposit straddles an international boundary established by a treaty, then unitisation may be employed. That is, both states agree to exploit the petroleum deposit in the most effective manner as possible and apportion the proceeds based on the percentage of reserves existing on either side of the dividing line. This was the method employed by Norway and the United Kingdom to exploit the Frigg Gas Field discovered in 1969¹⁰⁰ which straddled the international boundary delimited by the 1965 Treaty.¹⁰¹ Given that none of the seven potential maritime boundaries in the Caspian Sea (see Figure 7.3) are settled, unitisation is not a feasible solution at present. In the meantime a mechanism must be sought to proceed with exploration and development while ambiguity over boundaries remains. Judge Jessup, in the North Sea Continental Shelf Cases, observed that,

“...even if it is not [yet] considered to reveal an emerging rule of international law, [the principle of co-operation] may at least be regarded as an elaboration of the factors to be taken into account in the negotiations now to be undertaken by the Parties.”¹⁰²

Enough examples of joint co-operation have since occurred for some commentators to suggest this principal has sufficiently developed to be considered an emerging rule of

¹⁰⁰ “Agreement between the Government of the United Kingdom of Great Britain and Northern Ireland and the Government of the Kingdom of Norway relating to the Exploitation of the Frigg Field Reservoir and the Transmission of Gas Therefrom to the United Kingdom,” done 10 May 1972, London; *U.K.T.S.* 113(1977); 1037 *U.N.T.S.* 3; and 1976 Cmnd 7043; also reprinted in Terence Daintith and Geoffrey Willoughby eds. *United Kingdom Oil & Gas Law*, (London: Sweet & Maxwell, Release 12:24-ix-90): pp 2020-2039. For discussion on unitisation see Gault (1988) *supra* note 94, pp 146-147; William T. Onorato, “Apportionment of an International Common Petroleum Deposit,” *I.C.L.Q.* 26 (1977): pp 324-337; J.C. Woodliffe, “International Unitisation of an Offshore Gas Field,” *I.C.L.Q.* 26 (1977): pp 338-353; and R. Lagoni, “Oil and Gas Deposits across National Frontiers,” *A.J.I.L.* 73 (1979): pp 215-243.

¹⁰¹ *Supra* note 94.

¹⁰² North Sea Continental Shelf Cases (Federal Republic of Germany v Denmark; Federal Republic of Germany v Netherlands) *ICJ Reports* 3 (1969): p 84.

customary international law.¹⁰³ This implies that the littoral states of the Caspian Sea must co-operate to establish a joint development regime in areas of dispute by abiding by three emerging rules of international law: a state may not unilaterally exploit a common deposit over the timely objection of another interested state; the method of exploitation and underlying legal basis for apportionment must be agreed by the parties; and the states should enter into good faith negotiations to arrive at such an agreement.¹⁰⁴ The practical obstacle to joint development or joint sovereignty is that Azerbaijan, Kazakhstan and Turkmenistan believe they are relinquishing what is rightfully theirs in the first place.

It has also been suggested that offshore development under a jurisdiction of condominium can not be financed.¹⁰⁵ In the late 1960s and early 1970s commercial banks involved in North Sea project financing packages sought assurance that their security would not be infringed by discretionary acts or decisions by the British authorities concerning the licence holder (e.g. revocation). These were known as the Varley Assurances,¹⁰⁶ but were only temporarily given as it was considered unacceptable for a state to fetter its future freedom of executive action by contract, at least where public interest was concerned. Under joint sovereignty, project sponsors and their bankers would require *inter-governmental assurances* that future objections to a project would not be raised. This is more complex than in the case a single government, but to believe joint sovereignty precludes financing is incorrect. Debt financing in a region of joint development is perfectly possible provided there is *a priori* consent for the project by the states involved. We would also argue that any long-term exploitation of petroleum resources on the scale now being envisioned is untenable without the littoral states

¹⁰³ Ibrahim F.I. Shihata and William T. Onorato. "Joint Development of International Petroleum Resources in Undefined and Disputed Areas." Paper presented to the International Conference of the LAWASIA Energy Section, Kuala Lumpur, 18-22 Oct. 1992, p 3.

¹⁰⁴ *Ibid.*, p 4.

¹⁰⁵ Comment by US Energy Secretary Hazel O'Leary. "US Wades into the Dispute Over Caspian Sea Delineation," Nefte Compass, 1 Jun. 1995, p 7.

¹⁰⁶ United Kingdom Oil & Gas Law, (Release 14:25-vii-91) *supra* note 100, pp 1030/1 - 1030/2.

reaching a consensus. There are too many issues at stake for any state to successfully pursue a unilateral policy.¹⁰⁷ Undoubtedly, the current legal vacuum discourages project financing as bankers will take little comfort in security in the form of a mortgage over offshore assets or licences located in a contested jurisdiction. But, for the time being there is very little evidence to suggest that project sponsors are even pursuing a project financing approach for offshore projects.¹⁰⁸ Nothing herein implies that condominium is more appropriate than sectorial division; only that a consensus be achieved as to which regime applies. Provided agreement exists, raising financing for development under either method is feasible. But, in order to reach a solution far more co-operation is needed than has hitherto been the case.

7.5.3.4 Empirical Practice

The uncertain status of the Caspian Sea, its demarcation and the rules governing the exploitation of petroleum resources combined with the political interaction of the littoral states in this debate constitute a 'political risk' in that IOCs may have little control over the eventual outcome. But does this represent an insurmountable barrier to foreign investment? The empirical evidence suggests not. All four of the FSRs are in the process of awarding rehabilitation, exploration and/or development rights to foreign companies in areas adjacent to their own coasts (see Table 7.5). In total, 23 such arrangements have been identified in various stages of negotiation. Azeri agreements account for the lion's share with 16 (i.e. 70% of the total), Turkmenistan accounts for five (22%), while Russia and Kazakhstan have only concluded one agreement each with foreign companies. Of the 23 projects listed only half can at the present time be classified as being 'concluded'.

¹⁰⁷ E.g. export routes, access to the Volga-Don Canal, caviar, etc.

¹⁰⁸ This first large project to be completed in the Caspian was the construction of a natural gas compression facility for SOCAR by Pennzoil. This was completed in 1993 and cost approximately \$98 million. Pennzoil funded the project from its own internal cash flow and signed a gas utilisation agreement with SOCAR to recover its costs. Subsequently Pennzoil's began to recoup its investment by a credit for Pennzoil's portion of the first bonus payment made by members of AIOC, hard currency payments by the Azerbaijan Government in 1995 and an interest in another project. See Pennzoil Company Annual Reports, 1993 and 1994.

Table 7.5 Upstream Projects in the Caspian Sea

Host Country	Fields / Blocks	Project Name / JV or Consortium	Partners	Type
Azerbaijan	Azeri, Chirag and deep-water section of the Guneshli Oil Fields	Azerbaijan Int'l. Operating Co. (AIOC)	SOCAR - BP, Amoco, Pennzoil, UNOCAL, Statoil, LUKoil, TPAO, Exxon, Itochu, Ramco, & Delta-Nimir	Dev
Azerbaijan	Bakhar Oil Field	<i>Negotiating PSA</i>	SOCAR - Statoil	Dev
Azerbaijan	Dan Ulduzu and Ashrati Fields	<i>Negotiating PSA</i>	SOCAR - UNOCAL, Amoco and Itochu	E&D
Azerbaijan	D-3, D-9 & D-38 Blocks	Preliminary Expl. Rights awarded	SOCAR - Exxon	Expl
Azerbaijan		Offshore Rehabilitation	SOCAR - Ponder	Rehab
Azerbaijan	Guneshli Oil Field Rehabilitation	<i>Proposal</i>	SOCAR - Conoco	Rehab
Azerbaijan	Guneshli and Neft Dashlary Fields	NG Compression Facility	SOCAR - Pennzoil & Ramco	Dev
Azerbaijan	Arazdash, Mamedali and Tagiev Blocks	<i>Status - Negotiating</i>	SOCAR - Elf & Chevron	Expl
Azerbaijan	Kapaz Oil Field	<i>Farm-in Likely</i>	SOCAR - Apache Corp.	Dev
Azerbaijan	Karabakh Field	Caspian Int'l. Petroleum Co. - Karabakh PSA	SOCAR - LUKoil, AGIP, Pennzoil	Dev
Azerbaijan	Lenkoran-Deniz Block	<i>Negotiating PSA</i>	SOCAR - Elf	E&D
Azerbaijan	Mashal Field (Gryazevaya Sopka)	Hallwood Caspian Petroleum JV	SOCAR - Hallwood Energy Partners	E&D
Azerbaijan	Shakh Deniz Structure	Shakh Deniz PSA	SOCAR - BP, Statoil, Elf, TPAO, LUKoil & Iran	E&D
Azerbaijan	Umid Babaka Structure	<i>Negotiating PSA</i>	SOCAR - Occidental	E&D
Azerbaijan	Exploration	<i>Negotiating</i>	SOCAR - Mobil	Expl
Azerbaijan	Exploration	<i>Agreed to form JV</i>	SOCAR - Iran (NIOC)	Expl
Kazakhstan	Exploration of the north-east Quadrant of the Caspian Sea	North Caspian Seismic Consortium	Kazakhstancaspishelf - Mobil, Shell, BP, AGIP British Gas, Statoil & Total	Expl
Russia	Inchke-More Block	CaspOil JV	Dagneft - JKC, LUKoil & Rosneft	E&D
Turkmenistan	Cheleken-I Sea Block: Gubkin, Livanov, and Banka Barinova Fields	Cheleken-I Block PSA	Gov't of Turkmenistan - Petronas (previously LAPIS Oil Capital)	E&D
Turkmenistan	Cheleken-II Block: Banka LAM, Zhdanova and Pricheleken Fields	Larmag Cheleken JV	Chelekenmorneftegas - Larmag	Dev
Turkmenistan		Seismic <i>Terminated</i>	Gov't of Turkmenistan - Elf	Expl
Turkmenistan		South Caspian Study <i>Status - Negotiating</i>	Gov't of Turkmenistan - JNOC	Expl
Turkmenistan		Trilateral Agreement for Offshore Exploration	Gov't of Turkmenistan - Russia & Iran	Expl

Source: FOGI Database

According to the FOGI Database upstream projects worth \$16 billion are currently under consideration in the Caspian Sea and the overall number of deposits on offer is expected to increase in the future.¹⁰⁹ Iran has yet to invite any foreign companies to work in the

¹⁰⁹ E.g. Turkmenistan has divided its offshore 'sector' into two blocks. Block 1 in the south contains 40 known anticlinal closures; while Block 2 in the north is to be divided into three sections and contains 23 known anticlinal closures. Kazakhstan is expected to announce a tender for the awarding of offshore exploration and development rights following the conclusion of the North Caspian Seismic Survey. In Azerbaijan, it was reported that SOCAR had plans to develop up to seventeen new offshore projects.

'Iranian Sector', but NIOC was, at the end of 1995, drilling a well at Merdat and planned another for 1996 in the nearby Maysem structure.¹¹⁰ Furthermore, Iran is now a participant in a consortium to explore and develop the Shakh Deniz structure and has entered into several preliminary agreements with other littoral states regarding joint upstream activities in the Caspian Sea.

7.5.4 Summary of Legal Status of the Caspian Sea

We conclude that each FSR is acting in a manner in which they are asserting their *de facto* jurisdiction over the seaward areas beyond their coasts, even though they cannot among themselves currently achieve a consensus on the legal status or demarcation of the Caspian Sea. A wide variety of contracts have been awarded to foreign investors and include seismic, geological and environmental studies, rehabilitation projects involving existing facilities, and full-fledged exploration and development rights. The current legal vacuum is a potential risk for IOCs but it is one which they appear perfectly willing to bear.

In the meantime a \$500,000 study has been commissioned by the World Bank at the request of Azerbaijan to prepare a document on the legal foundation, based on the norms of international law, for the development of the Caspian Sea. This will make a useful contribution to the evolution of this debate, but it remains to be seen to what extent such opinions will become authoritative. Russia's stance towards the Caspian Sea is very simple. Any solution which solely involves a division of the Caspian Sea into sovereign sectors based on the principle of equidistance will be unacceptable due to Russia's inherent geological disadvantage. The geopolitics of the region are such that Russian companies will continue to be involved in the biggest and most visible projects. It is in the interest of all littoral states to co-operate to establish a new *modus vivendi* in an equitable and timely fashion. The new regime should not necessarily be based on past perceptions, but must reflect new political realities. But under no uncertain terms will

¹¹⁰ "Caspian Upstream Builds Momentum Despite Loose Rules," P.I.W., 18 Dec. 1995, pp 4-5.

this be easily achieved as the economic considerations of future oil production from the Caspian Sea will remain an over-riding concern.

7.5.5 Implications for Foreign Investors

We believe that no major upstream development in either the Caspian Sea or Central Asia will take place without Russian involvement. This should not be interpreted as an obstacle *per se*, but rather as a factor which must be accounted for in the planning stages and carried through the entire project cycle. By recognising Russia's strong bargaining position and her vested interests in the economic and political development of her near abroad western companies may begin to develop coherent strategies that promote mutual interests. Furthermore, strong personal relationships still exist between Russian oil industry executives and their counterparts in the FSRs. These ties have a long history and are an integral part of the region's oil culture. Yuri Shafranik, the Russian Minister for Fuel and Energy, describes Azerbaijan as his oil "motherland" or the "Mecca" for Russian oil workers.¹¹¹ Granted such statements are full of rhetoric, the passion and deep conviction of Russia's oil industry towards its southern neighbours is unmistakable. To the extent that participation by LUKoil or Gazprom offers an effective means of placating Russian demands, their participation should be considered, but only if these companies can meet their proportional share of the financial burden.

Since gaining independence all southern FSRs have sought to develop their petroleum resources to the fullest extent. As the requisite technology, management and financial resources were (and still are) not available locally, the southern Soviet republics have been particularly active in soliciting the interest of western firms. At the same time Russia's strategy has been to exert pressure at the highest political level if necessary in order to secure for Russia and her companies the largest possible share of economic rent from the region's petroleum industry. This may be in the form of exports of Russian goods and services, taxes on the profits of Russian companies operating in the region, or

¹¹¹ Interview with Yuri Shafranik, "Russia: Oil Minister Shafranik sets out the agenda." W.P.A., 20 Jun. 1994, p 19.

from tariffs of oil exports crossing Russian territory. Table 7.6 provides clear evidence that despite Russia's loss of direct control, Moscow still wields the wherewithal to muscle itself into the future resource development projects of its near abroad.¹¹²

One must not lightly dismiss future Russian involvement. In seven of the nine petroleum projects listed in Table 7.6 Russian participation is confirmed. We have classified these projects into three categories. Firstly, Type-A cases where Russian interests have been accommodated at an advanced stage of negotiations (e.g. LUKoil's 10% stake in AIOC and Gazprom's 15% stake in the development of the Karachaganak gas and condensate field). Secondly, Type-B cases where Russian interests have been involved from an early stage (e.g. CPC, Turkmenistan Transcontinental Pipeline or Gazprom's involvement in Enron's proposal to develop 15 natural gas fields in Uzbekistan). The final category, Type-C consists of projects where we think that future Russian involvement is still possible, if and when this occurs the project would be re-classified as Type-A. This latter category, includes the TengizChevroil JV or the North Caspian Seismic Consortium which is carrying out a \$280 million exploration program of the north-eastern sector of the Caspian Sea. We believe the pattern with respect to the largest and most visible development projects (i.e. 500 MMbbls plus) is now firmly established. However, not all projects will attract the same geopolitical attention and there are plenty of deposits which will be developed without direct Russian involvement.

¹¹² Thomas W. Wälde, "Foreign Investment in CIS oil and gas and its implications for other countries," OPEC Bulletin, July/Aug. 1994, p 17.

Table 7.6 Mega-Projects in FSRs involving Russian Companies (Confirmed & Potential)

Host Country	Project	Foreign Partner(s)	Russian Partner(s)	Russian Stake	Type
Azerbaijan	Chirag, Azeri & deep-water section of the Guneshli Oil Fields	BP, Amoco, Pennzoil, UNOCAL, Statoil, TPAO, Exxon, Itochu, Ramco, Delta-Nimir	LUKoil	10%	A
Azerbaijan	Karabakh	AGIP & Pennzoil	LUKoil	32.5%	B
Azerbaijan	Shakh Deniz	BP, Statoil, Elf, TPAO, & Iran	LUKoil	10%	A
Kazakhstan	Caspian Pipeline Company (CPC)	Chevron, Mobil, AGIP, Oryx, British Gas, Oman Oil Co.	Gov't of Russia LUKoil Rosneft	44%	B
Kazakhstan	Karachaganak Gas Field	AGIP & British Gas	Gazprom possible farm-out to LUKoil	15%	A
Kazakhstan	North Caspian Seismic Consortium	Mobil, Shell, BP, British Gas AGIP, Statoil & Total	Rosneft, LUKoil	Possible	C
Kazakhstan	Tengiz Oil Field	Chevron, Mobil	LUKoil	Possible	C
Turkmenistan	Turkmenistan Transcontinental Pipeline (TTP)	Gov't of Iran, Gov't of Turkey, Gov't of Kazakhstan	Gov't of Russia	Yes (%?)	B
Uzbekistan	15 NG Fields in the Bukhara & Surkhandur'ya Oblast	Enron	Gazprom	Yes (%?)	B

Source: FOGI Database

7.6 Conclusion

We defined political risk as the probability of commercial operations being adversely affected by politically caused actions or circumstances over which a foreign investor has little or no control. We feel the more commonly known aspect of political risk — the risk of expropriation or nationalisation — is greatly exaggerated in the case of the FSU. In 1982 Fariboz Ghadar showed that the essential precondition for expropriation is an overwhelming dominance by foreign actors. We believe this assessment is still applicable, but does not accurately describe the current level of FDI in the FSU's oil industry. Our most optimistic scenario for foreign oil production by the year 2010 in Russia is only 25% of the total. The size of Russia's existing domestic industry makes foreign domination highly unlikely, particularly with the emergence of a new class of Russian based 'Majors'. For other FSRs, the condition of foreign dominance is more of a concern because of the significant impact single mega-projects may have on the country's production profile. Kazakhstan seems to have a balanced approach towards foreign investment by intending to build-up a production profile split equally between domestic

companies and foreign companies. Azerbaijan, on the other hand, could face a situation whereby almost 90% of its crude production is carried out by foreign companies. The onus is upon both the host government and the oil companies to ensure that an equitable balance is maintained over time.

Creeping expropriation is more of an immediate concern given the fluid legal and fiscal environment which characterises much of the FSU. Of the three countries surveyed (Kazakhstan, Russia and Turkmenistan), only Kazakhstan has taken any reasonable efforts to mitigate the risk of creeping expropriation by providing comprehensive stabilisation clauses. Hitherto the experience of Turkmenistan and Russia has not been encouraging.

We briefly touched on the difference of *ex ante* and *ex post* political risks. While the latter is obviously more important, the former is considered to be significant given the high transaction costs associated with securing a deal in the FSU. Only investors with 'deep pockets' may be able to weather the peaks and troughs associated with the long pre-investment period.

Next, the issue of Russian hegemony was discussed at length — the two relevant pillars of Russian policy being their attitude towards existing but hitherto undeveloped deposits in other FSRs and the status of the Caspian Sea. While there exists no *a priori* legal grounds for a Russian entitlement to these deposits, there is nothing to prevent Russian companies from seeking exploration and development rights as would any other IOC. Where Russian companies choose to participate with western companies in other FSRs projects, we feel the former should not enjoy preferential treatment.

The vexed issue of the legal status of the Caspian Sea is both complex and emotive. Given the over-riding economic considerations associated with the demarcation of the Caspian Sea a final solution among all littoral States will likely be many years in the

making. Even the most elaborate legal arguments are likely to be subordinated by overriding political and economic factors. In the meantime, littoral states continue to enter into contracts with foreign companies for petroleum related activities within the Caspian Sea. While the uncertain status of the Caspian is an obvious investment risk for IOCs we conclude that it is not an insurmountable factor at this stage. We suspect it will become more of an issue as development of the first few projects proceed.

Russian resolve and pressure is being rewarded with equity interests for her domestic companies in upstream projects throughout Central Asia and the Caspian Sea. Western companies involved in major upstream and infrastructure projects in Central Asia and the Transcaucasus must accept a Russian participation as inevitable. Russia will continue to enjoy a high degree of influence in the region's development. However, LUKoil and Gazprom appear content on securing for themselves only a seat at the highest profile developments. It remains to be seen whether LUKoil will become involved in the development of the Tengiz field in Kazakhstan. For smaller development projects, the late arrival of Russian companies is less likely. What is also of concern is Russian policy and actions surrounding export pipelines. The subject of transportation risk will be addressed in the following chapter.

8. TRANSPORTATION RISK AND UNCERTAINTY

8.1 Introduction

It was once said of Russia that no land in the world with such possibilities is so unfavourably situated as regards outlets to the sea.¹ It is an observation which now seems particularly apt to Central Asia and the Caspian Sea. All upstream oil projects face the common challenge of transporting production to a viable market. The most prolific oil field is of little value unless the crude can be transported to the hard currency markets of the West. The determination of Russia to maintain control over future export routes represents the third pillar of a strategy to maintain hegemony over its near abroad. In this chapter we shall examine the issue of transportation risk and uncertainty in the context of oil export alternatives from Central Asia and the Transcaucasus. As any existing pipelines are an integral part of the oil export infrastructure inherited from the FSU we shall begin by examining the position of Russia within whose territory the bulk of the current network resides.

8.2 The Physical System

8.2.1 Pipelines of Russia

The historic rise of Soviet oil production in the latter half of the twentieth century was accompanied by the construction of a vast network of pipelines — by the end of 1990 the system consisted of 66,200 km of pipelines, of which 52,900 km (80%) are situated in Russia.² The percentage of total crude transported by pipelines has also increased: in 1980, 91% of all crude was transported by pipeline; in 1985 and 1990 the proportion was 94%.³ Moreover, little new trunk line capacity has been built over the last 15 years. These three factors reflect the status of the inherited pipeline network: an ageing and

¹ C. E. W. Petersson and W. Barnes Steveni, How to do Business with Russia: Hints and Advice to Business Men Dealing with Russia, (London: Sir Isaac Pitman & Sons Ltd., 1917): p 6.

² IEA, Energy Policies of the Russian Federation, (Paris: IEA/OECD, 1995): p 123.

³ *Ibid.*

stagnant network,⁴ *the majority of which is located in Russia* and which accounts for 94% of all crude oil transported in the FSU.

The infrastructure is, however, no longer fully compatible with the needs of exporters although its export design capacity is 124 MMtpy.⁵ Previously, large amounts of crude were supplied to the refineries of Eastern Europe via the Druzhba pipeline. But the collapse of the CMEA and rising prices of Russian exports resulted in sharp fall of exports to Eastern Europe. Simultaneously, there has been an increase of hard currency earning oil exports to the West. From Russia's perspective any continued reliance on either Ventspils (Latvia) or Odessa (Ukraine) is considered undesirable as there is little defence from these countries imposing higher transit fees and port charges. Apart from political considerations, market and technical factors may also reduce actual capacity below design capacity. Inefficient management and the lack of adequate maintenance are common place during the transition period. On the other hand design capacity is not an absolute and can be exceeded. For instance the official design capacity of the TransAlaska pipeline is 1.2 MMbopd but peak throughput exceeds 2 MMbopd. However, given the circumstances of the FSU, an educated judgement would treat design capacity as an absolute maximum, with the actual capacity being lower. The overall result of all these factors is that the Russian export pipeline network operated at only 76.6% capacity in 1995 and 72.1% in 1994 (see Table 8.1). It appears there is adequate capacity, but an examination of its composition reveals localised deficiencies.

The bulk of excess capacity is the result of the Druzhba pipeline which accounts for half of Russia's export design capacity. As exports shift away from Eastern Europe and the rest of the CIS towards Western markets, the southern ports of Odessa and Novorossiysk

⁴ The majority of the pipelines and storage tanks are more than 20 years old and thus substantial capital investment will be required for modernisation, but during the period 1990 - 1994 repairs were only carried out on as little as 1 % of the pipelines on an annual basis. Robert L. Drake, "Financing Oil Projects in the Russian Federation: The Legal Perspective," *O.G.L.T.R.* 13 (1995): p 466.

⁵ R. Hildahl, T. Gustafson and L. Ruseckas, "How to Get the Oil Out? Oil Pipelines in the Former Soviet Union," CERA Private Report - FSU Energy, Sept. 1994, p 6.

are becoming strained. Both are now operating at above 90% capacity. It is this southern bottleneck which is of particular concern to Russia as Novorossiysk remains their principal warm-water port (the only other being Tuapse).

Table 8.1 Capacity Utilisation of Export Pipelines

Export Terminal	Design Capacity ¹ (MMtpy)	1994 Exports ² (MMt)	1994 Capacity Utilisation	1995 Exports ³ (MMt)	1995 Capacity Utilisation
Druzhba	62.8	38.8	61.8%	41.3	65.6%
Novorossiysk	32	28.9	90.3%	29.3	91.6%
Odessa	8	6.2	77.5%	7.8	97.5%
Tuapse	5.5	4.4	80.0%	4.4	80.0%
Ventspils	15.6	11.0	70.5%	12.1	77.6%
Total	123.9	89.3	72.1%	94.9	76.6%

¹ CERA (Sept. 1994) *supra* note 5, p. 6.

² IEA (1995) *supra* note 2, p. 126.

³ Interfax Petroleum Report, 12-19 Jan. 1996, p 10.

While oil exports at Ventspils could be increased by 3.5 MMtpy within existing infrastructure, Russian anxiety towards the Baltic States, tends to make this the least desirable option. In the spring of 1995 LUKoil chose to pull out of a joint venture with AGIP to build the new Butinge Oil Terminal on the Baltic coast of Lithuania. LUKoil, at least, appears to be advocating a strong southern-based strategy evidenced by its proposed \$1.5 billion refinery project in Krasnodar, its 12.5% stake in the Caspian Pipeline Consortium, the accession of Astrakhanneft by LUKoil,⁶ and more recently the reports of LUKoil taking over Gazprom's 15% stake in the giant Karachaganak gas condensate field development.⁷ Such anecdotal evidence combined with the shifting pattern of exports leads us to conclude that pressure on Novorossiysk is unlikely to abate, and that the highest priority for new capacity is within this southern corridor. Further impetus to construct new capacity also comes from the production potential of Central Asia and the Caspian Sea.

⁶ "LUKoil Holding Company Establishes Bridgehead to Caspian Sea," Interfax Petroleum Report, 8-15 Dec. 1995, pp 6-7.

⁷ "Kazakhstan: Gazprom Stake for LUKoil," Lloyd's List, 2 July 1996; and "Kazakhstan: LUKoil Replaces Gazprom in International Kazakh Gas Deal," Reuters News Service, 1 July 1996.

8.2.2 Pipelines of Central Asia and the Transcaucasus

As opposed to Russia, where substantial export infrastructure exists, the oil pipeline network of Central Asia⁸ and the Transcaucasus is much less advanced, non-existent in places, and was often designed for imports rather than exports. The latter point is a legacy of Soviet command system. A central pillar of Soviet unification was to make each republic dependent on another for crucial imports, despite the obvious inefficiencies associated with transporting raw materials over vast distances. For instance, the eastern refineries of Pavlodar and Chimkent in Kazakhstan and the Chardzhev refinery in Turkmenistan are dependent on Western Siberian crude. Whereas, the oil rich western oblasts of Kazakhstan supplied the Russian refineries in Bashkortostan and the Samara Oblast. There are still no pipelines connecting oil production in the western parts of Kazakhstan and Turkmenistan with their refining and consumption centres of the East. Azerbaijan being geographically much smaller and self-sufficient in oil did not experience such dependencies, but nevertheless, imported crude oil from Kazakhstan and Russia to refine and then re-export as products. Obviously the break-up of the FSU was never considered — for the oil rich former Soviet Republics (FSRs) of Central Asia and the Caspian Sea, this divorce has been severe.

8.2.2.1 *The Kazakh Pipeline Experience*

The situation of Kazakh exports to the West has been far from satisfactory from the point of view of both foreign investors and the Kazakh authorities. Each year Kazakhstan must apply to the Russian Ministry of Fuel and Energy for its quota of crude oil which it may input into Transneft's pipeline network. The quota is divided into two portions: one for delivery to Russian and FSU consumers and one as a pass-through quota to the hard currency markets of Europe. Kazakhstan's initial quota for 1995 was 50,000 bopd (2.5

⁸ In general see John Roberts, *Caspian Pipelines*, (London: RIIA, 1996); Jeremy Carver and Greg Englefield, "An International Pipeline Authority: The Case for the Central Asian Pipeline Organisation (CAPO)," *O.G.L.T.R.* 13 (1995): pp 291-301; Ottar Skagen, "Central Asia and Trans-Caucasia: Pipeline Needs and Options," 15 Jun. 1995, paper presented to CEPMLP International Oil and Gas Investment Policies Conference, St. Andrews, Scotland, 22 Sept. 1995; Yilmaz Oz, "Eurasian Pipeline Projects through Turkey: An Economics and Legal Overview," *O.G.L.T.R.* 13 (1995): pp 153-155; Derek Bamber, "Pipeline Politics," *World Link* May-Jun. 1995, pp 6-11; James P. Dorian, Ian Sheffield Rosi and S. Tony Indriyanto, "Central Asia's Oil and Gas Pipeline Network: Current and Future Flows," *Post-Soviet Geography* 35 (1994): pp 412-430; and Jeremy P. Carver and Greg Englefield, "Oil and gas pipelines from Central Asia: a new approach," *The World Today*, Jun. 1994, pp 119-121.

MMtpy) to FSU refineries and 70,000 bopd (3.5 MMtpy) to Europe.⁹ The latter is considered insufficient when compared to potential levels of production. PlanEcon estimates that net exports from Kazakhstan, including those to other FSRs, could be as high as 350,000 bopd (17.6 MMtpy) by the year 2000,¹⁰ moreover Chevron has indicated that it has the on-stream capacity to raise production from the Tengiz to 120,000 bopd (6 MMtpy) if the export infrastructure existed. Ultimately new capacity must be constructed and in this respect analysts have not been shy in suggesting a maze of possible alternatives (see Figure 8.1). Any major export pipeline route through Iran can safely be rejected barring a major shift in US foreign policy towards Iran. A pipeline crossing the Caspian Sea is improbable until the legal status of the Caspian Sea is resolved.¹¹ In the end the only realistic option is for a pipeline crossing Russia although the location of the final terminal may not necessarily be located in Russia. It is conceivable that a pipeline skirting the northern shores of the Caspian could connect up with future infrastructure transiting the Transcaucasus, rather than progressing eastward to the Russian port of Novorossiysk. But with the latter being the preferred route of Russian interests, various pressures have been exerted on Kazakhstan to acquiesce. When Chevron began to develop the Tengiz field, Russia insisted that the foul smelling mercaptans be first removed from the crude oil before export. Chevron complied by constructing a \$102 million demercaptanisation facility. However, insufficient quotas remained and as a result Chevron announced in February 1995 that it was cutting back its investment programme from \$500 million per year to \$50 million per year in-line with the principle of making the joint venture self-financing. Then in September 1995, the hard currency export quota of Kazakh crude was cut further to a mere 30,000 bopd of which Chevron was apportioned 80% — leaving only 6,000 bopd for all other joint ventures and

⁹ Valera Belousov and Isabel Gorst, "Pipeline problems block oil sector development," Petroleum Economist, Apr. 1996, p 10.

¹⁰ PlanEcon Energy Report (1994) as cited in Dorian, Rosi and Indriyanto (1994) *supra* note 8, p 414.

¹¹ Perhaps, the littoral states could come to an interim agreement on a pipeline crossing, before reaching a unanimous position on the legal status of the Caspian. However, such a option implies that Russia would willingly relinquish one of her best bargaining chips with land-locked Kazakhstan.

production associations.¹² Meanwhile, the Caspian Pipeline Consortium (CPC) — formed by the Governments of Oman, Russia and Kazakhstan to build and operate a 1,440 km pipeline from Tengiz to Novorossiysk — had made little progress. The principal reason being that none of the participants could raise the requisite financing and Chevron, as one of the main intended users, found the terms on offer by CPC unsatisfactory. In April 1996 it was finally announced that a new consortium would be formed. In addition to the original three governments of Russia, Kazakhstan and Oman, 50% of the shares would be held by private companies.¹³ While the presence of western IOCs is necessary to ensure that the requisite financing will be forthcoming, the decision to give a 12.5% stake to LUKoil and a 7.5% stake to Rosneft, is an obvious concession to Russia. Simultaneously, Russia increased Kazakhstan's hard currency quota to Europe to 80-100,000 bopd (4-5 MMtpy).

Despite the improved quota and optimistic production forecasts, no major increase in production will take place until additional export capacity is built. Furthermore, if the machinations of the key players hitherto are any indication of what is to come in the future, one should not expect an expedient resolution to Kazakhstan's export problems. After all when in 1992 CPC first proposed to build an export pipeline, completion was forecast for 1995. Today, project completion is estimated to be in 2001, a full six years later than the original forecast. While the decision to bring on board financially sound IOCs is a step in the right direction significant outstanding issues remain — the least of which is the future tariff structure. The failure to secure access to export capacity has been and will continue to be a major disincentive to foreign investment — the situation of Kazakhstan is a prime example and the experience of Azerbaijan reinforces this assessment.

¹² Frank C. Alexander Jr., "Kazakhstan: New Legislation, But No New Pipeline, Is now the time to make an E&P Investment," Presented to the AIPN Fall 1995 Conference, Rome 12 Oct. 1995, p 6.

¹³ The intended ownership structure of the new CPC is as follows: Government of Russia (24%), Government of Kazakhstan (19%), Chevron (15%), LUKoil (12.5%), Rosneft (7.5%), Mobil (7.5%), Oman Oil Company (7%), British Gas (2%), AGIP (2%), Oyrx (1.75%), and Tengizmunaigaz (1.75%).

8.2.2.2 The Azeri Pipeline Experience

Azerbaijan, like Kazakhstan, has made substantial progress in attracting foreign interest in its upstream sector. The largest deal secured to-date is the \$8 billion project to develop the Azeri, Chirag and deep water sections of the Guneshli offshore oil fields. Estimated to contain over 4 billion barrels of recoverable oil reserves, these fields are worthless to IOCs unless the capability exists to export future production to hard currency markets. A similar export debate has surrounded this project as has the Tengiz field in Kazakhstan. The Russian Government, anxious to maintain their historical ascendancy over the region, are the main proponents of a northern export route which crosses their territory. When the contract was ratified in November 1994, AIOC agreed to choose an export route by June 1995.¹⁴ But the issue proved too contentious with Russia pitted against Turkey and the United States who were advocating a Turkish based route. Finally in October 1995, AIOC announced that early production from the Chirag field would be exported via a dual export route: one via Georgia to the Black Sea port of Supsa; and the other via Russia to the Black Sea port of Novorossiysk.¹⁵

On a pure capital expenditure basis (see Table 8.2) the Georgian route is approximately four to five times more expensive than the Russian route, and observed on a cost per unit of annual capacity distance basis the differential increases to a factor of eight to nine. But, comparing capital expenditures alone provides an incomplete analysis, we should also incorporate pipeline operating costs and the intended tariff structure. The reported cost of shipping oil from Baku to Rotterdam is estimated to be approximately \$5 per

¹⁴ According to Valekh F. Aleskerov, Advisor to President of SOCAR. Comment made at a Round Table Conference on Energy Legislation and Regulation for Azerbaijan Republic: Commercial and Legal Aspects of the ECT, Baku, 5-6 Dec. 1994.

¹⁵ John Roberts, "Caspian pipeline decision," Petroleum Review, Nov. 1995: pp 492-493; "Behind the Smoke, Little Moves On Caspian Export Lines," P.I.W., 16 Oct. 1995, pp 2-3; Jonas Bernstein, "Twin Routes Chosen for Pipeline," The Moscow Times International Weekly Edition, 15 Oct. 1995, pp 26-27; Steve LeVine and Bruce Clark, "Turkish port to gain from oil deal," Financial Times, 10 Oct. 1995, p 6; Steve LeVine and Bruce Clark, "Compromise deal today on Caspian oil route," Financial Times, 9 Oct. 1995, p 2; Daniel Southerland and Thomas W. Lippman, "Oil Firms Lean Toward 2 Pipelines," International Herald Tribune, 26 Sept. 1995, p 1; and Robert Corzine, "Azeri oil seeks way to market," Financial Times, 4 Sept. 1995, p 3.

barrel.¹⁶ This certainly includes the cost of shipping oil via tanker from the Black Sea to Rotterdam, which if loaded at Novorossiysk is estimated to cost \$1.85 per barrel and if loaded at Supsa would cost \$1.20 per barrel.¹⁷ This could imply an operating cost of \$3.15 per barrel for the Russian route and a \$3.80 per barrel for the Georgian route.

Table 8.2 Comparison of CAPEX for Azerbaijan's Early Oil Export Routes

Route	CAPEX (\$MM)	Capacity (MMtpy)	Distance (km)	CAPEX/Capacity*Distance (\$/MMtkmpy)
Georgian Route	200 - 250	2 ¹	926	107,991 - 134,989
	200 - 250	7	926	30,855 - 38,568
Russian Route	45 - 50	2 ¹	1,346	16,716 - 18,573
	45 - 50	5 ²	1,346	6,686 - 7,429
	45 - 50	9 ³	1,346	3,715 - 4,127
	45 - 50	17 ⁴	1,346	1,967 - 2,185

¹ Early production throughput from Chirag field.

² Based on 18 Jan. 1996, transit agreement between Azerbaijan and Russia, for guaranteed throughput of 5 MMtpy by the year 2002.

³ Based on 9 MMtpy capacity from Baku to Grozny.

⁴ Maximum pipeline design throughput of 17 MMtpy from Grozny to Novorossiysk.

However, as we don't know whether the \$5 per barrel total estimate incorporates pipeline tariffs, nor do we know whether the operating cost takes into account depreciation of the original capital expenditures, any such analysis is subject to too many uncertainties. Therefore, for the purposes of our comparison we shall concentrate on the more certain data which are the capital expenditure estimates and the known tariff structure.

The Georgian pipeline will attract a tariff of \$0.43 per barrel (Azerbaijan is to receive \$0.26 and Georgia is to receive \$0.17) as compared to the Baku-Novorossiysk pipeline whose tariff is five times as large at \$2.15 per barrel. The proportional difference in tariff rates is coincidentally the inverse of the capital expenditure comparison. Thus, while the AIOC may have to spend more initially to complete the Baku-Supsa line, it has likely used this as a justification for insisting on a lower tariff structure. So with the Georgian option having a higher capital expenditure but lower tariff and the Russian option having a lower capital expenditure but higher tariff which is cheaper? In order to answer this

¹⁶ *Supra* note 14.

¹⁷ Roberts (1996) *supra* note 8, pp 37-38.

question we constructed a “cost” cash flow comparison, ignoring operating costs because of insufficient data as discussed above and incorporating the following assumptions.

- Start-up production from the Chirag field is estimated to be 40,000 bopd in mid-1997 rising to 80,000 bopd in 1998.
- According to the transit agreement signed between Azerbaijan and Russia, the former guarantees that Azeri oil exports through Novorossiysk will increase annually to reach a minimum of 5 MMtpy by the year 2002.¹⁸
- During the build-up to 2002, we assume that exports are evenly split between the Russian route and the Georgian route.
- After 2002, we assume that AIOC will continue to satisfy Azerbaijan’s obligation to Russia, but will make full use of Georgian capacity as it attracts the lower tariff.
- The AIOC intends that by 2003 operational export capacity will be 200,000 bopd (10 MMtpy).¹⁹
- By 2010, production and export capacity will be 700,000 bopd (35 MMtpy).²⁰
- The maximum combined design throughput of Georgian and Russian options from Azerbaijan is 320,000 bopd (16 MMtpy). Although the capacity of the Russian line will be 17 MMtpy from Grozny to Novorossiysk the capacity of the line from Baku to Grozny will only be 9 MMtpy.²¹

These assumptions are used to calculate the comparative cost structure in current terms (i.e. no account of inflation) on a discounted basis shown in Figure 8.2. Over a twenty year period and at a discount rate of 10% the Russian option is more expensive at \$0.77 per barrel as opposed to the Georgian option which is \$0.44 per barrel. At higher discount rates the difference between the two routes begins to converge with the Russian costs dropping more rapidly. This is to be expected as the larger proportion of the Russia

¹⁸ John Thornhill, “Azerbaijan agrees oil transit,” *Financial Times*, 19 Jan. 1996, p 2.

¹⁹ AIOC, “A new oil era for Azerbaijan,” Pamphlet, n.d., p 9.

²⁰ *Ibid.*

²¹ Roberts (1996) *supra* note 8, p 37.

route's costs are associated with its higher throughput in the future. At a discount rate of 21% the cost structure of the two routes coincides at \$0.35 per barrel. Viewed from this perspective the Russian route, despite its high tariff, is not nearly as punitive as it may first appear.

Economic analysis notwithstanding, the practical limitation of the dual early export scheme is its limited throughput capacity of 16 MMtpy. If production is as forecast then both pipelines will be operating at fully capacity by the year 2005. Thus additional pipeline capacity (i.e. the long-term export solution) becomes necessary otherwise production will be constrained as has been the case of the Tengiz Field in Kazakhstan.

In summary, the rationale for choosing the dual pipeline option appears justified on three fronts. Firstly, the *ex ante* cost differential between the two routes is not that great despite the high differential in tariff rates, although at discount rates of less than 21% the Georgian route is more favourable on a per barrel basis. Secondly, until a long-term export pipeline is built, Azerbaijan exports will be limited to the combined 16 MMtpy capacity of both routes. Thirdly, the dual pipeline option offers some security of access to export capacity should one of the routes become unusable for whatever reason. But real export security will only be achieved when excess capacity exists, and as our analysis shows these two pipelines will be insufficient by the year 2005.

Azerbaijan can still fall victim to either Georgia or Russia seeking to maximise transit revenues. The Georgian route may be particularly susceptible to increased tariff rates given that the Georgian portion of the tariff is only \$0.17/bbl out of \$0.43/bbl. Undoubtedly, the lower tariff rate was seen as compensation for the higher fixed cost of building the Georgian pipeline, but once the fixed costs are sunk they no longer play a part in a decision of whether to keep using the pipeline. In other words should Georgia seek to equate their pipeline tariffs with those of Russia, then the AIOC would only be avoiding smaller variable costs by choosing not to use the pipeline, not the higher fixed capital costs already incurred. Provided, AIOC is generating sufficient revenue to cover the increased variable costs, then it would choose to keep pumping oil via the same until a competitive alternative arose.²² The obvious qualification to the “bygones rule” is that it takes no account of the political consequences of a transit nation taking such action which would naturally be considered beforehand. Georgia eager to secure foreign investment and the possible future routing of a long-term export pipeline across her territory is unlikely to do anything which would discourage such investment at least in the interim period.

With regards to the routing of a long-term pipeline for Azeri oil exports (i.e. post-2005 by our estimates), the issue is still outstanding and once more a variety of alternatives have been suggested. The AIOC has until June 1997 to submit its proposal to the Azeri government. One possible route is via Iran to the Persian Gulf, and although this allows easy access to the markets of the far East, it is currently being disregarded for political reasons. Any proposals terminating on the Black Sea (either through Russia or Georgia) will need to address the issue of increased tanker traffic through the Straits of Bosphorus which Turkey is adamantly opposing.²³

²² This is known by economists as the “Bygones Rule.” See Prof. Paul Stevens, “A History of Transit Pipelines in the Middle East: Lessons for the Future,” Paper delivered to Boundaries and Energy: Problems and Prospects 4th International Conference of the International Boundaries Research Unit, University of Durham 18-19th July 1996, p 6.

²³ Turkey’s concern about the high level of tanker traffic passing through the Straits is not without justification — on the 12th March 1994, *Nassia*, a Greek/Cypriot registered oil tanker collided with a dry

The final option is a route via Turkey to the Mediterranean port of Ceyhan. However, the middle leg of any such pipeline would have to cross either the territory of Armenia, Iran, or Georgia. Until such a time as Azerbaijan normalises its relations with Armenia the first option is ruled out, and similarly any route transiting Iran is politically unfeasible. A long-term route which incorporates Georgia will be enhanced if the AIOC's plan to export early oil via the same proves successful. Whether such a route would ultimately terminate on the Black Sea or be connected to infrastructure through Turkey depends on a multiplicity of factors which are practically impossible to predict. But history has shown us that the very existence of infrastructure, even if non-operational, is a powerful incentive for choosing the same route again. The first oil exports by rail from Baku passed through Georgia as did the first pipeline. History is on the verge of repeating itself.

8.2.2.3 The Turkmen Pipeline Experience

With regards to southern Central Asia, Turkmenistan is the only republic which is likely to attract substantial foreign investment into its petroleum sector and if its estimated oil resources of 6.8 billion tonnes²⁴ are to be fully developed then its own secure export route is necessary. But Turkmenistan is also one of the most geographically disadvantaged oil producing FSRs and faces the stark choice of 685 km pipeline through Iran to the Persian Gulf with a planned first stage capacity of 2 MMtpy increasing to 14 MMtpy in the second stage²⁵ or UNOCAL's proposal to build a \$5 billion, 1,800 km, 50 MMtpy

cargo ship in Turkey's Bosphorus Strait. In the wake of the accident, Turkey temporarily suspended the passage of any commercial vessels through the Straits. Their particular worry is the potential increase of tanker traffic, in an already congested waterway, should the oil reserves of the Central Asia and the Caspian Sea be developed. Turkey, making a direct reference to Chevron's development of the Tengiz field and AIOC's project in the Caspian Sea, claimed that these new projects could add annually 75 MMt of crude on top of the 5 MMt which is presently being shipped. While shipping through the Straits of Bosphorus and Dardanelles and the Sea of Marmara are regulated by the 1936 International Montreux Convention which allows free passage of any commercial vessels, Turkey unilaterally imposed new navigation regulations in 1994. Russia opposes any such changes which infringe her right of free passage.

²⁴ Proceedings of International Conference on Oil & Gas Opportunities of Turkmenistan, Vienna, 26-28 Sept. 1995, p 4.

²⁵ *Ibid.*, p 25.

pipeline from Chardzhou to the southern port of Gwadar in Pakistan via Afghanistan.²⁶ Neither of these options are feasible given the current political climate in Iran and Afghanistan which effectively precludes raising the necessary international financing. As Turkmenistan borders on the Caspian Sea, should any of the other littoral states be successful in their efforts to build an export pipeline, Turkmenistan may be able to purchase throughput capacity to use in combination with cross-Caspian tankers.

8.2.3 Summary of the Physical System

The pipeline system inherited from the FSU is best described as an ageing and stagnant network, the majority of which is located in Russia, and accounts for 94% of all crude oil transported within the FSU. Despite the appearance of sufficient design capacity (124 MMtpy) the existing infrastructure is ill-suited for present needs. The Druzhba pipeline is only running at 66% capacity due to the collapse of exports to Eastern Europe while bottlenecks are a common feature of the southern pipelines terminating on the Black Sea. The situation of the land-locked countries of Central Asia and the Transcaucasus is dire. Not only is there an absence of infrastructure, that which does exist typically crosses the territory of Russia. The experience of Azerbaijan and Kazakhstan illustrates the challenges facing FSRs and their foreign investors in securing a reliable export route to the international oil market. Until new capacity is built, the southern petroleum producing FSRs will remain vulnerable to the weaknesses of the current system including at times the vicissitude of the Russian Government.

But the construction of new pipelines is not only a daunting task from a geopolitical point of view (as most pipelines will cross one or more third party states) these projects are also very expensive. This is because pipelines are driven by huge economies of scale.²⁷ Table 8.3 compares 25 proposed pipelines in the Central Asia, Transcaucasus and Black Sea

²⁶ "Fresh Start," *R.P.I.*, Apr. 1996, pp 60-61.

²⁷ Stevens (1996) *supra* note 22, pp 5-6.

regions.²⁸ For ease of comparison, we calculated the capital expenditure per unit of annual capacity distance (i.e. dollars per million tonne kilometres per year) for each proposal and sorted them in an ascending order. The entries at the top of the table represent the longest and largest capacity projects which enjoy the lowest CAPEX per unit of annual capacity distance. Whereas the smallest projects at the bottom of the table are the cheapest from a capital expenditure basis, they are the most expensive on a CAPEX per unit of annual capacity distance. Overall the range forecasts varies from \$17,671 - \$127,333 per MMtkmpy and can be further compared to the early export pipeline scheme for Azerbaijan shown in Table 8.2. The proposed early production pipeline from Baku to Supsa in Georgia has a CAPEX per yearly annual capacity distance of around \$31,000 - \$38,000 per MMtkmpy. Only the extensive use of existing infrastructure allows the Baku to Novorossiysk proposal to have lowest CAPEX per annual capacity distance of all possible pipelines — a fact that the Russians are no doubt eager to point out.

To summarise, IOCs have exhibited a high level of interest in undertaking upstream oil projects in Central Asia and the Caspian Sea. But in order for these project to move beyond the preliminary phases to the development stage (i.e. when the bulk of the investment takes place) the ability to export and sell one's production in the international market place must be secured. Barring the use of existing infrastructure the economic rationale for constructing larger more integrated pipeline schemes is well substantiated. These are however the most difficult category of projects to undertake especially when they cross one or more sovereign boundaries. Given the political situation of the region, it remains to be seen how quickly grandiose pipeline projects will materialise. The advantage of smaller projects is their lower front-end capital expenditure whose financing will be easier to arrange. Smaller projects also dovetail with a staggered investment strategy. Ultimately the pace of upstream development in this region is tied to the

²⁸ See Appendix A.3, "FOGI Database: Infrastructure," for details on actual and proposed oil and gas infrastructure projects (pipelines and terminals) involving foreign investors.

availability of export capacity. The problem for the mega-projects remains one of uncertainty, because they will not proceed without first establishing export capability, while for the smaller operational projects the problem is transportation risk. We now examine the management and regulation of the existing pipeline system which affects ongoing operations.

Table 8.3 Capital Expenditure Estimates of Selected Pipeline Proposals

Route Description	Length (Km)	Diameter (Inches)	Capacity (MMtpy)	CAPEX (\$US MM)	CAPEX/ Capacity*km (\$/MMtkmpy)
Tengiz-Aktau-Makhachkala-Tbilisi-Horasan-Ceyhan/Baku-Iran-Nakhichevan-Horasan-Ceyhan	2993	46-42-32-30-24	45	\$2,380	\$17,671
Tengiz-Turkmenbashi-Baku-Armenia-Nakhichevan-Ceyhan	2575	46-42-32-30-24	45	\$2,188	\$18,882
Tengiz-Turkmenbashi-Baku-Iran-Nakhichevan-Ceyhan	2557	46-42-32-30-24	45	\$2,175	\$18,902
Tengiz-Aktau-Makhachkala-Tbilisi-Ceyhan	2635	46-42-32-30-24	45	\$2,255	\$19,017
Tengiz-Turkmenbashi-Baku-Armenia-Nakhichevan-Ceyhan	2512	46-42-32-30-24	45	\$2,158	\$19,091
Tengiz-Aktau-Makhachkala-Baku-Iran-Nakhichevan-Ceyhan	2707	46-42-32-30-24	45	\$2,347	\$19,267
Tengiz-Aktau-Makhachkala-Baku-Armenia-Nakhichevan-Ceyhan	2662	46-42-32-30-24	45	\$2,317	\$19,342
Burgas-Vlorë	853	48	40	\$700	\$20,516
Baku-Georgia-Ceyhan	1695	36-32	25	\$983	\$23,198
Baku-Iran-Nakhichevan-Ceyhan	1677	36-32	25	\$981	\$23,399
Baku-Armenia-Nakhichevan-Ceyhan	1632	36-32	25	\$958	\$23,480
Tengiz-Turkmenbashi-Baku-Armenia-Nakhichevan-Ceyhan	2612	32-30-24	20	\$1,741	\$33,327
Tengiz-Turkmenbashi-Baku-Georgia-Ceyhan	2575	32-30-24	20	\$1,727	\$33,534
Tengiz-Turkmenbashi-Baku-Iran-Nakhichevan-Ceyhan	2557	32-30-24	20	\$1,725	\$33,731
Tengiz-Aktau-Makhachkala-Baku-Iran-Nakhichevan-Ceyhan	2707	32-30-24	20	\$1,881	\$34,743
Tengiz-Aktau-Makhachkala-Baku-Armenia-Nakhichevan-Ceyhan	2662	32-30-24	20	\$1,868	\$35,086
Tengiz-Aktau-Makhachkala-Tbilisi-Ceyhan	2163	32-30-24	20	\$1,618	\$37,402
Chardzhou-Gwadar	1800	?	50	\$5,000	\$55,556
Burgas-Alexandroupolis	317	36	30	\$668	\$70,242
Kiyikoy-Ibrikbana	180	?	75	\$1,109	\$82,148
Kirshi-Muuaga	425	?	25	\$1,000	\$94,118
Kropotkin-Novorossyisk	250	40	15	\$375	\$100,000
Vyshka-Tehran	685	28	14	\$1,000	\$104,275
Kiyikoy-Ibrikbana	180	?	40	\$795	\$110,417
Kiyikoy-Ibrikbana	180	?	25	\$573	\$127,333

Source: Skagen (1995) p 43; Roberts (1996) pp 19 & 59; Nadir Biyikoglu, "Caspian-Mediterranean Oil Export Pipelines The Route via Turkey," in Charles and Lloyd (1995) pp 57-61; and FOGI Database.

8.3 The Management & Regulation of the Pipeline System

The integrated pipeline network of the FSU was historically managed by the Soviet organisation Glavtransneft, and while each NIS took ownership of the pipelines within their respective territories following the dissolution of the FSU, the network is still managed for the most part by Russia's Transneft. However, the new *modus operandi* of Transneft compared to the now defunct Glavtransneft is substantially different.

8.3.1 Introduction of Export Tariffs

Glavtransneft, used to perform a merchant function whereby it bought crude from producers for on-selling to domestic refineries and export agencies (the latter principally being the then Soyuznefteexport, the Union Oil Exporter).²⁹ Significantly, Glavtransneft took title to the oil at the entry point into its system and then delivered it according to the central plan and a system of state orders. However, in January 1992 Transneft, having studied the North American common-carrier pipeline mechanism, initiated a major change in *modus operandi*. The ownership and marketing function of Transneft was shelved in favour of a common-carrier system whereby Transneft would provide transportation services on tariff basis.³⁰ The tariff structure was broadly based upon the American cost-of-service model, but is still highly imperfect. The domestic rouble cost for each pipeline association is determined by summing operating costs, depreciation and an allowance for income tax to which is added an allowed level of profit, but the *profit is stated as a percentage of operating expenses*. Thus, there is little incentive for Transneft to cut costs and any cost increases will be passed through to the actual pipeline users. In addition to the domestic rouble content of the tariff, there is a hard currency component for exporters as well as a port fee for marine terminals. Although, the hard currency component is by far the largest element, the domestic portion has risen rapidly to accommodate rises in inflation. Because the ageing pipeline system is in need of

²⁹ Anthony E. Reinsch, Igor Lavrovsky and Jennifer I. Considine Oil in the former Soviet Union: Historical Perspectives Long-term Outlook, (Calgary: CERL, 1992): p 61.

³⁰ See IEA (1995) *supra* note 2, pp 125-126; and CERA (Sept., 1994) *supra* note 5, pp 4-5.

widespread repairs, modernisation and upgrading there is a theoretical justification for Transneft imposing higher tariffs. Since 1991 there have been at least 11 such increases collectively amounting to 200% rise in the price of hard currency exports.³¹ But there is a limit to what producers can bear and the indications are that the ceiling is fast approaching if not already breached. The international average cost of shipping oil to export terminals is around 5% of its price, but in Russia it has reached almost 25%. It is worrying that such increases are subsidising continuing inefficiency within Transneft rather than funding new capital investment.

Unpredictable rises in the cost of exporting crude oil is not only a problem for foreign investors but also for Russia itself whose exports cross third party states. Consider the recent dispute between Ukraine and Russia. On 1 January 1996 Ukraine unilaterally raised its oil tariff to \$5.20 per tonne (\$0.72 per bbl) from \$4.53 dollars per tonne (\$0.62 per bbl) and Russian producers reacted by temporarily curtailing supplies to Slovakia and the Czech Republic.³² This was not the first time this had occurred, supplies to Eastern Europe were also disrupted at the beginning of the 1995 for similar reasons.³³ It seems the battle over transit fees has become an annual event threatening the passage of Russian oil supplies to Eastern Europe. Ukraine's action was in part an effort to make up for reduced transit income due to lower throughput, but from Moscow's perspective there is no reason why Ukraine should be allowed to recover this lost revenue through increases in oil transit fees. On the other hand Ukraine should not be subsidising Russian exports either. On a per barrel basis the Ukrainian rate is only a quarter to a third of what Transneft charges internally, although on a \$ per barrel per thousand kilometres basis the Ukrainian rate is higher (see Table 8.4). Interestingly Russia's attitude exhibits a 180 degree about-face when it comes to transit fees for an oil export pipeline from Tengiz in

³¹ For instance in 1991, it cost the White Nights JV \$7.80 to ship a tonne of crude from Western Siberia through the Druzhba pipeline to Hungary or Slovakia, in Mar. 1996 it cost \$24.00. "So Far Away," *R.P.I.*, Apr. 1996, p 34.

³² "Russo-Ukrainian Dispute Over Oil Pipeline," *OMRI Daily Digest*, No. 3, Part I, 4 Jan. 1996.

³³ Markus, Ustina. "Ukraine Gas: Debt and Desperation." *Transition*, 14 Apr. 1995, pp 14-19.

Kazakhstan to Novorossiysk on the Black Sea. Although the issue is still outstanding, Russia's proposed tariff (\$3.50 per bbl or a lower rate of \$3.25 per bbl for preferential customers who participate in financing the project) was rejected by Chevron as being too high. On a per barrel basis Russia's proposed tariff for the Tengiz pipeline is almost five times what Ukraine is charging and on a per barrel basis per thousand kilometre is still twice what Ukraine currently charges. Provided tariffs are based on the 'revenue requirements' of the pipeline's owner/operator, some of the discrepancy between Ukrainian fees and the proposed Russian tariff rates between Tengiz and Novorossiysk can be accounted for by the fact that in the latter case both the capital expenditure of building and operating the new pipeline must be recovered, whereas in the former only operating costs must now be met.³⁴ But the Ukrainian section of the Druzhba pipeline is also in need of modernisation for which Ukraine's Oil Transportation Institute recently called a new international tender.³⁵ If Russian producers wish to continue to use the Druzhba pipeline then tariff rates will need to reflect the costs of future upgrades as well. In the meantime Russia and Ukraine announced their intention to submit their dispute over tariffs to the Secretariat of the Energy Charter Treaty (ECT)³⁶ as the first formal

³⁴ In other words, the tariff rates for a new pipeline must be sufficient to recover the capital costs of building the pipeline plus cover any financing charges and operating costs with enough left over to provide for a 'reasonable profit margin' to its owner. On the other hand, tariffs on oil passing through a fully depreciated pipeline have only to cover operating costs, any foreseeable maintenance costs, and a 'reasonable profit margin'. This argument weakens, however, if tariffs are based on the 'replacement value' of the pipeline, in which case there is little difference between the scenarios of fully depreciated pipeline and a brand new pipeline.

³⁵ "Ukraine: Oil Transportation Institute Calls on Oil Pipeline Tender," Novocon EcoTass, 9 Dec. 1995.

³⁶ The Energy Charter Treaty is the first East-West multilateral treaty, signed in Lisbon on 17 Dec. 1994, which imposes extensive obligations on signatories with respect to the protection and treatment of investment in the field of energy. Text with introductory note by Thomas W. Wälde *reprinted* in I.L.M. 33 (1995): pp 509 *et seq.* See also Regina S. Axelrod, "The European Energy Charter [sic] Treaty: Reality or Illusion?" Energy Policy, 24 (1996): pp 497-505; Thomas Wälde ed. European Energy Charter Treaty: An East-West Gateway for Investment & Trade, (London: Graham & Trotman / Martinus Nijhoff/Kluwer, 1996); Thomas W. Wälde, "International Investment Under the 1994 Energy Charter Treaty — Legal, Negotiating and Policy Implications for International Investors within Western and Commonwealth of Independent States / Eastern European Countries," J.W.T. 29 (1995): pp 5-72; and Julia Doré and Robert De Bauw, Energy Charter Treaty Origins Aims and Prospects, (London: RILA, 1995).

application to the treaty's dispute resolution procedures.³⁷ Article 7 of the ECT, dealing specifically with the transit of energy states that...

“each Contracting Party shall take the necessary measures to facilitate the Transit of Energy Materials and Products consistent with the principles of freedom of transit and without distinction as to the origin, destination or ownership of such Energy Materials and Products....”³⁸ Moreover, each Contracting Party “...shall treat Energy Materials and Products in Transit in no less favourable manner than its provisions treat such materials and products originating in or destined for its own area, unless an existing international agreement provides otherwise.”³⁹ “In the event that facilities for the Transit of Energy Materials and Products cannot be achieved on commercial terms...the Contracting Parties shall not place obstacles in the way of new capacity being established....”⁴⁰ More importantly, “a Contracting Party...shall not, in the event of a dispute over any matter arising from that Transit, interrupt or reduce...the existing flow of Energy Materials and Products.”⁴¹ However, a Contracting Party may do so after the conclusion of the dispute resolution procedures, or where this is specifically provided for in a contract or other agreement governing such Transit or permitted in accordance with the conciliator's decision.⁴²

Unfortunately, at that time the Charter Secretariat had not yet established the practical conciliation procedures for dealing with transit disputes. As a result the views of the Charter Secretariat with regards to the Ukrainian/Russian dispute remain unknown. But had the dispute been resolved within the auspices of the ECT, it could have become a watershed event in the international relations of transit of energy. Russia's exposure to Ukrainian whims or Kazakhstan's/Chevron's exposure to Russian whims emphasises that no matter who is in control of a pipeline, the temptation to raise tariff rates is always present. To summarise the volatile history of tariff changes throughout the whole region over the past five years, means that investors are effectively prevented from formulating a reliable business forecast, an absolutely essential prerequisite of any long-term investment. As there is little assurance that future increases will be carried out in a more

³⁷ “Ukraine and Russia Appeal to the European Energy Charter To Mediate in Tariff Dispute,” Interfax Petroleum Report, 9-16 Feb. 1996, p 15.

³⁸ Art. 7(1), “Energy Charter Treaty” *supra* note 36.

³⁹ Art. 7(3), *ibid.*

⁴⁰ Art. 7(4), *ibid.*

⁴¹ Art. 7(6), *ibid.*

⁴² *Ibid.*

rationale and predictable fashion, *the uncertainty of pipeline tariffs* remains the first of three key concerns with regards to the management of and regulatory framework governing pipelines.

8.3.2 Allocation of Export Capacity

The constraint on export capacity described earlier, flags the second concern for western investors, which is *the allocation of existing export capacity*. Because of the initially large differential between the international price of crude and those within Russia, the Government was compelled to restrict exports by utilising an allocation system. Since 1992 priority for exports has been assigned in the following order: firstly, “state needs” exports whereby much of the revenue goes directly to the government; secondly, oil exported according to inter-republican agreements within the FSU; and lastly, all other quota-holding shippers on a pro rata basis.⁴³ Organisations classified as “special exporters” enjoyed the sole right to export oil by acting as agents for the oil producers. This included companies such as Nafta Moscow (the largest government-controlled trader) and others such as Balkar Trading, Alfa-Eco and Manoil. However, the initial mechanism for establishing oil exports quotas was mediocre at best because quotas were set at an aggregate level by the Ministry of Economics based on forecasts of supply and demand. The aggregate figure was then broken down into individual producer allocations; a process which involved several more ministries. But the forecasts were generally inaccurate and resulted in an over-allocation to the domestic and inter-republican markets. Thus, it became necessary to revise export quotas for delivery of oil outside of Russia several times a year.⁴⁴ In general, exports to the West were increased while exports to FSRs were scaled back. The increase in hard-currency exports was not unwelcome but it was achieved in a piecemeal fashion with little foresight and led to bottlenecks. But the biggest drawback of the quota system was that it acted as an policy

⁴³ CERA (Sept., 1994) *supra* note 5, p 12.

⁴⁴ IEA (1995) *supra* note 2, p 131.

instrument to restrain a rise in domestic oil prices, and was susceptible to corruption through grafts to officials responsible for allocating quotas.

Both the IMF and the World Bank have exerted considerable pressure on Russia to liberalise its oil market — but measures taken have not yet had the desired effect. Anyone who has followed the history of pipeline access would probably characterise it as being a roller-coaster ride, but one which is still very much in motion. While numerous changes have taken place, reality is far from the coherent, stable and transparent system which investors desire. This is not too surprising as the allocation of export quotas represents the distribution of access to an economic asset which in 1995 flowed 16% (i.e. \$12 billion) of the entire value of all Russian exports. It is only natural that control over such a politically charged and economically powerful asset proves contentious. Transneft is directly responsible for its operation while the government is in a regulatory position. Caught in the middle are domestic and foreign companies throughout the FSU for whom access to the system remains a cornerstone of their upstream operations. The interaction of these players, each driven by their own self-interest, has resulted in a patchwork of changes.

Decree No. 1007,⁴⁵ under which the three-tier system of oil export priorities was to have ended was supposed to be a significant step forward. If fully implemented it opened the possibility for creating a transparent system, less susceptible to corruption, whereby capacity could be allocated according to those who valued it the most. Under the Decree, only for goods and services exported under an international commitment by Russia, would a system of licences and export quotas be maintained, for all others the latter would be abolished. Ironically Decree No. 1007 also drew serious criticism from those foreign investors who were at the time enjoying special quotas, including a tax-exempt status, but looked likely to lose those privileges under the new regulations. Article 25 of

⁴⁵ Decree No. 1007 of the President of the Russian Federation, "On the Abolition of Quotas and Licences for Goods and Services Supplied for Export," dated 23 May 1994 *reprinted* in R.P.I., June 1994, p 14.

the Russian Foreign Investment Law dated 4 July 1991 stipulated that any enterprises with foreign share participation exceeding 30% may export their own production without a licence. However Decree No. 1385 issued shortly afterwards revoked Decree No. 1007 and represented an admission by the Government that it was not prepared to completely deregulate oil exports.⁴⁶ This did not necessarily mean that the Government did not believe in the goal of abolishing export quotas, but rather would take more time to devise a new system before scrapping the old one.

Since then a variety of proposals have been put forth including the right to ship oil be put up for tender while quotas and licences be preserved for 50% of the pipeline capacity. Although this idea is attractive from an economic perspective as it introduces a system whereby the Government will extract maximum rent for 50% of the pipeline's capacity, it was generally viewed with disdain as it would naturally favour the large vertically integrated companies with the greatest financial resources. But, again such a system without an exemption for JVs would contravene Article 25 of the Law on Foreign Investment. In December 1994, the Russian Government announced its intention to scrap the export quotas in return for introducing domestic quotas. But this was hardly the solution the international financial institutions were seeking and Russia, realising that future loans from both the IMF and the World Bank were in jeopardy, capitulated.⁴⁷

The first quarter of 1995 witnessed a rash of new regulations. Decree No. 220 "On Certain Measures of State Regulation of Natural Monopolies in the Russian Federation," dated 28 February 1995 established federal executive bodies to regulate natural monopolies including *inter alia* oil and gas transportation through pipelines. Ordinance No. 209, freed all oil exporters from mandatory sales to domestic markets and further

⁴⁶ Presidential Decree No. 1385, "On Export Crude Oil and Petroleum Products in 1994," reprinted in Jul./Aug. 1994, p 19.

⁴⁷ Ordinance No. 1446, "On the Shipment of Oil and Petroleum Products Outside the Customs Border of the Russian Federation from January 1, 1995", dated 31 Dec. 1995 reprinted in R.P.I., Feb. 1995, pp 74-75; and "Addendum to Ordinance No. 1446 of the Russian Federation Government," dated 31 Dec. 1995, reprinted in R.P.I., Feb. 1995, p 30.

stipulated that access to throughput capacity should be granted in proportion to production volumes in the preceding quarter.⁴⁸ Furthermore the Russian Government assured its commitment to

“ensure right-of-access priority to transportation systems: for those entities carrying out shipments of oil and oil products in accordance with international obligations of the Russian Federation; [and] for enterprises with foreign investments that have been granted export-tariff benefits allowing them to export deliveries of their own production in the volume required to recoup investments made before January 1, 1995.”⁴⁹

On 6th March 1995 Yeltsin issued Decree No. 245, “On the Main Principles of Foreign Trade Practices in the Russian Federation,” which annulled previous restrictions on the export and import of goods and services, including raw materials, and repealed the “special exporter status” registration requirements.⁵⁰ The most concrete form of progress for foreign investors was seen in the results of the second quarter of 1995 export schedules which permitted 13 JVs who had previously obtained exemption from export tariffs, to export 100% of their ‘own production’ to the hard currency markets of the West.⁵¹ But, this was resented by some domestic producers. In summary, pipeline capacity is firstly allocated to satisfy international commitments of the Russian Government, secondly to any JVs whom are receiving preferential treatment, and lastly to all other producers on a proportional basis. Finally, a system of assignment permits oil producers to assign (i.e. sell or lease) to another legal entity their right of access to pipelines.⁵² In some ways this was a throwback, at least in economic terms, to the earlier proposal of a tender for export rights. Although, both have the advantage of assigning export capacity to those who value it the most, the allocation system only allows the oil

⁴⁸ Art. 1, Ordinance No. 209, “On Regulating Access to the System of Main Oil Pipelines, Oil-Product Pipelines, and Seaports for Exporting Oil and Oil Products beyond the Customs Territory of the Russian Federation,” dated 28 Feb. 1995, *reprinted* in R.P.I., Apr. 1995, p 75.

⁴⁹ Art. 3, *ibid.*

⁵⁰ “Legal Backing,” R.P.I., Apr. 1995, p 11.

⁵¹ This list consisted of AmKomi, Chernogorskoye, Geoilbent, KomiArcticOil, Komiquest, Mekamineft, Nobel Oil, Polar Lights, SANK, Tatex, Tatoilgas, Tatoilpetro, and White Nights JVs.

⁵² See “Draft Procedure for Assignment of the Right to Access the System of Oil Mains, Petroleum Product Lines, and Sea Terminals for Export of Crude Oil and Petroleum Products beyond the Limits of the Customs Territory of the Russian Federation,” n.d. *reprinted* in R.P.I., Jul./Aug. 1995, p 25.

producer as the assignor to gain the extra income, not Transneft or the Government. In fact the “Law on Natural Monopolies” which became effective on 24 August 1995 prohibits Transneft as the owner of the mains pipelines from selling or leasing their facilities.

From the above discussion it seems that *uncertainty* has been a central theme which provides little comfort to investors. A corollary is that foreign companies are effectively precluded from raising long-term debt capital on a project specific basis as there is little guarantee of securing affordable access to export sales sufficient to cover debt servicing. In all fairness to Russian officials whom are trying to balance a multitude of interests, the actual export record of JVs in Russia has not been all that bad. But the piecemeal approach in which foreign oil companies gain access to export capacity prohibits long-term upstream investments. The IMF concludes that “Russia should ensure a transparent regulatory regime for the oil pipeline system in order to safeguard domestic producers and continue attracting foreign investment.”⁵³

8.3.3 Commingling

The final consideration regarding the management and regulation of export pipelines stems from the physical limitation that oil for export is commingled into what is known as the “Urals Blend” within the existing pipeline infrastructure and storage facilities. Thus, each exporter receives the same price for their exports regardless of the quality of their crude which is injected into the pipeline system. Such a system is economically inefficient as high quality crude producers are in effect subsidising low quality crude producers. The KomiArcticOil JV operating in the Timan-Pechora Basin of Russia estimates that it loses \$10 to \$15 per tonne of oil sold for export due to commingling⁵⁴, this loss is not insignificant (i.e. 8-13% of the gross export price).

⁵³ IEA (1995) *supra* note 2, p 128.

⁵⁴ “A Rotten Cocktail,” R.P.I., Jul./Aug. 1994, p 27.

The need for a 'quality bank' whereby crude is graded at both the input and outlet of a given pipeline and to introduce a system of price compensation has been recognised by Transneft,⁵⁵ and highlighted by the IEA.⁵⁶ But it is questionable if and when Transneft's proposal may materialise. Under Transneft's proposal, compensation rates are to be adjusted annually with initial rates set at \$0.03 / bbl / °API and \$0.05 / bbl / 0.1% of sulphur content. For instance, Bashneft would pay a penalty of \$1.13 per tonne (or \$0.16 per barrel) of crude it sells to Germany, while Purneftegas would gain \$1.57 per tonne (or \$0.22 per barrel) of crude shipped to Novorossiysk.⁵⁷ Thus there would be both winners and losers among existing producers. High quality crude producers will be in favour of implementing such a system, while low crude quality producers of the type commonly found in the Volga-Urals will be opposed to such changes. Any attempt to reduce the oil revenues of the ethnic regions of Bashkortostan or Tatarstan (both within the Volga-Urals geological province) will be met by fierce resistance as these Muslim enclaves have strong feelings of independence and self-determination.⁵⁸ Despite the difficulty Transneft faces in winning majority approval among producers for a 'Quality Crude Banking System' (QCBS), the system itself is one of the important steps towards achieving the state's long-term goal of maximising economic rent from petroleum production.

If we assume there is a fixed sum of investment capital, then a QCBS will help ensure that investment capital is directed towards the most profitable deposits. If deposits containing poorer quality crude are to be developed then other reservoir characteristics (e.g. shallower depth or higher natural pressure) will have to compensate for the lower

⁵⁵ "Quality Banking," *R.P.I.*, July/Aug. 1994, pp 27-28.

⁵⁶ IEA (1995) *supra* note 2, p 126.

⁵⁷ That is, Bashneft inputs 27.90°API crude with 2.63% sulphur to the system while Germany receives 30.42°API crude with 1.04 % sulphur; and Purneftegas inputs 36.40°API crude with 0.34% sulphur to the system while the blend sold at Novorossiysk is 30.43°API with 1.08% sulphur. "Different Strokes," *R.P.I.* May 1995, pp 18-19.

⁵⁸ See Marie Bennigsen Broxup, "The 'Internal' Muslim Factor in the Politics of Russia: Tatarstan and the North Caucasus," in *Central Asia and the Caucasus After the Soviet Union: Domestic and International Dynamics*, Mohiaddin Mesbahi ed. (Gainesville, FL.: University Press of Florida, 1994): pp 75-98.

price which the poorer quality crude attracts. It is paramount that a linkage be established between the international market's valuation of a particular crude and the price which is paid to an individual producer. Economic efficiency requires that individuals make investment decisions mainly in response to undistorted market signals. The current export system based solely on a blended crude does not achieve this at an individual producer level, and therefore does little to encourage the most efficient allocation of investment resources.

The absence of QCBS is not just a concern of producers operating in Russia, but is also of importance to oil producers elsewhere in the FSU who use the Russian pipeline system. Crude oil from either the Tengiz field in Kazakhstan or the Chirag, Azeri, and Guneshli fields in the Caspian are of superior quality compared with the 'Urals Blend'. If Kazakhstan or Azerbaijan are to use Russian export infrastructure then compensation for commingled crude will be necessary. Notwithstanding the need of the TengizChevroil JV to remove the high sulphur content (15%) in the form of Mercaptans before shipping, Tengiz crude at 46.5 °API⁵⁹ could theoretically receive compensation of \$3.5 per tonne (or \$0.482 per bbl) compared with the average Russian export blend at Novorossiysk according to the above schedule. It is unknown whether this would be a sufficient level of compensation from Chevron's point of view, however, we suspect that it may be considered too low.⁶⁰ Thus while Transneft is attempting to move in the right direction, it may not be enough for other republics, particularly Azerbaijan and Kazakhstan. In the end the question of large volumes of Azeri or Kazakh exports crossing Russian territory may only be achieved with dedicated pipelines where commingling with lower grade crudes is minimised as a design criteria. But surely the operators of these new pipelines

⁵⁹ Characteristics of Tengiz crude from Paul Thomas, Kazakhstan Investment Opportunities in the Energy Sector, (London: Financial Times Energy Publishing, 1995): p 49.

⁶⁰ A sample of gravity corrections used in North American Crude Pricing Bulletins typically vary from \$0.15-0.20/ API. See Fraser H. Allen and Richard D. Seba, Economics of Worldwide Petroleum Production, (Tulsa, OK.: Oil & Gas Consultants Inc., 1993): pp 74-75; and Exxon, "Crude Oil Price Bulletin Summary," May 1995. One must be careful not to infer too much from these less than ideal comparisons, but as the level of compensation proposed by Transneft is of the order of 5-6 times less than the cited examples, it is likely that the Russian model is on the low side.

would install proper monitoring equipment to permit commingling for the large number of producers which are likely to materialise in the future.

8.3.4 Summary of Management & Regulatory System for Pipelines

The management and regulation of the FSU's pipeline system has changed considerably since the days of Glavtransneft, and although each NIS has taken ownership of pipelines within their own territory, the network is still operated for the most part by Russia's Transneft. While Transneft enjoys a monopoly position, its ultimate control has waxed and waned depending on the wide variety of legislative changes which have been frequently introduced. The regulation of the main (or trunk) pipelines since 1991 has been characterised by relentless uncertainty — in regards to both the level of export tariffs and the allocation of export quotas. The FSU suffers from a shortage of existing pipeline capacity, particularly to the hard-currency markets of the West and this physical capacity constraint becomes intertwined within the export allocation decision making process. In hindsight perhaps we should not judge this process too harshly, after all the task of restructuring this sector is immense and the Russian Government is all the time having to balance a number of conflicting interests — the need to placate domestic producers, the need to satisfy inter-governmental agreements with other FSRs, to honour its obligations to foreign investors and last but not least to maximise government revenues. In some respects, the export record of foreign JVs has not been all that bad, but it has been achieved in a piecemeal fashion and still does not provide the assurance which foreign investors require before undertaking long-term capital intensive investments.

On a final note, the present infrastructure of pipelines and storage tanks commingles all crudes into the "Urals Blend". Transneft has yet to implement a Quality Crude Banking System whereby individual producers are exposed to the true market valuation of their individual production streams. The current system, whereby all producers receive the same export price for their crude irrespective of the quality, perpetuates economic inefficiency. High quality crude producers are in effect subsidising low quality crude producers. Given the existence of insufficient pipeline capacity and uncertainty in

gaining access to that capacity on a commercially viable basis, it is necessary to examine alternatives to pipelines.

8.4 Alternatives to Pipelines

Until new pipeline capacity is constructed, the production potential of areas such as the Caspian Sea and Central Asia will remain essentially dormant. This presents foreign investors with two basic options: avoid concluding a deal until further pipeline capacity is constructed; or secure acreage and stagger investment as export capacity becomes available. The former is undoubtedly the safer choice. However, a significant drawback of this strategy is that the cost of 'capturing an opportunity' will go up once a deal on an export pipeline has been struck.⁶¹ The government will try to apportion a great share of the economic rent — either by raising the minimum work obligation or adjusting the overall fiscal regime upwards in their favour. Another, obvious disadvantage of this strategy is that it will become much more costly to obtain throughput once a pipeline is in place. The call on new capacity is likely to be high, and reserving throughput capacity will be cheaper at the *ex ante* stage rather than at the *ex post* stage. For these reasons it is desirable for a foreign company to have secured a position prior to new export capacity being built. When the announcement was made to form a new Caspian Pipeline Consortium, the 50% stake on offer was divided among 8 interested parties — all with the exception of Rosneft already holding upstream acreage in Kazakhstan. In some cases the proposed participation is a mere two percent or less, but even such a small stake ensures a foot in the door when the pipeline finally materialises.

As an added incentive companies have also sought to link "Government Take" to the completion of export infrastructure. Both Chevron and the AIOC have employed this tactic in Kazakhstan and Azerbaijan respectively. The AIOC's four tier bonus system comprised of an initial payment of \$81 million for costs previously incurred, followed by another \$69 million upon parliamentary ratification. An additional \$75 million is due

⁶¹ Alexander (1995) *supra* note 12, p 9.

when production reaches 40,000 bopd and a final payment of \$75 million is to be made when the first pipeline export begins (\$300 million in total).⁶² Similarly, Chevron has made its second contractual bonus payment of \$210 million to Kazakhstan conditional upon ninety days of continuous operation of an export system with a throughput of not less than 260,000 bopd.⁶³ Such incentives do not mitigate the uncertainty that adequate export capacity will be available, but in the context of the FSRs, they represent a substantial financial contribution to their national treasuries. Notwithstanding the size of the “carrots” on offer, the slow progress to-date suggests that they are of limited practical value when securing an export pipeline which involves third party states (as is the case in Central Asia and the Transcaucasus) where geopolitics seems to be the over-riding factor.

Chevron faced with insufficient allocation of export quotas choose to reduce their investment in Tengiz from \$500 million per year to \$50 million per year.⁶⁴ This decision is a rational reaction to an adverse change in circumstances, and furthermore it represents the strategy of staggering one’s investment according to available export capacity. Chevron adopted this stance stating that the investment cutbacks are “consistent with the original plans to make the project self-funding.”⁶⁵ Thus, foreign investors will tend to structure their deals in such a manner so that investments are tied to export earnings. As sufficient pipeline capacity is not yet available, and is likely to remain so for the time being. The only chance for both governments and foreign investors to increase investment is to employ alternative methods of exporting (i.e. by rail, by tanker barge and through the use of oil swaps). The foundation documents of the TengizChevroil JV specifically recognise the possibility of alternatives by referring to the “...transportation through the export systems from the field pumping station to the export facilities having

⁶² Andrew Seck, Oil and Gas Investments in Azerbaijan Part 2: Economic and Legal Profile of the Energy Sector, (Dundee, CEPMLP, 1994): p 53.

⁶³ Art. 1(f), “Chevron Joint Enterprise Foundation Agreement (Tengiz),” 18 May 1991, *reprinted in Russia & NIS Basic Oil Laws & Contracts*, Supp. 18, (New York, NY.: Barrows Inc., 1996): p 16.

⁶⁴ “Chevron Slashes Outlays for Kazakhstan Oil Field,” World Energy Update, May. 1995, p 7.

⁶⁵ *Ibid.*

access to the world's oceans, and...other transportation means including railroad transport...."⁶⁶

8.4.1 Rail and Sea — Economic Alternatives?

The decision to use alternative means of transporting crude oil will be based purely on economics and availability. The cost will be a function of the capacity of the vessel, the distance the crude must be transported and the availability of alternative competitive methods. Although we have discussed at great length the difficulties of gaining access to pipeline capacity, how do the other modes of transport compare? Table 8.4 which provides a comparison of selected crude oil transportation costs, indicates that alternative modes offer little comfort from a pure economic point of view. Not only do expensive pipelines remain the cheapest form of transport, the difference between established pipelines rates and their sea and rail alternatives is a factor of 6 to 8. The most expensive form of export on a per barrel basis is Chevron's trial use of railway exports to Finland at \$9-10 per bbl, although on a \$ per bbl per Mkms basis the Cross-Caspian tanker rate is the most expensive form of transport. However, these alternative methods do possess the advantage that the infrastructure exists: the Volga-Don canal is operational and railway tracks have long since been laid. But can investors secure reliable access? Again the answer is not straight forward, although it is clear that the commercial starting point is not as favourable.

We believe there exists a limited window of opportunity to use of alternative modes of export before new pipeline capacity is installed. Furthermore, a pertinent historical example exists — much of the expansion of Nobel's empire during the late 19th century was accomplished through the construction of an integrated barge and rail system.⁶⁷ A competing railway link was built by Rothschild in 1883 running from Baku to Poti. Eventually this link was to be superseded by Nobel's pipeline in 1889. History

⁶⁶ Art. 10(b), "Chevron Joint Enterprise Foundation Agreement (Tengiz)," *supra* note 63, p 48.

⁶⁷ Robert W. Tolf, The Russian Rockefellers, (Stanford, CA.: Hoover Institution Press, 1976): p 61.

demonstrates that inferior methods of transportation are feasible in the absence of commercial alternatives. But, as Nobel's pipeline in 1889 under-priced the then existing rail link, so too will new pipelines of today be economically superior to oil exports by barge or rail. However, until such a time as sufficient pipeline capacity exists alternatives will, if priced accordingly, warrant consideration. The problem is that for land-locked states of Central Asia and the Transcaucasus, even shipments by tanker barge or rail will transit a third party state, which is in most cases is Russia. The Russian Government is likely to use the accessibility and pricing of current alternatives as leverage in the negotiations over final pipeline export routes.⁶⁸

⁶⁸ As a historical parallel it is worth remember that the Russia government imposed a number of obstacles which delayed the completion of Nobel's pipeline for a total of 17 years until 1889 — domestic content requirements among other things were used. The catch was that the government railway-freight rates were pegged to the difference between American kerosene and the lower Baku price. Increasing the volume by piping Baku oil would affect this formula to the disadvantage of the government and thus the completion of the pipeline was delayed accordingly. Tolf (1976) *ibid.*, p 97.

Table 8.4 Examples of Transportation Costs Relating to the FSU

Type	Route	Capacity	Distance Approx. (km)	Tariff (\$/bbl)	Tariff (\$/bbl/Mkms)
Pipeline ¹	Proposed Kazakhstan - Black Sea (Tengiz- Novorossiysk)	9 MMtpy ²	1440	3.25 - 3.50	2.256 - 2.431
Pipeline ³	Proposed Black Sea - Aegean Sea (Burgas - Alexandroupolis)	20 MMtpy	350	0.60 - 1.00	1.714 - 2.857
Pipeline ⁴	Proposed Baku - Novorossiysk	9 MMtpy	1346	2.15	1.597
Pipeline ⁵	Proposed Baku - Supsa via Batumi	7 MMtpy	946	0.43	0.45
Pipeline ⁶	Druzhba Pipeline Across Ukraine		≈700	0.72 - 0.99	1.029 - 1.414
Pipeline ⁷	Western Siberia - Tuapse		≈4000	3.053	0.763
Pipeline ⁷	Western Siberia - Novorossiysk		≈ 4000	3.209	0.802
Ship ⁸	Cross-Caspian (Cheleken - Baku)	N/A	305	1.5	4.918
Ship ⁸	Caspian Sea - Black Sea (Cheleken - Novorossiysk)	3000 DWT	≈2600	8	3.076
Rail ⁹	Kazakhstan - Finland (Atyrau - Finnish Border)	N/A	≈ 2650	9 - 10	3.396 - 3.774

¹ "Twisting the Pipe," *R.P.I.*, Nov. 1995, p 48; while another report states that CPC set rates from Tengiz to Novorossiysk at \$3.50/bbl with a preferential rate of \$3.25/bbl for consortium founders supplying finance for the project. J. Ray Jones, and Jeffrey M. Kadet, "Russian Tax Developments," *Russian Oil & Gas Guide* 3, no. 3 (1994): p 30.

² Estimated capacity of 1st phase.

³ Dorian, Rosi and Indriyanto (1994) *supra* note 8, p 422.

⁴ "Azerbaijan Government Approves Draft Deal to Ship Its Caspian Oil Via Russia," *Interfax Petroleum Report*, 5-12 Jan. 1996, p 14.

⁵ "US Companies AT&T and Bechtel Sign Deals To Participate In Georgian Pipeline Project," *Interfax Petroleum Report*, 16 - 23 Feb. 1996, p 10. As 480 km of the line is in Azerbaijan, Azerbaijan will collect \$0.26 of the tariff, while Georgia will receive the other \$0.17.

⁶ On 1 Jan. 1995, the Ukrainian Government unilaterally raised the tariff of oil crossing its territory in the Druzhba pipeline from \$0.62 per bbl to \$0.72 per bbl, although a Ukrainian spokesperson suggested that 0.99 per bbl would be a more reasonable figure. See *OMRI Daily Digest*, 4 Jan. 1996, *supra* note 32.

⁷ As of 1 Feb. 1996, "So far away," *R.P.I.*, Apr. 1996, p 36. See also *R.P.I.*, Jun. 1994, p 66; and "Monopoly Rents," *R.P.I.*, Apr. 1994, pp 21-23.

⁸ Courtesy of Monument Oil and Gas plc.

⁹ "Railroads are a new Egress for Tengiz," *Platt's Oilgram News*, 6 Jun. 1995, p 1.

8.4.1.1 By Rail

Railway lines do exist, but are at present of limited value for exporting crude. The rail link between Azerbaijan and Russia, which had in the past been used for the export of oil products from Azerbaijan has been closed since the hostilities in Chechenya.⁶⁹ The Russian Government claims it closed the link as a direct result of the hostilities in Chechenya, yet a view commonly held by Azeris is that Russia has in fact imposed a de facto economic blockade as a means of exerting political pressure on Azerbaijan. Even if this was not the intended purpose of the rail closure, it most certainly strengthens

⁶⁹ "Azerbaijan," *Newsnight*, BBC, London, 5 Apr. 1995.

Russia's bargaining position and weakens Azerbaijan's. Until the line is reopened, the exporting oil or oil products via this route is not possible.

As far as we are aware Chevron is the only company to have carried out trial crude exports by rail when it shipped 9 MMT of crude from Tengiz to Neste's refineries in Porvoo, Finland in June 1995.⁷⁰ While feasible from a physical point of view, such an option was extremely expensive — approximately \$9-10 per barrel or \$3.4 - 3.8 per barrel per thousand kilometres. Compared to the pipeline options shown in Table 8.4, the rail charges are uncompetitive and only large fields with extremely low production costs (e.g. Tengiz) are likely to be able to afford the net-backs offered by this alternative. One advantage rail offers is that Tengiz crude shipped in a uncommingled manner may command a 25% premium over the Urals Blend, equivalent to about \$2 per bbl over Brent⁷¹ — this would certainly help lessen the impact of the high rail tariffs. If rail shipments are to provide a viable alternative to pipelines *in the interim* then internal Russian factors must permit transit on a reliable basis — this is far from certain. There is nothing to suggest that Russian officials may act differently than has been the case for pipeline access. Coupled to this uncertainty is the fact that rail gauges are not necessarily consistent across international boundaries as is the case between Kazakhstan, Azerbaijan, Russia and Finland. For instance, Romania, Hungary and Slovakia's rail gauge is not compatible with that of Russia's. Thus crude exports to these countries via rail requires an intermediate handling point which raises the overall transportation cost. We conclude that the export of crude by rail is inherently more expensive, but provided the political will exists, rail could provide an alternative for limited exports until additional pipeline capacity is built.

⁷⁰ Peter Zipf, "Railroads Are a new Egress for Tengiz," Platt's Oilgram News, 6 Jun. 1995, p 1. In August 1996 it was reported that Chevron was examining the possibility of oil exports via rail through Georgia.

⁷¹ *Ibid.*, p 2.

8.4.1.2 *By Tanker Barge*

Small tankers have traditionally plied the waters of the Caspian Sea and historically Nobel made wide spread use of tankers on the Volga-Baltic system. Typical rates quoted for crude shipments between the Caspian Sea and the Black Sea are currently around \$8/bbl or roughly \$3 per bbl per thousand kilometres, the latter depending on exact points of loading and unloading. Similar to shipments by rail, small tanker (limited to a maximum of 3000 DWT)⁷² shipments are more expensive than the proposed pipeline tariffs and would therefore only be a viable alternative in the interim. However, there are two further considerations. Firstly, the Volga-Don/River-Canal System (VDRCS) is closed between the end of November to the end of March or early April (i.e. approximately 4-5 months of the year).⁷³ Secondly, and perhaps more importantly is the issue of access to the water-way. That is, do the other littoral states of the Caspian Sea, other than Russia whose territory the VDRCS entirely resides, have a legal right of access? As a practical first answer one would conclude no. Only one shipping company has a license to carry crude through this waterway, in effect a monopoly, and any ship must fly a Russian flag.⁷⁴ Small quantities of crude have been exported from the Caspian by ship, but as yet there is no regularity. For instance, Kazakhstan began shipping crude from Aktau to the Bulgarian port of Burgas in June of 1994⁷⁵ and the first export by sea from Turkmenistan in 70 years commenced in February 1995 when production from the Larmag Cheleken JV was shipped from Cheleken port.⁷⁶ But if the other littoral states do not have a legal right of access to the VDRCS then the scope for shipping crude oil via this method will remain haphazard at best with Russian flag companies retaining a monopoly. We shall now consider the legal status of the VDRCS.

⁷² "Summary of 'Ansad Petrol' Joint Venture between SOCAR and Attila Dogan Petrol," reprinted in Basic Oil Law's Russia & NIS, Supp. 5 (New York, NY.: Barrows, 1993): p 7.

⁷³ Tolf (1976) *supra* note 67, p 63.

⁷⁴ Adrian Skelt (Commercial Consultant, Monument Oil and Gas plc.) conversation with the author, 30 Oct. 1995.

⁷⁵ "On the Wire," R.P.I., Jul./Aug. 1994, p 38.

⁷⁶ US Department of Energy, "Foreign Energy Ventures in the FSU/EE," Mar. 1995, p 29.

8.4.1.3 *Status of the Volga-Don / River-Canal System*

“The commerce besides which any nation can carry on by means of a river which does not break itself into any great number of branches or canals, and which runs into another territory before it reaches the sea, can never be very considerable; because it is always in the power of the nations who possess that other territory to obstruct the communication between the upper country and the sea.” (Adam Smith, 1776)⁷⁷

One may surmise that Adam Smith’s observation over 200 years ago would be just as valid today for the Volga-Don/River-Canal system (VDRCS), if it were not for the evolution of international law under which the rights of navigation and freedom of access are well established. If Azerbaijan, Kazakhstan, Turkmenistan or Iran are to enjoy these privileges then one must first decide what is the status of the VDRCS under international law. There are two possible interpretations: either it is an international water-way or it is not. Obviously the littoral states other than Russia would prefer the former interpretation, but is there any legal basis for this?

The seminal point of our analysis begins with an examination of the geographical location of the aforesaid river-canal system. The Volga River delta opens on to the northern coast of the Caspian Sea and its eastern bank is approximately located at the Russian-Kazakhstan border. But being a natural delta its banks are shifting and as such portions of the delta are within Kazakhstan’ territory. Indeed the mouth of the Akhtuba River, a branch of the Volga, is within Kazakh territory. Approximately 450 kilometres (as the crow flies) upstream, just south of where the Volga River turns sharply north at Volgograd, a 101 km canal traverses westward to Tsimlyansk Reservoir which flows out the Don River past Rostov on the Don to the Taganrog Gulf on the Sea of Azov (see Figure 8.1). Apart from the Akhtuba River, an unnavigable distributary of the Volga, the entire VDRCS system resides within the territory of Russia and would thus be considered the latter’s internal waters.

⁷⁷ Adam Smith, *The Wealth of Nations*. (1776; reprint, Germany: Everyman’s Library, 1991): p 19.

Both theory and international practice agree that rivers and canals are part of the territory of the riparian state and if a river lies wholly within the boundaries of one state then, the waters and mouth are considered national or internal waters.⁷⁸ As far as the passage of public or private vessels of foreign states there is no general rule of international law which guarantees such rights except in the presence of a treaty. Obviously, it is in the interest of Azerbaijan, Kazakhstan and Turkmenistan to negotiate with Russia such a treaty, but it is Russia who will be bargaining from a position of strength. Any concessions given by Russia could very well be linked to the settlement of the demarcation of the Caspian Sea in her favour. We are not confident that the littoral states of the Caspian Sea will in the near future secure rights of passage to the VDRCS except on an ad-hoc basis. Exporters will likely have to contend with a small number of shippers, high transit fees and the potential risk of blocked shipments. The latter could easily occur through administrative delays in issuing licences or the revocation of license due to a breach of certain standards or regulations — the most likely candidate being environmental or safety standards.

However, our interpretation of the VDRCS is not necessarily supported by all. The Government of Kazakhstan, for instance believes that the VDRCS is an international waterway, because the Caspian Sea is a Sea.⁷⁹ Whether, this is the correct interpretation of the Caspian Sea is a current source of debate among international lawyers. But, failing this, the Kazakhs also cite that UNCLOS⁸⁰, the Geneva Convention on the High Seas⁸¹

⁷⁸ Sir Robert Jennings and Sir Arthur Watts eds. Oppenheim's International Law — Volume 1 — Peace, 9th ed. (Harlow, Essex: Longman Group UK Ltd., 1992): p 574 and p 591.

⁷⁹ Vyacheslav Gizzatov, "The Legal Status of the Caspian Sea," in Oil and Caviar in the Caspian, Eds. Charles Gurdon and Sarah Lloyd, (London, Menas Associates Ltd., 1995): p 37.

⁸⁰ Art. 125, UNCLOS, UN Doc. A/CONF.62/122. "Land-locked state shall have the right of access to and from the sea...[and]...shall enjoy freedom of transit though the territory of the transit States by all means of transport." Furthermore, this provision is not just limited to water craft, but also encompasses other modes of transport including road and rail (Art 124 (1)(d)(i)). But, in order for a littoral state to qualify under this provision it must be considered a land-locked state, that is a State which has no sea-coast (Art 124 (1)(a)).

⁸¹ Art. 3, "Convention On The High Seas", signed in Geneva on 29 Apr. 1958, UN Doc. A/CONF.13/L.53 and *reprinted* in A.J.I.L. 52 (1958): pp 842-851.

and the Convention on Transit Trade of Land-Locked States⁸² all support the premise that states which do not possess a sea-shore should have a right of free access to the sea. But, such interpretation appears to be reading too much into Article 3(2) of the Geneva Convention on the High Seas. This convention does not create an absolute right of access to the high seas for land-locked states, rather it only creates the requirement that this is to be accomplished by mutual agreement and that the parties consider the rights of the coastal states, the state of transit and the special circumstances of the land locked states. Therefore, an automatic right of transit is not established by the Geneva Convention on the High Seas, rather it is subject to negotiation.

From a different angle the Government of Kazakhstan has put forth the position that as the Volga-Don Canal was constructed with the participation (i.e. financial and labour resources) of all the republics of the FSU, thus FSRs are now entitled to utilise the VDRCS. This argument is remarkably similar to Russian claims of equity compensation for deposits discovered in Central Asia and the Caspian prior to the dissolution of the FSU. Undoubtedly, during the construction of the Volga-Don canal, which started in 1948 and completed in 1952,⁸³ resources from all over the FSU were used, but in the absence of a right either established by contract or treaty which could have survived state succession it is difficult to see that FSRs can legitimately assert a right of access to the VDRCS *a priori*. While the existence of a treaty between the members of the FSU might not have been necessary given their political union, certainly the absence of a Treaty between Iran and FSU regarding navigation and rights of passage specifically on the VDRCS gives some indication that neither RSFSR nor Iran ever considered this an international water-way. This is not to say that Iranian ships did not use this water-way, they often shipped goods both to and from Europe, but the rights of passage were

⁸² Preamble, "Convention on Transit Trade of Land-Locked States," signed in New York on 8 Jul. 1965, UN Doc. TD/TRANSIT/9/Corr.1 and reprinted in *I.L.M.* 4 (1965): pp 957-968.

⁸³ Peter the Great made an abortive attempt to join the Volga and Don Rivers in 1697. See "Volga-Don Ship Canal" in *The New Encyclopaedia Britannica — Vol. 12 — Micropaedia*, 15 ed. (Chicago, IL.: University of Chicago, 1993): p 421.

mutually agreed by generic navigation treaties, but in no way were either the VDRCS nor the Volga-Baltic Canal ever considered international water-ways. Furthermore, the Volga-Don Canal was only completed 12 years after the signing of the 1940 Treaty of Commerce and Navigation between Iran and the FSU.

We conclude that rights of access to the VDRCS is another outstanding issue that will eventually need to be settled on a mutual basis by all littoral states of the Caspian Sea. However, it seems that Russia will enjoy the upper hand in any negotiations because a) the VDRCS is situated entirely within its territory, and b) there is no historical precedent for treating the VDRCS as an international water-way.

As long as the status quo remains investors will have to contend with ad-hoc, and uncertain export capacity via river barges and tankers. Given that no regular market exists for such exports — prices will be corresponding high. As a secondary observation, this situation helps to justify AIOC's decision to put LUKoil in charge of logistics.⁸⁴ Because considerable amounts of heavy equipment will need to be imported into the Caspian Sea via the VDRCS, it is hoped that the direct involvement of a powerful economic Russian interest will mitigate any political risk associated with the use of this water-way.

In summary, the Volga-Don/River-Canal system does not offer at the present time a secure means to export crude. It is plagued by short operating season (7-8 months per year), insufficient competition, and uncertainty over rights of passage. The latter two are within the realm of change if the political will to do so exists, but the window of opportunity from an economic perspective only remains open while insufficient pipeline capacity prevails. Once the latter is rectified, crude oil exports via river barges and tankers are unlikely to be able to compete with lower pipeline tariffs. Thus, the simple

⁸⁴ Geoffrey H. Lyon (Office of International Energy Policy, US Department of State) conversation with author on 25 Sept. 1995.

observation cited at the beginning of this discussion, made over 200 years ago by one of the world's most renowned economists (Adam Smith) appears timeless in its application.

8.4.2 Oil Swaps

In the absence of a physical means of exporting crude, another option is oil swaps,⁸⁵ whereby producer "A" delivers physical barrels of oil to producer "B" at a given point in one country in exchange for receiving physical barrels of oil from producer "B" at another point which may or may not be in the same country. The rationale being that the transaction obviates the need for expensive infrastructure in between.

Oil swaps have an established history as an oil trading mechanism in the FSU. Indeed, they were a natural *modus operandi* of former central planning which advocated inter-Republic dependency. The Pavlodar refinery in eastern Kazakhstan is an ideal case in point. Not connected by a pipeline to the oil producing region of western Kazakhstan, crude oil is supplied from Western Siberia in exchange for oil produced in eastern Kazakhstan and delivered to the Russian refinery in Samara. However, domestic oil swaps or the inter-CIS oil swaps are of limited use for foreign investors unless they can facilitate the export of crude oil to the hard currency markets of the West. But even an oil-swap cannot over-come the fact that insufficient pipeline capacity exists for exporting crude to the West within the CIS. That is, without first expanding the pipelines and terminals on the Black Sea, the oil-swap for Central Asian states via Russia remains limited at best.

Conversely, Iran could be an ideal East-West oil swap partner because: a) it borders on the Caspian Sea; b) it is a major oil producer in its own right accounting for 8.7% of the

⁸⁵ This is not to be confused with the financial transaction also known as an oil swap, whereby one party agrees to pay a fixed price for a quantity of oil, while the other party accepts to make payment for the same quantity of oil but based on a floating or variable price. See Petroleum Intelligence Weekly and Price Waterhouse World Petroleum Industry Group, *The Complete Guide to Oil and Gas Derivatives*, (New York, NY.: PIW Publications, 1995): pp 11- 32; Kevin Heffron, "Using Financial Derivatives to Manage Oil Project Risk," *O.G.L.T.R.* 12 (1994): pp 149-153; Samir Mankabady, "Oil Swaps," in Ernest E. Smith et. al., *International Petroleum Transactions*, (Denver, Co.: Rocky Mountain Mineral Law Foundation, 1993): pp 707-708; and "Futures and Derivatives — A Special Report," *Petroleum Economist*, Nov. 1993, pp 13-32.

world's oil reserves and 5.6% of global oil production in 1995;⁸⁶ c) tankers loading at Iran's oil export infrastructure on the Persian Gulf have easy access to the growing economies of South East Asia; and d) existing pipeline capacity between Iran's northern refineries and its oil producing regions in the south are limited. Thus Iran's northern refineries⁸⁷ could be supplied more easily by Central Asian or Caspian Sea oil production. Given the complementarities of Iran's situation and the export predicament facing the southern oil producers of the FSU, oil swaps could allow the latter to receive international market price for oil while avoiding the onerous expense of building pipelines which they presently cannot afford.⁸⁸

To this end Kazakhstan has been negotiating over the past few years with Iran for an oil swap of up to 5 MMtpy (or 100,000 bopd). Under such a scenario, Kazakh crude would be shipped by tanker barge from the port of Atyrau to the Iranian port of Bandar-Anzali. The reversal of an existing products line would then carry the crude to a refinery in Tehran in exchange for Iranian crude shipped out of Kharg Island on the Persian Gulf on behalf of Kazakhstan. But, in order to handle more than 66,000 bopd, the Iranian port facilities at Amirabad or Moshar will need to undergo expansion.⁸⁹ Consequently, Kazakhstan and Iran's efforts have focused on an initial oil-swap of 40,000 bopd.⁹⁰ For awhile the talks appeared stalled on the issues of transit fees and delivery dates,⁹¹ but

⁸⁶ BP Statistical Review of World Energy 1996.

⁸⁷ Iran's northernmost refineries are located in Tabriz and Tehran and have a capacity of 90,000 bopd (or 4.5 MMtpy) and 220,000 bopd (or 11 MMtpy) respectively. Energy Map of the Middle East, 2nd Ed. (London: Petroleum Economist, Mar. 1993).

⁸⁸ Dr. Narsi Ghorban, "The Route South Through Iran," in Gurdon and Lloyd (1995) *supra* note 79, p 62.

⁸⁹ "Caspian Upstream Builds Momentum Despite Loose Rules," P.I.W., 18 Dec. 1995, p 5.

⁹⁰ "Misgivings Still Dodging Kazakhstan's Oil Pipeline Deal," P.I.W., 20 May 1996, p 1.

⁹¹ "Iran-Kazakhstan Oil-Swap Talks End Without Accord, Kazakhs Say," Bloomberg, 15 July 1996.

finally on 12 August 1996 it was reported that Kazakhstan and Iran concluded a swap arrangement for 2 MMtpy.⁹²

Similarly Turkmenistan, which also maintains good relations with Iran,⁹³ signed an agreement of intent for a swap arrangement of 6 MMtpy (120,000 bopd) with the Tehran refinery.⁹⁴ But as the 3.76 MMt of oil which Turkmenistan's produced in 1995⁹⁵ was almost entirely consumed domestically this agreement appears premature. Furthermore, with the combined volume of the two intended swap agreements exceeding spare Iranian export capacity, either Kazakhstan or Turkmenistan can be accommodated but not both. Barring any expansion of Iranian export infrastructure on the Persian Gulf, the interim benefit of an oil swap will only arise to Iran's first customer. For all intents and purposes this looks likely to remain Kazakhstan, but Turkmenistan and Azerbaijan are also potential candidates.

Throughout the Kazakh-Iranian negotiations, Chevron has naturally be very reluctant to speak publicly on the matter. Being the largest shareholder in the Tengizchevroil JV, it is more eager than most in reaching a solution to its export problems. However, Chevron must be cautious of the US government's "Containment Policy" towards Iran which centres on legislation requiring that the US vote against any Iranian request for an international development bank loans, and prohibits US companies from doing business with Iran.⁹⁶ The lack of support from any international financial institution effectively

⁹² "Kazakhstani Oil to Run Through Iran," OMRI Daily Digest, No. 155, Part I, 12 Aug. 1996.

⁹³ Prof. Fred Halliday, "Iran and the Caspian," in Gurdon and Lloyd (1995) *supra* note 79, p 11.

⁹⁴ Mr. Nyazov (Chief Specialist of Turkmenistan Ministry of Oil and Gas), conversation with author, Ashgabat, 26 Mar. 1996.

⁹⁵ Turkmenistan's oil production was 5.3 MMt in 1991, 5.2 MMt in 1992, 3.91 MMt in 1993, 3.86 MMt in 1994 and 3.76 MMt in 1995. "Duke of Oil," R.P.I. Aug. 1996, p 40. Current level of production represents a drop of more than 75% from its peak level of around 16 MMtpy in 1975. Nadir Guerer and Dr. Faith Birol, "Assessing future oil export potential in Transcaucasia and Central Asia," OPEC Bulletin, Sept. 1995, p 12.

⁹⁶ On 15 Mar. 1995 President Clinton issued the first of two Executive Orders restricting US business relating to Iran's petroleum industry. The first order (No. 12957) was subsequently superseded by Executive Order No. 12959 dated 8 May 1995. Restrictions include, *inter alia*, no capital investment,

prohibits the financing of any large scale pipeline project through Iran.⁹⁷ But the May 1995 Executive Order, permits, *inter alia*, the use of oil swaps between Iran and non-US subsidiaries which are nevertheless owned or controlled by US persons. While this is an acknowledgement of the economic arguments in favour of an oil swap with Iran, it is still uncertain how the US administration would actually react in such circumstances although being theoretically permissible.

In summary, an oil swap as described above offers only a limited opportunity for alleviating the physical restrictions facing oil exports from southern FSRs. Oil swaps are possible in spite of the US Government's Containment Policy towards Iran. With regards to the prohibition of investments on Iranian soil, American companies are certainly affected, although US efforts to extend these provisions extra-territorially to companies of other nations has not been accepted by the international community in general.⁹⁸ But, as 36% of the international consortium to develop the Chirag, Azeri and deep-water section of the Guneshli field is made up of American IOCs, and that 75% of the TengizChevroil JV in Kazakhstan is owned by Chevron and Mobil, the effect of such restrictions cannot be considered minimal. Even British Petroleum is unlikely to risk antagonising the US Government as 45-50% of their global oil production is located within the US (i.e. Alaska North Slope).⁹⁹ While the recent agreement between Iran and Kazakhstan on a 2 MMtpy oil swap provides some relief to Kazakhstan immediate export problems the overall

no sales, no direct purchases and no direct oil sales. See Preston Brown, "Proposed US Sanctions on Persons or Entities Participating in the Development of the Petroleum Resources of Iran or Libya," O.G.L.T.R. 14 (1996): pp 305-309.

⁹⁷ Glen Rase (Director of US Office of International Energy Policy), "A Washington Perspective on Caspian Oil & the Pipeline Options," in Gurdon and Lloyd (1995) *supra* note 79, p 54.

⁹⁸ The Iran-Libya Oil Sanctions Act of 1996 became effective on 5 Aug. 1996 and seeks to give extra-territorial effect to sanctions against companies of other nations making an investment of more than \$40 million in the petroleum industry of Iran and Libya. The European Union, among others, have severely criticised this legislation as being a violation of international law both prior to and after its enactment. See Brown (1996) *supra* note 96, pp 308-309; "IRAN: US signals sanctions war," Middle East Economic Digest, 16 Aug. 1996, pp 23-24; Scott Parish, "Russia Blasts US Sanctions on Iran, Libya," OMRI Daily Digest, No. 152, Part I, 7 Aug. 1996; and "President Clinton Will Sign the Iran-Libya Oil Sanctions Act," Arab Oil & Gas, 1 Aug. 1996, pp 5-8.

⁹⁹ "BP Group Results - 1st Quarter 1996 (Part 2)," BP Home Page, British Petroleum Company Ltd., 1996. [Accessed through the Internet: <http://165.121.20.76/press/pr31.html>.]

volume is still small. The risk for Iran is that when progress is finally made on an export pipeline, the desirability of oil-swaps and the price which they can command will drop. The window of complimentary benefits will not last indefinitely.

8.4.3 Summary of Alternatives to Pipelines

The preceding sections examined alternative means of exporting oil as insufficient pipeline capacity currently exists. However, there is only a *limited window of opportunity* for exporting crude oil by both rail and by tanker barges. Both methods face capacity constraints, higher costs and restrictions of access. New pipelines, once built, will enjoy greater economies of scale. Just as Nobel's pipeline in 1889 provided a more economically efficient means of transporting crude from Baku to Batumi compared to the railway, a similar scenario will evolve in the future.

In the case of Azerbaijan, its northern rail link has been inoperable since the outbreak of hostilities in Chechenya. Chevron's trial shipments of crude via rail to Finland have proven to be very expensive. With respect to the VDRCS, the essential problem for the littoral states, other than Russia, is gaining legitimate access. According to our interpretation the VDRCS is not an international waterway. This is not to say that the littoral states of the Caspian Sea will not be able to utilise this route, but rather they will have to reach a mutual agreement with Russia. Clearly, Russia will be negotiating from a position of strength and may choose to use this issue as a bargaining chip within the overall debate on the legal status of the Caspian Sea. With regards to oil swaps, Iran is the most obvious external outlet for crude produced from Central Asia or the Caspian Sea. However, even this method is currently restricted to no more than 66,000 bopd without a significant investment in infrastructure.

The costs differentials cited herein are only snap-shot indicators of a constantly evolving set of economic circumstances. While we expect the general rate hierarchy between the modes of transport to remain the same (pipelines being the least expensive as compared to railways and tanker/barges), current rates cannot be used to accurately forecast future

rates. This is because transit rates are time and circumstance specific. For instance, if in the future the demand for tanker/barges were to rise without a corresponding increase in available capacity, then the price for shipping oil via tanker/barge would naturally rise. Thus there is only a limited scope for expanding exports via alternative methods as demand would soon exceed available supply thereby pushing up the price of such exports and making them less attractive from an economic point of view.

8.5 Conclusion

Russia inherited the bulk of the FSU's pipeline network and although each FSR now owns the pipelines existing within its territory the overall system is basically managed by Transneft. The pipeline network, apart from requiring extensive maintenance and upgrading, is ill-suited to meet the current export needs of producers following the dissolution of the FSU and the collapse of the CMEA. Excess capacity exists in the Druzhba pipeline due to reduced exports to Eastern Europe, but severe bottlenecks have been created on the southern export routes to the West. While the situation may be difficult for Russia, it is even more critical for the land-locked countries of Central Asia and the Transcaucasus. For these countries is it not just an issue of insufficient pipeline capacity, it is often a problem of no capacity at all.

Given the limits of expanding capacity rapidly, the Russian Government has used the allocation of export capacity as one of its principal policy instruments. In all fairness, the Russian Government faces the daunting challenge of balancing a number of conflicting interests (domestic producers, producers in other FSRs, foreign investors and the need to maximise government revenues). It will be impossible to please everyone. Foreign investors have managed to export crude oil, but certainly not on the scale they would prefer. Moreover, this has been achieved in a piecemeal fashion with a great deal of uncertainty — both in terms of capacity allocation and tariff rates. Uncertainty remains the anathema of long-term upstream development projects. The other key limitation of the current export mechanism is the practice of commingling. At the present time, all producers who input crude into the system for export to the West are paid the same price

(i.e. the Export / Urals Blend) with no regard to the quality of their individual crude stream. Until such a time as Transneft introduces a Quality Crude Banking System, whereby individual producers are exposed to undistorted market signals, economic inefficiency will prevail. High quality crude producers are in effect subsidising low quality crude producers.

Exports by rail, tanker barges and oil swaps provide only a limited alternative to pipelines. With respect to the first two, their window of opportunity remains open until new pipelines are constructed. But, the success of these methods is conditional upon reaching a mutually acceptable agreement with Russia, through whose territory the exports are most likely to transit. According to our analysis the Volga-Don/River-Canal System is not an international waterway — thereby precluding automatic rights of passage and navigation, that an affirmative interpretation would convey. Oil swaps with Iran are feasible for the littoral states of the Caspian Sea, but once again the surplus capacity of Iran's export infrastructure is limited to around 66,000 bopd barring significant new investment. Thus while alternatives to pipelines exist in the interim period they are not seen as being an integral part of a long-term export solution.

With regards to future pipeline routes, a maze of alternatives have been suggested — all of which transit one or more third party states. The cost of these grandiose schemes necessitates a high level of cooperation among IOCs, domestic oil companies, host governments and the international political and financial community which has yet to materialise. The AIOC's proposal to export early oil through both Georgia and Russia enjoys the greatest probability of success among the proposals immediately on offer as it balances political interests, makes the greatest use of existing infrastructure and as a result has the lowest up-front capital expenditures. On a discounted basis there is little difference between the cost of shipping oil on a per barrel basis via the Russian route and the Georgian route.

To conclude, the uncertainty of being able to export one's oil production to the international market — remains one of the greatest disincentives for foreign investment in the FSU's petroleum industry at the present time. IOCs are pursuing an export oriented strategy with respect to upstream investments and any failure to acquire adequate export capacity will either preclude investment altogether or at the very least delay it indefinitely.

9. CONCLUSION

9.1 *Achievement of Objectives*

We began this thesis with a simple statement of our objectives which was to document, quantify, assess and explain the reaction of western capital to the opening of the former Soviet Union's oil and gas industry. We believe we have achieved this objective.

Through the use of the FOGI Database we have unequivocally demonstrated the wide dichotomy between the high level of interest expressed by western oil companies and the low level of investment that has taken place. The aggregate and regional analysis facilitated by use of the FOGI Database represents an unique contribution to our understanding of the trends of potential investment, particularly when assessed in the context of global upstream oil and gas capital investments. Furthermore, our examination of the activities of the MLAs marks the first concerted effort to assess their track record in the petroleum industry of the FSU. These results extend beyond the borders of the FSU and questions their purported ability to enhance the large-scale flow of credits into politically and commercially unstable business climates.

However, this thesis has by no means provided the final deliberation on such subjects and §9.4 suggests additional topics for research. Similarly §9.3 presents some thoughts on the differing roles of domestic and external financing, the former being an entire research agenda in itself. We now commence with a summary of each chapter and the major findings derived therefrom.

9.2 Chapter Summaries and Major Findings

This thesis commenced with a historical review of the FSU's oil industry. Until the late 1920s, foreign companies played an instrumental role in providing modern technology and investment capital. From the 1930s onwards, the isolationist policies of the Soviet Government were buttressed by the discovery of a prolific new basin each time the preceding area of core production entered into decline. Remaining technologically equivalent with the West was not a precondition for success. Currently the domestic industry faces innumerable challenges in circumstances not too dissimilar from those following the Bolshevik revolution when western firms were used to rejuvenate oil production. It is inconceivable that the FSU's oil industry as a whole could undergo the modernisation it requires in isolation of western resources of technology, management and capital. Whether IOCs will receive the level of host country acquiescence which they require is altogether another matter and prevailing attitudes towards FDI throughout the FSU do differ. Even in 1996 Russia's Prime Minister accused foreign states and transnational companies of trying to subordinate the CIS to their rules of the game and their economic interests.¹ But other countries, such as Azerbaijan and Kazakhstan, have embraced FDI much more readily. In this regard, the post-1991 situation does diverge from that of the 1920s. Although Russia continues to dominate the FSU's oil industry by its sheer size, Russia *per se* is not the only 'game in town' as was the case in the 1920s when all production centred in and around the Caucasus. Competition to attract FDI exists between all FSRs, and those countries which adopt a policy of openness stand to benefit at the expense of others which do not.

Similarly, foreign oil companies are aggressively competing to secure access to available upstream acreage. Using the FOGI Database we showed in *Chapter 3* that foreign investors have expressed interest in 292 upstream projects involving an estimated potential investment of \$231-\$308 billion. Furthermore, we identified five key trends: a)

¹ "Politics come into play as changes to E&P law awaited," E.E.E.Report, May 1996, p 7.

a strong correlation between the location of known reserves and the value of upstream projects being considered; b) the predominance of rehabilitation projects located in Russia accounting for 70% of the total, of which Western Siberia is the focus; c) without prejudice to point (a) there appears to be a bias towards Central Asia and the Transcaucasus including the Caspian Sea; d) given the preponderance of existing yet hitherto undeveloped deposits, pure exploration represents only 7% of upstream projects being considered; and e) even FSRs possessing only minor petroleum reserves are capable of attracting small companies to undertake development.

A central theme of our findings is the wide dichotomy between the high level of interest expressed by IOCs and the actual investment which has occurred. This is evidenced by the fact that as of June 1995, Russia had only received just under \$4 billion in FDI across all economic sectors. Despite the proliferation of JVs, their reputation has been tarnished because they cannot offer the protection and stability which IOCs require. JV operations have fallen victim to the volatile legal, fiscal and regulatory regime which characterises the FSU and are therefore incapable of facilitating large-scale flows of oil and gas related FDI. An exception to this rule would be the TengizChevroil JV in Kazakhstan which is unique in that a special Presidential Edict along with the foundation documents clearly set-out the terms and conditions governing the entire investment, including provisions for their stability. Comparatively speaking, the TengizChevroil JV secured a level of guarantees normally associated with a PSA. Uncertainty is the anathema of long-term capital intensive upstream oil and gas investments and IOCs expect a minimum standard of contractual stability before undertaking such investments.

We believe the PSA offers the best means forward, not because alternatives do not exist, but because its use and familiarity is rising throughout the FSU. According to our research Azerbaijan, Georgia, Kazakhstan, Russia, Turkmenistan and Ukraine have concluded PSAs. Furthermore, if the FSU is to have any hope of securing the bulk of proposed upstream investments, then clearly the PSA is being touted as the appropriate

mechanism. The FOGI Database identifies 43 potential PSAs valued at \$108 - \$162 billion and 16 JVs seeking to transfer to PSAs valued at \$15 - \$18 billion; versus 145 JV based investment proposals of \$46 - \$48 billion, but includes \$20 billion for TengizChevroil JV alone.

Given the magnitude of reported investment proposals it is important to inquiry whether such figures are realistic and on what time frame may we expect the investment to occur. Reported investment proposals suffer from the 'fallacy of composition' problem. That is, it is not possible for every producer to produce the same thing at the same time without undermining the market. The FSU is competing with other oil producing countries for a share of the global oil market. Thus, when considering FSU investment proposals it is conceptually incorrect to consider them in isolation of its international setting. After all, IOCs will evaluate upstream projects in the FSU as an integral part of their diversified global portfolio.

The purpose of *Chapter 4* was to examine investment proposals and published forecasts of the capital requirements of the FSU's oil industry from a global perspective. From a review of five published forecasts of oil and gas capital expenditures spanning the time period 1990 - 2005, we established a consensus forecast of world-wide upstream capital expenditures of approximately \$64 billion per year. Taken in the context of historical levels of capital expenditures, \$64 billion is not particularly onerous. Utilising the strong correlation between upstream capital expenditures and oil prices we generated a simple regression model which provided an alternative forecast of \$48 - \$56 billion per year depending on the price scenario. However, both the published forecasts and the historical time series of upstream capital expenditures seem to ignore the relatively large contribution of non-western state-owned oil companies. Having estimated that western oil companies, only contribute 43% of the world's oil production, the true level of annual global upstream capital expenditures is likely to be of the order of \$106 billion.

From this perspective, the estimates of the capital requirements of the FSU's oil industry do not appear disproportionately large. However, what is less certain is the degree to which foreign investment will be called upon to meet this challenge as this presupposes a substitution of domestic operations by foreign owned operations. Assuming that foreign companies are permitted to produce 40% of the FSU's production profile then it is not unreasonable to expect them to invest \$4 - \$5 billion per year provided suitable terms and conditions are on offer. Alternatively, if the \$231 - \$308 proposed level of investment is to occur over a 20 year time period, then annual investment of \$12 - \$15 billion per year would be required — this appears unrealistic. It would take almost 60 years for all the proposed investment to take place based at a rate of \$4 - \$5 billion per year. The task for the FSU is to attract its share (or increase its share) of global upstream capital expenditures and the latter implies a transfer of productive capacity from elsewhere in the world. IOCs are competing to secure the limited number of projects that will eventually materialise. In the process, an excessively high number of projects are being considered as IOCs seek to maintain a diversified portfolio of potential projects with the aim of securing one or two 'winners'. For example, the FOGI Database reveals that Mobil is involved in 5 potential projects with an estimated total investment of \$25 - \$26 billion; Royal/Dutch Shell is participating in 9 potential projects worth an estimated \$20 billion; and Amoco is considering involvement in 10 projects with an estimated investment of \$63 - \$90 billion. These figures represent the project's total estimated investment and not the contribution of individual sponsors. Consortia of IOCs are being formed to share the financial burden and associated risks. Another risk management strategy is a staggered or staged approach to investment and the intended use of reinvested earnings. We believe that 'self-financing' is often overlooked when considering the capital requirements of the FSU's oil industry. We demonstrated that some foreign oil companies intend on funding up to 80% of their development costs from reinvested earnings. This does not change either the capital requirements of the FSU's oil industry nor the potential level of investment, but it alters our perception of where the financing burden lies. The concept that the global oil and gas industry is facing a shortage of investment capital because of

the needs of the FSU's oil industry is misplaced. The real onus is upon the host governments to provide the requisite regulatory and fiscal environment which permits these ventures to generate a profit and can then be reinvested. Statements to the effect that the FSU's upstream petroleum industry requires \$50 - \$100 billion over the next decade should not be interpreted to mean that the international financial community along with IOCs will supply such funds. Much of the financing will come from reinvested earnings or not at all.

Within the context of undertaking future upstream projects in the FSU, the role of the 'Major' IOCs is emphasised as they account for half of all upstream capital expenditures by western oil companies. We believe only the top tier of IOCs have the access to the technology, management and capital resources capable of supporting any of the mega-projects which could singularly impact on country's production profile. Additionally, the large IOCs can be a source of financing for smaller companies through the use of farm-in's. This is a technique which is increasingly being employed throughout the FSU.

Chapter 5 assessed the activities of the World Bank, EBRD, IFC, OPIC and various export credit agencies (ECAs). Given the cautious attitude of commercial banks towards high levels of country/political risk, there is a compelling logic which suggests that official sources of credit have a paramount role in the transition period. Official agencies, backed by western governments, affirmed their intention of making available large volumes of credit to support the economies in transition. Each MLA has a specific mandate to support energy sector projects and all envisioned the oil industry of the FSU as an easy target for western credits. This is evidenced by the rapid build-up in approved oil and gas project financing from \$12 million in 1991 to almost \$1.2 billion in 1993 (see Figure 5.8). But as western euphoria was replaced by a tempered sense of realism in the face slow reforms, petroleum sector approved credits dropped off to \$380 million in 1995. During the period 1991 to 1995 the MLAs and OPIC approved a cumulative level of official credits of \$2.2 billion. There is evidence to suggest that the true catalytic role

of official sources of financing is lower than individual agency claims as multisourcing amongst official sponsors is a common feature of these early projects. In other words, the ratio of private financing to the sum of official credits is lower than the ratio of total project costs to the contribution of one particular agency. In practice Western promises of 'aid' have been offered in the form of hard credits with all their associated legal trappings. We believe the waiver of the World Bank's and EBRD's negative pledge clause has not had the desired effect of facilitating the flow of commercial credits as many would have hoped. The simple reason is that bankers do not lend money on the basis of security alone. The disbursement record of official sources of credit has been constrained by the quasi-commercial criteria which govern their lending programmes. There is nothing wrong with such conditionalities, but it does place a limit on the ability of such organisations to extend credits under difficult commercial conditions. Although these organisations do not release project specific disbursement data, our best estimate is that no more than 25 - 30% of approved funding has been disbursed to date.

The frustration experienced by MLAs has been equally shared by western ECAs. While their individual approaches vary, all employ a form of pre-export financing, in that credits are secured against the assignment of future sales revenue generated from incremental production and deposited in escrow. OGFA was innovative in that it was an umbrella programme to extend \$2 billion or more of credits to Russian production associations. Despite its simple concept, it became hostage to a mass of complex financial documentation as its architects sought to protect lenders against every eventuality. Similarly JEXIM's efforts to extend untied credits — which have a clear advantage over the US programme — have not been fruitful. Russia's early 50% mandatory conversion of hard-currency sales revenues into roubles and the application of VAT on both loans and equipment exports were clear obstacles to the programme's success. As domestic companies are expected to repay their hard-currency debts, they are naturally reluctant to undertake such debt in adverse commercial circumstances.

In summary, if both lenders and borrowers are expected to operate according to sound commercial principles, it has proven impossible to force credits into an uncertain political and economic environment despite the apparent 'goodwill' of the West. Barring the use of true 'aid' whereby the ultimate recourse lies with western taxpayers, little can be done until the legal and economic environment of the petroleum sector improves.

The reluctance of western commercial banks to participate in the process needs little explanation beyond recognition of the outstanding debt rescheduling agreement with the London club of creditors and the political/country risk ranking of the FSU. Commercial banks are by their very nature risk averse and our political risk ranking of the world's oil reserves paints a picture of a banker's view of the world which is radically different from IOCs. Eighty percent of syndicated commercial bank lending to the oil and gas sector occurs in North America and Western Europe. Conversely this region accounts for less than 5.2% of the world's oil reserves. The FSU remains a high risk environment for commercial banks and for this reason we believe there is a sense of inevitability when it comes to the involvement of the 'Major' IOCs if there is to be a true rejuvenation of the productive capacity of the FSU's upstream oil industry.

Our discussion on risk was not exhaustive in that we choose not to detail each and every investment risk. Instead we concentrated on four areas which are of particular relevance to the oil and gas industry. *Chapter 6* dealt with geological risk and environmental risk; *Chapter 7* covered political risk, including the risk of nationalisation or expropriation, creeping expropriation and the risk of Russian hegemony in the southern FSRs; and *Chapter 8* focused on the transportation risk and uncertainty of exporting oil.

Geological risk is the least acute of all due to the region's favourable geology and existence of previously discovered but hitherto undeveloped deposits. Of the 292 upstream projects listed in the FOGI Database only 7% constitute pure exploration, whereas all other projects involve existing reserves possibly in conjunction with an

element of exploration in adjacent areas. Thus, discovery risk is negligible, but the risk of insufficient reserves is still present due to tendency of Soviet-era reserve statistics to be based on technical feasibility as opposed to economic viability. Reserve re-evaluation, staggered investment strategy and farm-ins represent the principal means of mitigating or diversifying discovery risk.

Environmental liability for previous damage is a concern for foreign investors, particularly as 93% of all upstream projects involve previously known deposits. However, it is a risk which most investors appear willing to bear. The EMV of an upstream project on a post-discovery basis is just too favourable compared to a pre-discovery basis where a typical rate of success for a wild-cat well is approximately 1:8. Environmental liability is likely to be a greater disincentive to 'Major' IOCs with their 'deep pockets' as opposed to small exploration and production companies whose core activity in FSU represent their springboard onto the international stage. For the latter, a decision not to invest would mean for all intents and purposes a cessation of their very existence.

Political risk is not an insurmountable barrier for IOCs, but is one which they do consider carefully. Within the FSU we believe the risk of expropriation or nationalisation is low because the domination of a domestic industry by foreign interests is the essential precondition for such an event to occur. Given the size of Russia's existing oil industry, foreign domination is unlikely to occur. However Azerbaijan may, in the not too distant future, be in a position where 90% of their oil production is being carried out by foreign oil companies. At the present time, Kazakhstan appears to be advocating the most balanced approach to FDI in that its intended future production profile is split equally between domestic and foreign oil companies. What is of a more immediate concern to foreign oil companies is creeping expropriation whereby the compound effect of tax and regulatory changes, export restrictions, et cetera could have the equivalent effect of outright nationalisation or expropriation. Faced with an uncertain economic and political

climate foreign investors seek to protect themselves via stabilisation clauses at both the legislative and contractual level. Of the three countries surveyed (Kazakhstan, Russia and Turkmenistan), Kazakhstan has made the greatest progress in furnishing the requisite stabilisation or grand-fathering provisions. Azerbaijan was excluded our analysis as we could not gain access to any of their PSAs, although it is fair to assume that such clauses are included.²

The risk of Russian hegemony is not a barrier to investment for western oil companies *per se* but requires the pragmatic recognition that Russia's southern neighbours will remain in her economic and political sphere of influence for the foreseeable future. There is no doubt that many within Russia's oil community resent the direct loss of control over the southern oil industry, and there are efforts to secure Russian participation in the largest and most visible projects. We find Russian claims for equity compensation for deposits discovered during the Soviet era indefensible under the doctrine of state succession. While there exist no *a priori* legal grounds for a Russian entitlement to these deposits, there is nothing to prevent Russian companies from seeking exploration and development rights as would any other IOC.

On the vexed issue of the legal status of the Caspian Sea, Russia is not only seeking to preserve her interests but also strengthen her claim stemming from a geologically inferior position compared to the other littoral states. Given the over-riding economic considerations associated with the division of Caspian Sea resources, a final solution among all littoral states will be a long time in the making. Until such a time, the region's petroleum potential cannot be realised. While the uncertain status of the Caspian Sea is a risk for IOCs it is not an insurmountable factor at this stage. Hitherto, Russian resolve and pressure is being rewarded with equity participation for her domestic companies in upstream projects in Central Asia and the Caspian Sea. Provided Russian companies are

² This has been confirmed with the subsequent publishing of the AIOC PSA and the Karabakh PSA in Barrows Company Inc., Russia & NIS Basic Oil Laws & Contracts, Series.

not receiving preferential treatment, then their involvement possesses no risk to western oil companies. Whether Russia's official demands can be so easily accommodated remains to be seen.

In a physical sense the uncertainty of being able to export oil produced in the FSU to the international market is likely to transcend all other risks and will act as a natural regulator of the flow of upstream FDI. Despite having identified \$55 - \$75 billion in proposed upstream projects in Central Asia, the Caspian Sea and the Transcaucasus region no suitable means of exporting large volumes of crude oil yet exists. In regards to long-term export routes, a maze of alternatives transiting one or more third party states has been proposed. But the cost of these grandiose schemes necessitates a level of co-operation among oil companies, governments and the international financial community which has yet to materialise. We examined alternatives to pipelines (by rail, by barge via the Volga-Don/River-Canal system and by oil swaps), but conclude that they offer only a limited window of opportunity and their accessibility is also uncertain. The use of existing infrastructure in Russia suffers from uncertain access, increasing tariff rates and the continued practice of uncompensated commingling of different crude streams.

Our assessment is that despite the high level of interest expressed by the international community, western capital remains cautious and beyond the reach of the FSU petroleum industry. The challenge for the FSU is to attract (or increase) its share of global upstream capital expenditures. Given that 60% of the world's oil reserves remain 'closed' or 'off-limits', western oil companies will remain interested in the FSU. Those companies undertaking projects are basically swapping geological/technical risk for political risk. But all investors, regardless of their size, are pursuing a staggered approach to investment which implies an intended reliance on reinvested earnings (or 'self-financing') to support future investment. In this sense the real onus of financing lies with the host-governments to provide the economic and legal environment which permits these projects to generate profits. On a cautionary note, our political risk ranking of the world's oil reserves shows

that many 'off-limit' countries, which are perceived as being less risky than the FSU, could theoretically displace FSU investment budgets if they choose to open their doors to foreign investment. This is a factor over which the FSU has little control, other than to establish competitive terms and conditions capable of crystallising the high level of interest into actual investment before IOCs choose to go elsewhere.

9.3 Domestic Financing versus External Financing

At the outset of this study we chose to focus our research on the provision of and reaction of external sources of capital to the opening up of the FSU's petroleum industry. Despite our documentation of a high level of foreign interest, neither the IOCs nor MLAs have hitherto directed a large amount of foreign capital into the region's petroleum industry. The FSU is considered a high risk area and while political risk was shown not to be an insurmountable obstacle, IOCs do expect a certain degree of stability in their contractual and fiscal relations. In the case of key southern FSR's there appears to be a willingness on behalf of the host country government's to grant such stability, particularly through the use of the Production Sharing Agreements.³ This solution is quite effective in areas, other than Russia, where the domestic oil industry is relatively small. However, in Russia the provision of a fiscal structure which placates the concerns of western oil companies' is much more problematic, because of the existence of a large domestic oil industry which currently operates in less than ideal conditions. Unless such improvements are extended to the domestic industry as a whole, the resulting disparity will be politically unstable. There is no reason why the Russia's domestic oil industry should stand on the sidelines and watch foreign companies extract the very conditions which they themselves would be able to profitably operate. But, what if a rational tax structure and pricing regime were extended to the domestic Russian oil industry as a whole; would there still be the same impetus for foreign investment? Probably not, and a simple calculation will illustrate why this may be the case.

³ However, upstream capital expenditures in the land locked region of Central Asia and the Caspian Sea will remain tempered until sufficient export capacity is available to support increased production levels.

Assuming a production of 6 MMbopd (≈ 301 MMtpy) and assuming that the Russian Government permits the oil industry to retain an operating cashflow (after operating costs and tax) of about \$10 per barrel (i.e. similar to western conditions), then the Russian industry would have over \$20 billion per year of domestic financial resources available for investment. This amount of domestic funds would far exceed any possible inflow in international capital, unless foreign companies were allowed to supplant domestic companies and this is unlikely to happen in Russia. This is not to say that foreign capital does not have a role to play in Russia.

Table 9.1 Availability of Domestic Resources

	Indigenous Resources		
	Technological	Financial	Managerial
Traditional Oil & Gas 'the way it was'	Yes	No	Yes
Non-Traditional Oil & Gas	Limited	No	Limited

Source: Personal correspondence in 1995 with Andrei A. Konoplyanik (Deputy Minister of Russian Ministry for Fuel and Energy and Principal Consultant to the Russian Duma on Production Sharing Legislation). See also James P. Dorian and Eugene M. Khartukov, "International Oil and Gas Investment in the CIS States," in *The Energy Charter Treaty: An East-West Gateway for Investment & Trade*, Ed. Thomas W. Wälde, (London: Kluwer Law International, 1996): p 50.

The above table is a simplistic representation of the potential role of foreign resources within the domestic industry. The current "need" for financial resources in the traditional sector (i.e. a perpetuation of 'the way it was') is only generated as a result of the lack of proper structuring of the Russian oil industry itself. Therefore, the requirement for western capital in traditional production areas, is only for a limited period of time, during which the Russian oil industry and institutional framework must be restructured. The extent to which Western involvement is necessary to transfer additional management skills and technological advances into these operations will be limited, although the provision of the former should accelerate the process of developing Russian management skills. The need for external resources in the case of non-traditional areas, is more apparent. Certainly, for key mega-projects, such as the development of oil and gas fields offshore Sakhalin Island, the provision of external resources — capital, technology and management skills — is paramount.

Thus, when addressing the issue of external financing, one must first carefully establish the set of relevant boundary conditions to which such investment would apply. It is certain that these conditions are not consistent throughout the FSU. Clearly, western capital will have a much larger role outside of Russia if the region is expected to rapidly increase production. Within Russia, in the case of traditional oil production, the need for western capital is likely to be only temporary. Once Russia adopts a pricing and fiscal environment comparable to that found in the West, the domestic industry will be capable of generating its own source of investment capital. However, for a certain class of projects, i.e. those in frontier areas or non-traditional developments, the facilitating role of western resources is crucial. Finally, the potential suppliers of western capital represent an important lobbying group which can assist the domestic industry efforts in convincing the government to establish an fiscal framework within which all oil companies, regardless of origin, may operate profitably.

9.4 Further Lines of Inquiry

The analysis undertaken within this thesis has raised a number of issues where we believe there is scope for additional research. The FOGI Database, in particular, provides an ideal platform for supporting further lines of inquiry. The following list of suggestions is by no means comprehensive.

Firstly, there is a need to keep the FOGI Database current as we believe it is the most extensive study of foreign oil and gas projects in the FSU. It is in a format which adapts easily to updating and can be manipulated to support sector specific or geographical based studies.⁴

Secondly, the downstream sector in the FSU requires examination. Refinery project proposals taken at the aggregate level (\approx \$28 - 30 billion) suffer from the same 'fallacy of composition' problem as their upstream counterparts. Hitherto, we have come across no

⁴ Beginning in the autumn of 1997 the upstream portion of the FOGI Database is to be launched on a commercial basis under the name *Interneft* by the Energy Intelligence Group based in Washington DC.

studies which have tried to analyse the product streams of proposed new refineries and refinery upgrades to assess how many are likely to occur in the context of forecasted market requirements. We believe that the successful completion of a limited number of projects will preclude the undertaking of many others.

Thirdly, in this thesis we have taken a critical view of the efforts by MLAs to inject large-scale credits into the petroleum industry of the FSU. Their disbursement record runs contrary to the orthodox belief of their ability to facilitate investment and overcome the types of risk posed by the economic and political climate of the FSU. We believe further examination of their claimed causality role, not necessarily restricted to any specific geographical or industrial sector, would fill a gap in current research. Such a study would require a high level of co-operation from these institutions.

Fourthly, at the outset of our research agenda, we recognised that the confidential nature of many petroleum contracts and bidding terms would naturally limit our accessibility to hard contractual data. For instance, our lack of access to Azeri PSAs precluded Azerbaijan's inclusion in §7.3 on stabilisation clauses. This is no longer the case and in our opinion there now exists a sufficient volume of contractual data within the public domain⁵ to warrant a specific study on petroleum agreements within the FSU. Obviously, some contracts will remain inaccessible to the researcher, but enough material is currently available to proceed with such a study.

Fifthly, the cross-border flow of energy through third-party states is a common feature of FSU oil and gas exports. For the future success of Central Asia and the Caspian Sea region their securing of reliable export routes remains crucial. There is ample scope for a legal-based research effort on transportation solutions for the region, drawing heavily upon the experience of other petroleum producing regions in the world.

Sixthly, the research conducted herein, focused on external sources of financing. Clearly there is a need to tackle the issue of financing from a domestic perspective. The ideal candidate to undertake such a programme would be fluent in Russian and possess solid connections to the Russian financial sector perhaps through sponsorship.

Finally, in ten or twenty years time, it would be fascinating to use the FOGI Database as a comparative baseline study to assess the track record of proposed projects and to what extent FDI has or has not taken place and why this is the case.

⁵ In particular see series publications by PetroConsultants and Barrows Company, plus Van Meurs & Associates, World Fiscal Systems for Oil 1997 and World Fiscal Systems for Gas 1997, New York, NY: Barrows Company Inc., 1997.

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