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“The Russian Oil Industry in Transition – Institutional and Organisational Reform”

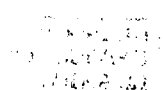
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Submitted For the Degree of
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Department of Central & Eastern European Studies,
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October 2003

By

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*I hereby certify that this thesis is the author's own original work. All sources have been duly
acknowledged and cited.*

Abstract.

This thesis analyses institutional and organisational reform in the Former Soviet Union and Russia in order to examine the effects and existence of path dependency and institutional competition in the development of the Russian oil industry. Based on a New Institutional Economics and Transaction Costs Economics framework the thesis establishes a link between the evolution of the oil industry and the institutional matrix associated with the structure of state power. The despotic-patrimonial mode of state power of the Soviet Union created strong path dependency in the relationship between the state's position in the circulation of income and resources and the organisational and institutional development of the oil industry.

Of particular importance in this respect was the emphasis of political efficiency over economic efficiency. The state's position in the circulation of income and resources ensured the maintenance of the patrimonial structure of state power. Organisational reform ensured that no other "centre" of power could emerge to challenge the state's position and aimed at reducing the transaction cost associated with the implementation of policy. In this respect the state's monopoly in re-negotiating the 'rules of the game' *ex post* was vital to preserve its power position. Informal practices throughout the system were conducive to portraying a semblance of systemic efficiency but further reduced the scope of the state by creating an antagonistic relationship between *de jure* and *de facto* owners. This relationship allowed for the accumulation of income and resources outside the official channels and later became a defining element in the privatisation process.

In the post-Soviet setting path dependency is created by the state's continued reliance on a patrimonial structure of state power. Resource and time pressure and the lack of a popular reform consensus resulted in the domination of the former mode of state power over the constitutional-bureaucratic system favoured by the International Financial Institutions. The transaction cost premium associated with the constitutional-bureaucratic structure and the

appropriation of income and resources created a bias towards the historic structure of state power. Thus state survival was an important factor in creating path dependency.

However, the thesis reveals that due to the less ideologically based political foundation there is greater room for institutional competition. While such competition has remained low at the state administrative level (i.e. organisational and institutional reform display continuity with Soviet practice) the thesis finds that there is some evidence of institutional competition at the industry level. Two corporate strategies (the Soviet Styled Company and the Western Styled Company) have emerged from the original Holding Type Company. These two strategies display different approaches to income extraction, development strategy and ownership structure.

The two strategies constitute the basis from which potential institutional competition in the oil industry may develop. However, state-industry relations condition crucial aspects in the further development institutional competition. Low opportunity cost for the state (1999-2002) was conducive to the existence of institutional competition at industry level. On the other hand state-industry relations continue to be dominated by a patrimonial structure of state power that is non-conducive to the emergence of a 'rule of law' society. Given a change in the parameters that condition the low opportunity cost it is questionable whether institutional competition will be allowed to alter the foundation upon which the Russian political and economic system is based.

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Christian Nygaard (Andi)

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Abbreviations & Acronyms.

ADR	American Depository Receipts
ASSR	Autonomous Soviet Socialist Republic
CC	Central Committee of the CPSU
CIA	Central Intelligence Agency
CPSU	Communist Party of the Soviet Union
EBRD	European Bank for Reconstruction and Development
FBC	Federal Bankruptcy Commission
FEK	Federal Energy Commission
FIG	Financial-Industrial Group
FSC	Federal Securities Commission
FSU	Former Soviet Union
FTO	Foreign Trade Organisation
FYP	Five Year Plan
GDP	Gross Domestic Product
GKAP	Anti-Monopoly Committee
GKI	<i>Goskomimushestvo</i> (State Privatisation Agency)
<i>Glavtransneft</i>	USSR agency responsible for pipeline operations
<i>Glavtyumenneftegaz</i>	Main administration for oil and gas in Tyumen
<i>Goskomnefteprodukt</i>	USSR agency responsible for distribution of oil products
<i>Gosplan</i>	State Planning Committee
<i>Gossnab</i>	State Supply Committee
GOU	General Operating Unit
IFI	International Financial Institution
IMF	International Monetary Fund
IWOE	IMF, World Bank, OECD, European Bank for Reconstruction and Development
JSC	Joint Stock Company
JV	Joint Venture
KPP	<i>Kompaniya proektnoi privatizatsii</i>
MGP	USSR Ministry of the Gas Industry – <i>Mingazprom</i>
<i>Minenergo</i>	Ministry of Energy (RF)
<i>Mingeo</i>	USSR Ministry of Geology
<i>Minneftegazstroi</i>	USSR Ministry for the Construction for Enterprises in the Oil and Gas Industry
<i>Minneftekhimmash</i>	USSR Ministry of Oil and Petrochemical Machine Construction
<i>Minprirody</i>	Ministry of Natural Resources (RF)
<i>Mintopenergo</i>	Ministry of Fuel and Energy (RF)
MNP	USSR Ministry of the Oil Industry – <i>Minnefteprom</i>
MOE	RF Ministry of Economics
MONR	RF Ministry of Natural Resources <i>Minprirody</i>
MOF	RF Ministry of Finance
MT	Moscow Times
<i>Nar.Khoz</i>	<i>Narodnoe Khozyaistvo</i>
<i>Narkomat</i>	People's Commissariat of the Fuel Industry
NDPI	Severance Tax

NGDU	Oil and Gas Producing Unit
NOC	National Oil Company
OGJ	Oil and Gas Journal
PA	Production Association
PAF	Petroleum Advisory Forum
PSA	Production Sharing Agreement
<i>Polpredy</i>	Plenipotentiary representative
RCS	Russian Communal Systems
RF	Russian Federation
RFPD	Russian Federation Presidential Decree
RSFSR	Russian Soviet Federation of Socialist Republics
SNP	Scottish Nationalist Party
<i>Sob. Zak</i>	<i>Sobranie Zakonodatel'stva Rossiiskoi Federatsii</i>
<i>Sob.Akt.</i>	<i>Sobranie Aktov Prezidenta i Pravitel'stva Rossiiskoi Federatsii</i>
SPR	Strategic Petroleum Reserve
SSC	Soviet Styled Company
SSR	Soviet Socialist Republic
SU	Soviet Union
TEK	Fuel and Energy Complex
TPC	Territorial Production Complex
USSR/SSSR	Union of Soviet Socialist Republics
VIC	Vertically Integrated Company
VNIITEKP	All Union Scientific Research Institute for Comprehensive Fuel and Energy Problems
WB	World Bank
WSC	Western Styled Company
WWII	Second World War

Introduction.

"First there was admiration for Japan in the 1980s, then it was Germany before the Asian tigers in the mid 1990s. For the last 2-3 years it has been the US economy. We need to take a longer term view and realise that there are actually many models of the market economy that work and each is specific to its particular culture."¹

Prof. John Kay

The collapses of the socialist regimes in Eastern Europe were accompanied by a wave of democratic and market economy anticipation. Conservative communists in the Soviet Union viewed the collapse as a result of Gorbachev's tinkering with Soviet principles, while others viewed it as the natural triumph of market principles. Then in 1992 Russia itself embarked on a programme of market reforms aimed at modernising the Russian State. However, Russia's modernisation drive dates back further than the demise of the Soviet Union in December 1991. Indeed the Soviet experiment itself is but another chapter in the modernisation efforts of Russian rulers. Attempts to bring Russia "up to speed" have centred on industrialisation, reform of the state bureaucracy and development of the military since the days of Peter the Great. It would be foolhardy to claim that they have all failed, and yet Russia continues to lag behind the countries that it wishes to be compared to and the core of reforms today are what they were 300 years ago.

The inability to radically reform the system has been a common regime characteristic despite the great variety of leaders and political platforms that have steered Russia. This suggests that in order to analyse the development and reform of the Russian economy one has to search for answers in the economic structure and the behavioural incentive structure in addition to political programs and intentions. It suggests that there are system specific costs that inhibit a radical alteration of the economic system and structure. The aim of this thesis is to analyse such system specific costs, their origin and their implication for reforms in the Soviet and Russian oil industry.

¹ Prof. John Kay. Newsnight 2230, Friday 28 June 2002.

In the development of the modern state the provision of energy (along with security) lies at the heart of what has traditionally been regarded as one of the penultimate roles of the state.² A state's ability to control the energy resources within its borders or sphere of influence are again at the heart of the state's ability to provide the members of its constituency with this commodity. Such provision can take many forms, ranging from state supply to ensuring that private suppliers perform this role satisfactorily. The form and content of state participation in industry is reflective of the structure of state power that is utilised in order to ensure energy supplies. If the state owns, operates and controls the industry then the form of state power and corresponding organisation of power will differ from a situation where the state relinquishes a degree of control to non-state entities. Resources alone do not guarantee the state's ability to provide or control such. The development of the modern state is closely interconnected with the development of institutions, political and economic, and organisations to facilitate the state's ability to govern.

Russia, and before it the Soviet Union, is in the fortunate position of being one of the few modern, or modernising, economies that are self-sufficient in primary energy.³ The diversity and plenty of Russian energy resources is such that she has emerged from the cold war as a supplier of energy to the world

² The view taken in this thesis is that state survival (coercion/defence) is the ultimate role of the state. However, as will be argued throughout this thesis, state goals are intimately linked and mutually dependent, energy provision will therefore be one of several factors contributing to state survival.

³ The thesis does not specifically deal with the 'resource curse' argument, however, many of the structural components of this argument will be dealt with extensively. I.e. a rent-seeking bureaucracy, low energy efficiency and moral hazard. The 'resource curse' argument holds that countries with abundant natural resources tend to grow more slowly than resource poor countries. Sachs & Warner argue that reasons for this may be that resource abundance renders the export sector uncompetitive, crowding-out of entrepreneurial activity and innovation, and a rent-seeking/predatory state as natural resources rents are easily appropriable. (Sachs & Warner, 'The Curse of Natural Resources', *European Economic Review*, 2001, vol. 45, no. 4-6, pp. 827-838). As this thesis does not make any comparisons between the Russian oil industry and other countries' oil industries the argument will not be dealt with. However, Mehlum *et al.* find that 'the quality of institutions determines whether countries avoid the resource curse or not. The combination of grabber friendly institutions and resource abundance produces a growth trap'. (Mehlum *et al.*, 'Institutions and the Resource Curse', Memorandum, no. 29/2002, Department of Economics, University of Oslo, pp. 1-28, at: <http://www.oekonomi.uio.no/memo/memopdf/memo2902.pdf>). Mehlum *et al.* uses the 'rule of law' as a measure of institutional quality, implying that countries with an accountable leadership and state administration are more likely to re-invest the wealth generated by extractive industries into society at large creating conditions of growth rather than personal enrichment. This thesis focuses on several aspects related to this latter argument.

market at large. Energy exports have been an important element in both Soviet and Russian policy in terms of providing the state with revenue and, particularly in the case of the Soviet Union, as a foreign policy tool.⁴ The demise of the Soviet Union created an opportunity for a fundamental realignment of Russia's position in the global economy; one of the vehicles for this realignment is no doubt Russia's energy abundance. This realignment is in no way only confined to the economic sphere, as both the political sphere and the social sphere have been called upon to make adjustments to accommodate the establishment of a market economy. Living standards have fallen dramatically in the Former Soviet Union (FSU) and the state has been called upon to relinquish its traditional role in the economy.

At the present crossroad the oil and gas industries have become the pillars of the Russian economy and much hope is placed on their so-called engine effects. They provide the country with crucial products and revenues. They provide bureaucrats with ample opportunities to line their own pockets and are high profile political sectors. Under such circumstances it is necessary to ask how viable reforms can be, how successful reforms are likely to be, and what has to be the essence of the reforms?

The Russian oil industry is by no means a young industry, and has undergone several reform periods. At the end of the 19th century Russia competed with the USA for the position of being the world's premier oil producer and in the late 1970s and 1980s the Soviet Union was the largest producer of oil in the

⁴ Various forms of rent extraction from the oil industry will be considered in this thesis, however, energy as a foreign policy tool is beyond the scope of this study. A frequent argument is that Russia uses its energy abundance and the dependence of the near abroad on the Soviet energy infrastructure to achieve foreign policy aims in the mentioned region. (See for instance Rutland, 'Oil, Politics, and Foreign Policy', in Lane (ed.), *The Political Economy of Russian Oil*, Rowman & Littlefield Publishers, Inc., 1999, pp. 163-188. Peuch, 'Russian Interference in the Caspian Sea Region: Diplomacy Adrift', *Ibid.*, pp. 189-212. Also, Becker, 'Russia and Caspian Oil: Moscow Loses Control', *Post-Soviet Affairs*, 2000, vol. 16, no. 2, pp. 91-132). As this thesis does not deal with Russian foreign policy *per se*, but with the domestic institutional and organisational arrangements of the oil industry, this aspect of state interest will not be pursued any further. The argument of this thesis focuses on the relationship between the circulation of income/resource and the mode of state power/political institutions in order to explain path dependency and institutional competition. It is acknowledged that the argument could be made that foreign policy is an intrinsic part of state survival, however, it is the structure of the relationship between the state and the industry that lies at the basis of the 'foreign policy tool' argument. It is this relationship that will be examined in this thesis.

world. The industry's development has taken place during some of the most dramatic political and economic upheavals that the 20th century witnessed – the Bolshevik coup d'état, the introduction of a large scale administered economy, two World Wars, the Cold War, the OPEC oil shocks of the 70s and 80s and finally the demise of the Soviet Union and the attempted abolition of the administrative state. The majority of Russian oilfields are in a mature stage of production, while potential new production areas remain underdeveloped and underexplored. By the late 1980s Soviet oil output abated and dropped rapidly during the political upheaval of early 1990s and the Yeltsin period. Yet at the beginning of the 21st century Russia is among the world's premier producers of oil and gas.

The turn around in the Russian oil industry has come as a surprise to many, yet the longevity of the recent development is still to be determined. What is clear is that Russia has managed to turn around the abysmal performance of one of its most important industries in the space of a decade, without the massive foreign direct investment (FDI) that was flaunted by international financial institutions (IFI) as an incentive for structural economic reforms in the early post-Soviet period. Performance throughout the sector has varied, and different corporate strategies have been employed resulting in oil firms with greatly different approaches to the oil business and with different relationships to the official political powers. The government has gradually accepted a different economic role, but the sector has remained highly politicised, and red tape remains a huge problem for domestic as well as foreign investors. What is clear though is that there is more room for institutional competition than at any previous time. Much of the turn around in the Russian oil industry originates from indigenous funds and it remains highly questionable whether this development is sustainable, or if it is another round of more-of-the-same remedies that characterised the Soviet oil industry. Even though the Russian oil industry has gone through several phases of reform during its long existence one of the main arguments in this thesis is that such reforms have affected form rather than substance. One of the central issues therefore, will be to examine whether the framework has been altered sufficiently to allow for a future development that breaks with the past. Such alteration must

incorporate both the sector's structure and the sector's role in the matrix of the state's *raison d'être*. Without a corresponding democratisation of administration, can Russia's economic path be altered?⁵

Perspectives on oil policy.

Olsen has identified four approaches to analysing oil policy.⁶ Firstly, *politics as rational societal development*, (rational choice models). This approach analyses oil policy with the government as a central actor in order to achieve the highest possible welfare. This approach demands that the actor has a set of clearly defined and ordered goals and the aspirations and means to implement such goals. The execution of political power rests on the ability of political organisations to accumulate and analyse information and then formulate consistent goals and solve potential conflicts. This approach usually falls between two extremes. Either individuals, for instance through democratic elections, elect (at regular intervals) a governing body to make and order choices on behalf of the members of the constituency, or an organisation to perform this role can be created through a dominant political force or a *coup d'état*. The rational-scientific development model envisaged by the Bolsheviks and the leading role of the Communist Party embodies the latter approach,⁷ although causation runs in the opposite direction compared to neo-classical economic theories.⁸ The problem with this model is that goal definition and rationality in larger groups and organisations is an elusive concept. The ability to govern is dependent on information, consistency of goals and the analytical ability of those who govern. Both information problems and the departmentalisation of interests are well established in the

⁵ Democratisation is here meant to imply the development of an administrative structure that is independent of its creators. Shepsle argues that "political institutions are ex ante agreements about cooperation among politicians...[political] institutions can be seen as a capital structure designed to produce a flow of stable policy outcomes, and institutional change is a form of investment". (Eggertson, *Economic Behaviour and Institutions*, Cambridge University Press, 1990, p. 72.) This would theoretically loosen the closeness between systemic efficiency and political legitimacy.

⁶ Olsen, *Petroleum og politikk – Det representative demokratiets møte med oljealderen* [Petroleum and Politics – Representative Democracy Meets the Age of Oil], Tano 1989, pp. 21-28.

⁷ Lenin, *What is to be done?*, Penguin Books, 1988 [1902].

⁸ Caporaso & Levine, *Theories of Political Economy*, Cambridge University Press, 1992, p. 56. In neo-classical theories causation runs from the individual interest to economic structure, for Marx it ran in the opposite direction.

literature pertaining to the Soviet economy.⁹ In a system as large and complex as the Soviet economy studies will become too level specific and thus lacking in predictive power. Due to complexity rationality in such studies stand in danger of becoming too circumstance specific and lacking in generality.

Secondly, *politics as institutional routines*. This approach examines politics as the result of routine based patterns of behaviour in large formal organisations. Learning in organisations is seen as a function of sanctioned and rewarded behaviour. "When politics is perceived as a result of institutional routines, attention is diverted towards the norms that define correct behaviour by establishing rights and duties, and that define good results by establishing what is "natural", "acceptable" and "just [fair]" outcomes".¹⁰ Institutions in this respect can be the result of political struggle, but institutionalised routines – modes of behaviour – are seen as having a qualitative dimension beyond their instrumental function. Institutions are vehicles for reducing the uncertainty of human action through raising the probability *ex ante* of achieving a certain goal based on a particular mode of behaviour.

Thirdly, *politics as lobbying and negotiations* (interest group representation). "Politics is a process where the participants initially have different goals and perceptions, but where collectively binding agreements are reached through negotiations and persuasion, without necessarily coming to agreement of mind".¹¹ In this perspective the most significant variables of explanation are related to coalition constellations, sectoral interests and resources. This has been a prominent framework for analysing the Soviet economy. The plan formation process is frequently seen as a negotiation process between various

⁹ See for example Zaleski, *Stalinist Planning for Economic Growth 1933-52*, Macmillan 1980.

¹⁰ Olsen, *op cit.* p. 25. Barzel makes an important distinction between economic and legal rights in the development of 'rule of law' states. '[E]conomic rights reflect the individuals' ability to consume or exchange commodities. These rights may exist in the absence of legal rights, though the latter tend to enhance the former. Legal rights are delineated by the state. The state, as such, chooses to enforce the rights it delineates. The means of economic rights that are not backed by legal rights include long-term relations'. (Barzel, *A Theory of the State: Economic Rights, Legal Rights, and the Scope of the State*, Cambridge University Press, 2002, p. 6).

¹¹ Olsen, *op cit.*, p. 26.

levels of the Soviet economy. This perspective does not require the different participants to the negotiation process to have the same goals or possess the same information, but that they have different identifications and different evaluations of what is an efficient outcome. However, the perspective does require that participants are able to discern which groups have similar goals and that they are able to establish effective coalitions.¹² This, as will be shown in this thesis, was hardly the case in the Soviet economy.

Finally, *politics as the interpretation of situation specific circumstances*. This approach sees political decision as "the result of temporal rather than norm or interest based structures".¹³ In this respect politicians react to circumstances as they arise, rather than devising mechanisms for controlling which occurrences are likely to surface. Generally this approach does not need to apply to the entire political system, but is often used to make sector specific policies a function of other sectors. In this perspective unplanned and often exogenous variables and their effects are the focus of study. Although the model has little predictive power, it does not exclude that actors can act strategically with respect to circumstances. The interpretation of a situation is in this respect an important result of the decision process.¹⁴

The new institutional economics approach.

The assumptions regarding which approach generates the most predictive power is influential in determining which framework should be relied on as the analytical framework. This thesis belongs to the new institutional economic (NIE) approach and will focus on the functioning of the institutional and organisational structure and their implications for reform.¹⁵ The

¹² *Ibid.*, p. 27.

¹³ *Ibid.*, p. 28. This does not exclude that politicians may act rationally or norm based in other political spheres such as foreign policy, regional policy etc, but when decisions are reached relatively independent in other political spheres and simultaneously affecting oil policy, then the results may be different than originally envisaged by the decision makers within the other political spheres. *Ibid.*, footnote 19, p. 28[42].

¹⁴ *Ibid.*, p. 28.

¹⁵ In the literature the term institutional economics is often used interchangeably with the terms neo-institutional economics and new institutional economics. The two latter concepts are however different in some important aspects. They both build on classical microeconomic theory, but crucially the neo-institutional approach retains the core of the rational-choice

institutional perspective is dominant in NIE, yet it also incorporates modified elements of the other frameworks mentioned previously. Its antecedents are theories of economic evolution, organisational theory and economic behaviour.

Important concepts in the institutional perspective are 'path dependency' and 'institutional competition'. Path dependence is a concept that is based on economic as well as sociological theories of human behaviour and the human learning process. North explains the concept as the scaffolding of behaviour through "elaborate structure of rules, norms, conventions, and beliefs embodied in constitutions, property rights, and informal constraints that in turn shape economic performance".¹⁶ In the competition between possible institutions the path that maximises actors' behavioural returns will prevail in the long run and constitute the parameters of the collective pool of knowledge in which behaviour is learned.

Since 1990 there has been a gradual improvement in the recognition of the institutional approach. Access to data, sources and Russian academic circles has substantially improved our understanding of the Soviet economy. This approach will therefore create the best possible platform from which to firstly understand the Soviet past and economic structure and secondly the influence of these on the possibilities for institutional and organisational reform in the post-Soviet era. Throughout the 1990s there has been a growing body of literature and research applying various elements of institutional economics to Eastern Europe and the FSU, in diverse fields such as sociology, politics, economics and history.¹⁷ The ability to use the approach in a variety of fields and cross-field studies is clearly one of the strengths of this paradigm.

model (stable preferences), while the new institutional approach discards this assumption in favour of bounded rationality. (Eggertson, *op cit.*, p. 6).

¹⁶ North, 'Understanding Economic Change', in Nelson, Tilly & Walker, *Transforming Post-Communist Political Economies*, Task Force on Economies in Transition, National Research Council, 1998. (Accessed on-line at <http://books.nap.edu/html/transform/contents.htm>, 28 Jan. 2002).

¹⁷ For good overviews in this respect see Harter and Easter, *Shaping the Economic Space in Russia*, Ashgate, 2000, and Segbers, *Explaining post-Soviet patchworks*, Ashgate, 2001.

Despite a lack of specific antecedents in this field there are nonetheless a number of studies that illuminate various sub-fields of a new institutional economic approach. Berliner's classic work examines managerial behaviour and incentive structures, while Kornai's exposition illuminates system specific institutions as well as incentive structures. Moore has studied agency cost in Soviet industrial organisation. Nove contributed substantially to western understanding of the Soviet economy and industrial organisation and conflict. Gustafson has examined Soviet petroleum policy and organisational implications. Although not specifically a study in property rights, Whitefield's study of the role of the branch ministries in the Soviet economy is at the same time an exposition of weakly defined property rights in the Soviet economic hierarchy and the limitation of Soviet 'infrastructural power'. Rutland and Winiecki have both examined the politicising of the economy and thus contributed to our understanding of goal definitions, success indicators and the rationality of the Soviet economy.¹⁸

These and others have illuminated various sub-fields of a new institutional economic approach sufficiently to allow for the establishment of a new institutional economic platform from which to analyse path dependency and institutional competition in the post-Soviet oil industry. Using an institutional approach Solnick has analysed the break down of authority in Soviet institutions to explain systemic collapse.¹⁹

A common analogy by students of the Soviet economy is that of viewing the economy as one giant firm. The basis of this analogy lies in the closeness between the political aspirations of the leadership and the organisation of economic activity - the role played by the central planning organisations in co-ordinating both the production and consumption side of the economy to

¹⁸ Berliner, *Factory and Manager in the USSR*, Harvard University Press, 1957. Kornai, *The Socialist System*, Clarendon Press, 1992. Moore, 'Agency Costs, Technological Change, and Soviet Central Planning', *Journal of Law and Economics*, vol. 24, Oct. 1981. Nove, *The Soviet Economic System*, Unwin Hyman, 1986. Gustafson, *Crisis amid Plenty*, Princeton University Press, 1989. Whitefield, *Industrial Power and the Soviet State*, Clarendon Press, 1993. Rutland, *The Myth of the Plan*, Open Court, 1985. Winiecki, 'Soviet-Type Economies: Considerations for the Future', *Soviet Studies*, vol. 38, no. 4, 1986.

¹⁹ Solnick, *Stealing the State*, Harvard University Press, 1998.

conform with the guidelines defined by the Communist Party. In institutional economics the firm is viewed "as a nexus of contracts where several input owners make bilateral contracts with a central agent, rather than with each other, in order to minimize transaction costs and maximize the joint value of their assets".²⁰ "[W]ithin the firm, the continuous pricing of outputs has been suspended and the inputs are *managed* by the central agent".²¹ NIE should be well suited to analyse the Soviet and Russian economy because its foci of study are centred on variables that are comparable over time, i.e. principal-agent relationships. Changes in such relationships can be construed as modifications in contractual relations between various parts of the economy and the state.

With respect to the Soviet economy this raises several conceptual opportunities for investigation. When a contract relationship is established, a corresponding division of rights and duties is bestowed upon the partakers. The question that will be asked here is what were these rights and duties, how were they established, how were they monitored, how do principal-agent costs affect the mode of organisation, and how do they affect the reform parameters in the post-Soviet setting?

The introduction of transaction costs in the firm's production function is one of the main contributions of new institutional economics. Classical microeconomics assume zero information cost, i.e. all participants in an economic exchange relationship can costlessly obtain the same information and evaluate the same. This proposition is just as troublesome in the Soviet economy as it is in a market economy. Berliner's analysis of management behaviour in the Soviet firm is a particular case in point. Williamson has examined the existence of positive transaction cost and their effect on economic behaviour and organisation. Williamson's framework is referred to as transaction cost economics (TCE). The antecedents of TCE go back to Coase's study of the effect of positive transaction costs on industrial

²⁰ Eggertson, *op cit.*, p. 112.

²¹ *Ibid.* p. 48. Italics in original.

organisation and the declining return on vertical integration.²² The questions that will be raised here is how did positive transaction costs affect economic performance and behaviour in the Soviet economy, and with respect to social learning, what are the potential effects of the Soviet learned framework on the post-Soviet reform parameters? Further, how did positive transaction cost affect the maximisation of goals and assets?

If the objective of state administration is to extract as efficiently as possible those resources that contributes to the fulfilling of political objectives then the maximisation of asset return is the basis for organisation and structure of asset utilisation. Assets in this respect can be both economic (infrastructure, resources, workers *etc.*) and political (state bureaucracy, party organisation *etc.*) The maximisation of asset value is a complex issue and is closely interconnected with goal fulfilment. Efficient in this case is that which successfully contributes to the realisation of stated goals.

However, that which is efficient differs between political system and between actors within each system. In other words there are no stable definitions of efficiency, this being one of the reasons why different countries and economies have generated different institutional arrangements. In order to analyse the development of economies one therefore has to firstly define to what purpose an asset is (was being) maximised, i.e. what is (was) efficient utilisation, secondly to acknowledge that this definition may not be stable across time and actors. This is particularly so when the central agent's ability to monitor the performance of its agents is reduced, for instance due to size of the organisation or complexity of information.

In the Soviet economy the formal right to define this issue rested with the Party leadership. However, the structure of the economy and the distribution of property rights (*de jure* and *de facto*) were such as to allow a diversion of the flow of resources towards individual goals. Bromley has analysed the

²² Williamson, *Markets and Hierarchies*, The Free Press, 1975 and *The Economic Institutions of Capitalism*, The Free Press, 1985. Coase, *The Nature of the Firm*, *Economica*, 1937. (Reprinted in Williamson, *Industrial Organization*, Edward Elgar Publishing Limited, 1990).

concepts of property rights in natural resource industries and efficiency.²³ The questions that will be raised in this thesis are what was the distribution of property rights in the Soviet economy, what was efficient utilisation of assets, and how do efficiency concerns affect the post-Soviet reform parameters? An important element in this respect will be to examine the distribution and principal-agent implications of *de jure* and *de facto* property rights.

An important dimension of analysis in this respect is to determine the motivation of the actors at various levels throughout the economic system. Kornai described the Soviet economy as a 'shortage economy',²⁴ while Berliner's exposition of managerial behaviour emphasises asymmetry of information. This thesis therefore raises the questions how did these circumstances affect the motivation and economic behaviour of the actors at various levels, what were the main organisational conflict lines, and how does this affect the post-Soviet reform parameters?

The thesis tries to draw a link between historic Soviet development and modern Russian development. The conceptual link in this case is path dependency. North has analysed the effects of path dependency on economic institutions and organisations.²⁵ The concept does not imply historic determinism or the absence of free will, but it stresses that under certain conditions human beings are likely to be influenced by behavioural modes. The questions raised will be how path dependency affected both the developments of the Soviet oil industry and the post-Soviet reform parameters?

Out of the mentioned four approaches to analysing oil policy the view taken in this thesis is that the new institutional economic approach is the most suited to establish a framework for analysis of political economy. The main contender is the rational choice model, however in a large and complex organisation it is

²³ Bromley, *Environment and Economy*, Basil Blackwell, 1991.

²⁴ Kornai, *op cit.*

²⁵ North, *Institutions, Institutional Change and Economic Performance*, Cambridge University Press 1990.

implausible that such a model would have any real explanatory power. It would be difficult to define clear and consistent goals that penetrated all levels of the economy. From organisational literature we know that in large formal organisations goal hierarchies have a tendency to fragment beyond the general as time and resource pressure and individual aspirations result in departmentalisation.²⁶ General goals facilitate the production of consensus programmes, but impede normative goal oriented behaviour. This is a point frequently stressed by Nove when discussing the formation and implementation of the Five Year Plans (FYP).²⁷

Rather the new institutional economic literature stresses the limited processing capabilities of individuals – particularly so in an environment of time pressure, complex and asymmetric information – and opportunistic behaviour.²⁸ Limited processing capability is a result of ‘bounded rationality’.²⁹ These assumptions clearly are incompatible with the rational choice model and they generate a different framework of analysis. This shifts the analysis of politics and economics from a framework of rational choice to a framework of contractual relations.³⁰ The organisational, institutional and principal-agent arrangements (contractual governance and incomplete contracting) resulting from these behavioural assumptions thereby become the centre of study.

Rather than looking at who has executive political control, and how differences in ideology and strategies result in differences in response to external and internal possibilities and constraints, the new institutional economic approach examines rules, norms and habits and how the organisational location of decisions affect their content.³¹ The questions

²⁶ March & Simon, *Organizations*, Blackwell Publishers, 1993 (2nd ed.). Peter Blau & Marshall Meyer, *Bureaucracy in modern society*, McGraw-Hill, 1987.

²⁷ Nove, *op cit.*

²⁸ See for example Williamson, ‘Transaction-cost economics: the governance of contractual relations’ in Williamson (ed.), *Industrial organization*, *op cit.*

²⁹ Behaviour is “intendedly rational”, but due to ‘limits of human intellectual capacities in comparison with the complexities of the problems [], rational behaviour calls for simplified models that capture the main feature of a problem without capturing all its complexity’. March & Simon, *op cit.*, pp.190-1.

³⁰ Williamson, ‘The lens of contract: private ordering’, *The American Economic Review*, 2002, vol. 92, no. 2, pp. 438-443.

³¹ Olsen, *op cit.* p. 29.

raised are what affects patterns of behaviour and what is the learning process? But also, can economic development paths be substantially altered in the short-term or long-term, what are the possibilities and constraints in each case, to what extent does path dependency affect the post-Soviet reform parameters and what has been the effect of institutional competition?

The method and structure of the thesis.

This thesis aims to analyse the concepts of path dependency and institutional competition in the post-Soviet reform parameters. In the thesis these parameters are institutions and organisations of the Soviet economy and oil industry and the Russian oil industry distributed across three institutional dimensions. This thesis will adhere to the definition of institutions and organisations as defined by North. Institutions are the 'rules of the game in a society or, the humanly devised constraints that shape interaction' and 'incentive structures'.³² Organisations are 'entities designed by their creators to maximise wealth, income, or other objectives defined by the opportunities afforded by the institutional structure of society'.³³

North's approach to economic development emphasises the interaction between institutions and organisations, both developing in response to and affecting each other. Such development is not *a priori* seen to be development towards greater economic efficiency (in the western sense of the concept), but rather a result of maximising the opportunities that the institutional and organisational matrix at any given point in time offer. The incentive structure of the institutional matrix – and the corresponding organisational structure – is not necessarily geared towards social welfare, but rather towards maximising the objectives of their creators.³⁴

³² North (1990), *op cit.*, p. 3. North, *Understanding the process of economic change*, Occasional Paper 106, Institute of Economic Affairs, 1999, p. 9.

³³ North (1990), *op cit.*, p. 73.

³⁴ Thus ideas, ideologies and dogmas will frequently affect the choice that the individual makes. (*Ibid.*)

However, any given point in time is not independent of the previous period – history is held to be path-dependent. This does not imply that history is pre-determined, but rather that change will be incremental, affected by past experience, present constraints (often a function of past experience) and conceptualisation of the future. Institutions thus represent a synergy that maximises the return on investment with regards to those three levels.³⁵ History in this respect represents the point of comparison with respect to return on investment and the environment within which knowledge and analytical skills were formed and will therefore have great impact on economic modes of behaviour.³⁶ Institutional competition exists where actors can maximise their returns through different institutional arrangements. A selection will occur where one institutional arrangement generates higher returns than another does. Motivation and cost of investment thereby become important elements of study. Motivation will to some extent be reflected through incentive structures and organisational arrangements, while the level of transaction costs will affect cost of investment. Minimising transaction costs will again affect organisational and institutional arrangement and constitute an important element of institutional competition and selection.

TCE proposes an organisational structure that economises on bounded rationality and opportunism.³⁷ It holds that these phenomena have the greatest distorting power in a situation where transactions are idiosyncratic or asset specific.³⁸ Given such conditions TCE proposes vertical integration as a means

³⁵ Investment is here taken to mean the commitment of any form of resources to achieve any form of return, i.e. both material and immaterial returns.

³⁶ In sociology Bourdieu has used a similar approach analysing behaviour through the concepts of *field*, *habitus* and *capital*, (Bourdieu & Wacquant, *An Invitation to Reflexive Sociology*, Polity Press, 1992. Bourdieu, *Practical Reason – On the Theory of Action*, Polity Press, 1998).

³⁷ '[O]ppportunism [] is a deep condition of self-interest seeking that contemplates guile'. Williamson, 'The Logic of Economic Organisation', in Williamson & Winter, *The Nature of the Firm*, Oxford University Press, 1991, p. 92. The term self-interest will be used throughout the thesis for reasons of simplicity. However, it should be noted that 'economic theory is now routinely described as assuming not that people are relentless maximizers, but rather that some process of selection – perhaps the tendency of unprofitable firms to fail or the tendency of people to imitate their more successful counterparts – will cause us to observe people who act as if they were maximizing'. (Samuelson, 'Evolution and Game Theory', *Journal of Economic Perspectives*, 2002, vol. 16, no. 2, p. 51).

³⁸ *Transactions* are here taken to mean any interaction between two or more individuals that exchanges some form of good (tangible or intangible) or service (Williamson (1975), *op cit.* Williamson (1990), *op cit.*, pp. 223-251). *Idiosyncratic and asset specific* transactions are

to economise (i.e. reduce) the effects of the behavioural phenomena.³⁹ This thesis distinguishes between two forms of integration: organisational and political integration.⁴⁰ Positive transaction costs affect the structure of both, and TCE has been incorporated as an integral part of 'positive political economy'.⁴¹

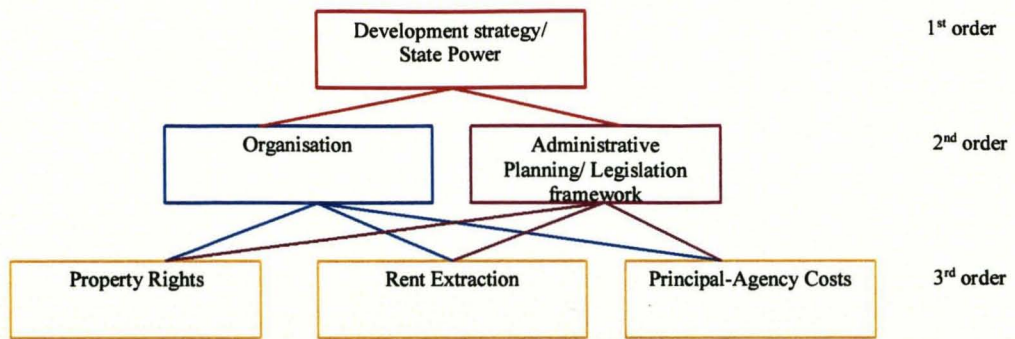
The evolution of the oil industry will be analysed through a three-layered pyramid of institutions that constitute different dimensions of path dependency (Figure I.1). The aim is to establish a causal chain of institutional evolution that can serve as an analytical paradigm for understanding both the Soviet and post-Soviet development. The dimensions are ordinal running from 1st order institution to 3rd order.

exchanges of goods and services where the value of the transaction has a second best use that is appreciably lower than its first best use. This means that the difference in value is large enough to entice either (or both) of the parties to the exchange to extract some or all of this difference in value as a form of quasi-rent (Klein *et al.*, 'Vertical Integration, Appropriable Rents, and the Competitive Contracting Process', *Journal of Law and Economics*, 1978, pp. 297-326). Eggertson argues that investment yield will be discounted by the probability of appropriation of the quasi-rent (Eggertson, *op cit.*). Another form of investment that falls in this category is sunk-cost, meaning a non-removable (or only at great cost) and not re-deployable investment that also has a first best second best appropriable rent. (This definition is somewhat narrower than the conventional definition of sunk cost). The distorting power of these phenomena lie therein that in a situation of transaction where a good is idiosyncratic small numbers markets prevail over large number markets. Thus the check (competition) that a large numbers market exhibits will be reduced in a small numbers market, allowing for abuse of market power. In Russia there is as yet no legislative framework efficient enough to counterbalance the effects of a small numbers market.

³⁹ Both North and TCE build on the Coasian approach to organisation of exchange by viewing the market and integration as alternative forms of governance structures, viewing governance as a means of economising on the cost of transacting. Idiosyncratic goods (or services) can in many instances be produced in-house at the same production cost as traded via a market. This is because for many idiosyncratic goods markets do not display the same aggregating strength (i.e. economies of scale) as they do in non-idiosyncratic exchanges. Being of a specialised nature idiosyncratic goods are not traded in the same numbers that non-specialised goods are. With respect to organisation there is a choice between producing or buying. The institutional framework that an industry operates in will affect the choice of organisational mode, as it will affect the total production cost.

⁴⁰ *Organisational* integration is the integration of different legal entities into the same governance and ownership structure. *Political* integration is the use of non-market transactions between independent legal entities (by market definition) in both the economic and political sphere. Both modes of integration are thought to reduce uncertainty by creating a more stable environment of operation.

⁴¹ Alt & Shepsle, *Perspectives on Positive Political Economy*, Cambridge University Press, 1990, p. 3. See also footnote 5 for view on political institutions.

Figure I.1 – Institutional Matrix

Conceptually this implies that the lower level orders are subjugated to the higher orders, while institutions within each order have interactive affects as well. Institutional and organisational responses to the higher order dimensions will take both a formal and informal character. This implies that a reform attempt needs to address the singular and interactive effects of each dimension and between dimensions, in order to create a different incentive structure for the channelling of information and behaviour. This model combines the macro level of norm setting politics and the micro level of enterprise and agent behaviour. It gives the researcher the opportunity to examine development as a multi-dimensional process with several independent variables.

The real world situation is necessarily infinitely more complex than this or any other model can reconstruct. However, new institutional economics and transaction cost economics as general theoretical frameworks should enable the researcher to construct models that have a high probability of generating firstly an inclusive framework and secondly use units of analysis that are comparable over time. In line with neo-classic economic theory it is here assumed that individuals are “economic men”, but that maximisation and rationality is constrained by positive transaction costs creating uncertainty. This implies that the individual does not always have the necessary information or computing resources to have a stable and ordered set of preferences.

Each of the dimensions in the pyramid could theoretically constitute a dependent variable in its own right, and more dimensions could be added as

could further orders. For the sake of brevity only three orders will be examined in this thesis. The study of economic institutions should enable us to determine the origin of system specific and/or country specific consistently high transaction costs.⁴² "Institutions provide the structure for exchange that (together with the technology employed) determines the cost of transacting and the cost of transformation. How well institutions solve the problem of co-ordination and production is determined by the motivation of the players (their utility function), the complexity of the environment, and the ability of the players to decipher and order the environment (measurement and enforcement)".⁴³

Each of the mentioned dimensions can be influenced by policy and through choice, however, there are factors that are beyond the actors' influence that have and will continue to play a significant role as well. These relate to geological attributes of the reserves, their geographic positioning, and total recoverable oil, along with international factors like Middle Eastern stability, international trade and economic conjunctures. The former factors being given, and the latter factors being only partly open to Russian influence. Nonetheless the dimensions studied in this thesis will examine how well Russia has been and will be able to relate to these non-controllable factors.

First order path dependency. It is necessary to see the development of the Soviet and Russian economy as an organic whole. This implies that any analysis must start with the historic pre-conditions for economic and industrial development. One can speak of two main mobilisation strategies in Europe – direct mobilisation and indirect mobilisation. The origins of the different developments in this respect is not the concern of this thesis, suffice here to say that Russia, both historic and modern, has dominantly used a direct form of economic mobilisation.⁴⁴

⁴² North (1990), *op cit.*, pp. 134-35.

⁴³ *Ibid*, p. 34.

⁴⁴ Christian, *Imperial and Soviet Russia: Power, Privilege and the Challenge of Modernity*, Macmillan Press Ltd., 1997, pp. 2-7.

Unlike indirect mobilisation, which relies on commercial and market exchange to generate appropriable resources, direct mobilisation relies on the state as the instigator of growth, and its coercive and persuasive powers to appropriate resources. Economic growth tends to be input based (rather than productivity based) and systems relying on direct mobilisation tend to be better at mobilising existing resources rather than generating new resources.⁴⁵ Implementation of the two strategies both combine despotic and infrastructural state power, yet direct mobilisation tends to generate state structures that expend more energy and resources on building despotic structures of power and *vice versa*.⁴⁶ In this thesis development strategy and mode of state power constitute the first order path dependency.

Second order path dependencies. The “efficiency” of such a system is reliant on the state’s ability to ensure that its ability to monitor and control the economy encompasses all levels of the production chains. Such systems are therefore characterised by an ‘administrative approach’ to co-ordination. While despotic power falls within the first order dimension, the state’s ability to administer and enforce its policy – its infrastructural power – belongs to the second order dimension. Infrastructural power tends to exhibit either a bureaucratic structure, in the Weberian idealised sense, or a patrimonial structure where power is vested with the person rather than rules and offices.⁴⁷ The Soviet political system was based on a patrimonial structure of state

⁴⁵ *Ibid.*

⁴⁶ Mann defines these concepts as “the range of actions which the elite is empowered to undertake without routine, institutionalized negotiation with civil society groups” (despotic); and “the capacity of the state to actually penetrate civil society, and to implement logistically political decisions throughout the realm” (infrastructural). (Mann, ‘The Autonomous Power of the State’, in Hall, *States in History*, Basil Blackwell, 1986, p. 113). Barzel defines the scope of the state as ‘the ratio of the value of all violence-backed third party enforced agreements to the value of the gross product, inclusive of the imputed product, within the boundaries of the state’. (Barzel, *op cit.*, p. 23). The state is defined as ‘(1) a set of individuals who are subject to a single ultimate third party who uses violence for enforcement and (2) a territory where these individuals reside, demarcated by the reach of the enforcer’s power [ability to impose cost]’. (*Ibid.*, p. 22). According to these definitions a state with a high degree of infrastructural power will enjoy a greater scope than a state with a high degree of patrimonial-despotic power.

⁴⁷ Ertman, *Birth of the Leviathan*, Cambridge University Press, 1997, chp. 1. On Weber’s exposition of the idealised bureaucracy see Weber, ‘Bureaucracy’, in Shafritz & Ott, *Classics of Organization Theory*, Harcourt College Publishers, 2001, pp. 73-78.

power implementation.⁴⁸ One of the reasons for using the oil industry as a case study for institutional and organisational reform in Russia is precisely its importance as a model for the development of the Soviet administrative system,⁴⁹ and its importance in the creation of extractable rent.⁵⁰ Thus it should be possible to generalise to the wider economic situation and to determine the origins of positive transaction costs. Second order path dependencies in this thesis are organisation and administrative planning/legislation. The form of state power and development strategy affects both.

Third order path dependencies. If indeed Russians are “economic men” then we would expect them to react to stimuli and incentives in a consistent and predictable manner, i.e. the maximisation of some utility function. These utility functions are necessarily constrained by positive transaction costs and institutional limitations. Behaviour in organisations has been a field of extensive study and some of this literature will be adapted to the Soviet economy and specifically firm behaviour in both the Soviet and the post-Soviet setting.⁵¹ Third order path dependencies in this thesis are property rights, rent extraction and principal agency costs. All three are affected by mode of organisation and administrative planning/legislative framework.

The model thus created encompasses both macro evolution as well as micro responses. It should be pointed out that the direction of causation is not fixed. Stimuli and adaptations can originate at all levels, i.e. in the form of reforms, the point rather to be stressed is that reforms leading to path changes are likely to be unsuccessful unless they lead to adaptations in the remaining orders of institutional dimensions. For reasons of complexity and interconnectivity one

⁴⁸ Gill, *The Origins of the Stalinist Political System*, Cambridge University Press, 1990, pp. 325-327. In this respect the Soviet structure of state power implementation displays strong continuity with the implementation of state power in tsarist Russia. For an account of the development of the patrimonial structure of state power in pre-revolutionary Russia see Pipes, *Russia Under the Old Regime*, Penguin Books, 1995 [1974], pp. 21-140.

⁴⁹ Kryukov, *Institutsional'naya struktura neftegazogo sektora* [The institutional structure of the oil and gas sector], IEiOPP, 1998, pp. 70-71.

⁵⁰ Sagers *et al*, 'Resource Rent from the Oil and Gas Sector and the Russian Economy', *Post-Soviet Geography*, 1995, vol. 36, no. 7, pp. 389-425.

⁵¹ Important scholars in this field are Peter Blau, Nils Brunsson, James March, Johan Olsen, the late Herbert Simon, and Oliver Williamson.

must also assume that higher order dimensions are more difficult to reform than lower order dimensions. This is the case due to the wider implications reforms have in higher orders. For instance political sensitivity, cultural ideological and religious factors that surpass any specific sector will come into play. Although the model drawn up here will be used to analyse the oil industry, this sector is itself placed within the greater context of the Russian economy. As the point of focus moves up the pyramid, interactive effects with other sectors will become more prominent. Such interaction will only be treated very cursorily, yet the reform process at these levels will necessarily have a wider scope than the oil industry alone.

Economies evolve as organisms, a path in itself is an organism, and for a reform to achieve alterations to the path it must carry within itself incentives for changes in all the orders – irrespective of its origin. For a stable development process a transparent institutional matrix that allows for institutional competition is necessary. For behaviour to change it is necessary that the costs of transacting associated with institutional structures are altered. In the Russian case one has to assume that institutional uncertainty will result in a prolongation of previous patterns of behaviour. One has to expect that an economic and political experiment of the Russian scale, regardless of the unlikely possibility of perfectly crafted laws and reforms, will take time to settle. Western European capitalism has taken centuries to evolve, and only through a process of trial and error and collective learning have economic actors in this area been “instilled” with the basic knowledge and understanding that makes our market economies work (as we understand it).

Tatur refers to the *moral embeddedness* of Russian economic behaviour. She emphasises the historic absence of market type institutions and the public's understanding of the market to explain the embeddedness of the institutions of reciprocity and redistribution.⁵² Throughout the transition period Russia will have to find its own form of capitalism, one that, if the process is continued,

⁵² Tatur, 'The Moral Embeddedness of the Market - Conceptualising Post-Socialist Transformations', in Harter & Easter, *op cit*. The market is in this case not solely seen as an exchange mechanism, but an allocational-behavioural institution in its own right.

will emerge from the set of previously present economic institutions and well-meant (and not so well-meant) foreign advice and suggestions. Institutional transparency and reduced uncertainty can lead to a shift towards economic behaviour conducive to a market economy. "One of the costs of institutional change is the uncertainty about which outcomes the new regime will produce. Uncertainty implies that a given structure may *ex ante* be associated with a *set* of structure-induced equilibrium points. *Ex ante* this uncertainty is gradually reduced as the operational qualities of a new institutional structure becomes known".⁵³ If one assumes that Russians are economic men then transparent standards of evaluation should lead self-interest to promote a market type economy.

Importantly it is here assumed that regardless of political intentions as long as some kind of market is allowed to function and/or continued participation in the global economy, institutional competition will affect the development of the Russian economy. However, in a transition period (assuming there is a conscious effort to realize a structural shift) the following must be assumed as well. There is likely to be a lack of political consensus as to the need and speed of reforms, gradual learning and external factors will affect the consistency of reforms, and in democratic societies the need for political risk-dispersion (coalition building) will affect both the content and the thoroughness of reforms.

The basic units of analysis in this thesis will be the institutional and organisational framework that the oil industry operates within, and the behaviour of oil producing entities within this framework. In the historic part the formal institutional and organisational framework will be a function of the goals of the political leadership, in the post-Soviet era the organisational structure has enjoyed more degrees of freedom. Thus adaptations in the organisational structure will shed light on the effectiveness of institutional reform. Likewise the behaviour of the "oil firm" will shed light on the incentive structure and economic behaviour.

⁵³ Eggertson, *op cit.*, p. 72. [Italics as in original] Again based on Shepsle.

The thesis draws on a wide body of secondary literature in English, Russian, Norwegian and German that analyse Soviet and Russian politics and economics. Various production and performance related data has been collected from several of these sources, however, where possible an attempt has been made to consult the original Soviet and Russian sources. The *Narodnoe Khozyaistvo* (*Nar.Khoz.*) and *Stran Chlenov SEV* series published by *Goskomstat SSSR* have been used for the Soviet data. For data post 1992 the *Rossiiskii Statisticheskii Ezhegodnik* series published by *Goskomstat Rossii* has been used. In addition data has been collected from company websites, various Russian and English journals and newspapers, and through personal contact with academics and company representatives. It should be kept in mind that, particularly, Soviet data were severely skewed and should therefore be taken as indicators of general trends rather than absolute numbers. Similarly sources disagree on the constitution of post-Soviet performance related data as well. An attempt has been made to maintain identical time series definitions when comparing performance related data, thus some of the data series may differ from that published by the individual companies. The creation of several tables was carried out in SPSS 8.0, while multivariate panel data analysis was carried out in Intercooled Stata 6.0.

In the spring of 2002 a number of elite interviews were carried out with executives in various Russian and foreign oil companies in Moscow, Russian academics, Ministry of Energy officials, Duma consultants and investment bankers. The interviewees were selected on the basis of their present position either in the management of the Russian oil industry, their contribution in the past to post-Soviet developments or their in-depth knowledge of present Russian oil industry. A major aim of the interviews was to confront the interviewees with topics of the thesis and solicit responses and comments on the views held in this thesis. The interviewees have all requested to remain anonymous. For this reason names and identifying information has been omitted from the list of interviewees presented in Appendix A.

The research objective.

The main intent of this thesis is twofold. Firstly, it is to apply the new institutional economics and transaction costs paradigms to aspects of the Soviet economy. Previous studies devoted to the Soviet oil industry do not fall within this approach. Although the thesis is hugely indebted to Gustafson's study of Soviet oil policy there are certain aspects that with hindsight need to be reanalysed. Gustafson describes the world of Soviet politics as 'courtier politics',⁵⁴ a framework that takes into account both systemic and leadership qualities. Although carefully analysing the effects of systemic features on the development of the Soviet oil industry, he nonetheless concludes that "the features of energy policy that we think of as systemic represents policy choices among variants that the command system has available" and further "this is where the role of leadership comes in".⁵⁵ The thesis agrees wholeheartedly with Gustafson that interest-group politics or regional politics were not the drivers behind energy policy,⁵⁶ (and that structural reforms were necessary), however, it disagrees on the importance of institutional factors.

This is important for the reformability of the oil industry. This implies that given the Soviet economic situation and the maturity of the system, no leadership would have been able to reform the economy without bringing it down. In the year 2003 this might seem a futile assertion, since this is arguably what happened, and yet it implies that reform will only be possible under an altered institutional and organisational structure.

Even though the Soviet Union was dissolved more than a decade ago and has been replaced by "new" nations and regimes a change in name and symbols do not in themselves represent a change in institutional structures. The argument in this thesis will be that both the choices available to the Soviet leadership and the role of leadership were in fact less. In this respect institutions take on a quality independent of their creators. Reform is possible, but only if the

⁵⁴ Gustafson (1989), *op cit.*, p. 313.

⁵⁵ *Ibid.*, p. 319.

⁵⁶ *Ibid.*, pp. 311-314

entire structure of institutions and organisations are altered in a coherent fashion. Thus the reinterpretation of the Soviet oil industry carries, in light of the described methodological approach, within itself *one* conceptual framework for analysing the prospects for reform and functioning of the post-Soviet oil industry. In other words the thesis seeks to establish a different understanding of the Soviet oil industry and its overall position within the Soviet economy than that presented by Gustafson. This is done primarily for understanding the development of the Russian oil industry, and is not aimed at a complete reinterpretation of Soviet energy policies.

Secondly, to apply the evolutionary concepts of 'path dependency' and 'institutional competition' to the post-Soviet development. The two objectives form a necessary whole. The relevance of the theoretical literature to the Soviet environment has to be established in order to analyse the prospects for institutional reform and continuity in the post-Soviet period. The ordering of these objectives is due to their chronological character and not a judgement on their importance in terms of relevance for the thesis. These concepts tie the evolution of the Russian economy closely to the evolution of the structure of state power. The institutional gap that exists between a despotic-patrimonial structure with a high degree of state capture and an infrastructural-bureaucratic structure with a higher degree of state autonomy has constituted and will continue to constitute the main strategic space for the development of path dependency and institutional competition.

In the course of the 1990s much attention has been paid to the Russian oil industry, however, much of this work has focused on very specific problems and issues, and there have been few attempts to position the present reform period within the successive reform periods that have gone before. Moe & Kryukov and Kryukov have used TCE and new institutional economics to understand the post-Soviet oil industry, especially their organisational and industry implications.⁵⁷ Sagers *et al* have analysed the institution of rent

⁵⁷ Kryukov & Moe, 'The Russian Oil Industry in a new Institutional Framework', unpublished paper, 1996. Kryukov (1998), *op cit.* Kryukov, '*Institutsional'nye preobrazovaniya v neftegazovom komplekse: teoreticheskie osnovy i rossiiskaya praktika* [Institutional

extraction in both Soviet and Russian oil industry.⁵⁸ In the language of this thesis, however, these studies concern themselves primarily with second order institutions. This is also the case in Lane's *The Political Economy of Russian Oil*, an analysis that incorporates several aspects of second order institutions. This thesis agrees with Lane that 'the study of the oil industry illustrates the nature of the Russian economy and polity in transition'.⁵⁹ However, path dependency and institutional competition are evolutionary concepts, thus it disagrees with idea that the Russian economy lacks co-ordination, goals, laws and governing institutions.⁶⁰

Brunsson & Olsen argue that reform in public administration will only be successful if it succeeds in establishing a new or restore a previous power and authority equilibrium.⁶¹ The analysis of path dependency and institutional competition are therefore crucial to understanding what equilibrium can be created, how it has been created and how it is likely to develop. In order to understand the reforms in the Russian oil industry it is therefore important to begin with asking where power, authority and property rights rested in the Soviet economy? And then proceed with the analysis of what equilibrium was established during the 1990s.

Again conclusions can differ on the basis of the researcher's framework of analysis. The argument in this thesis is that power and authority throughout the Soviet period were closely tied to the institutional matrix associated with the Soviet mode of state power. Formal and informal economic behaviour generated by the institutional matrix was geared towards fulfilling state objectives while at the same time maximising individual returns. A discrepancy between *de facto* and *de jure* property rights resulted in

transformation in the oil and gas sector: theoretical basis and Russian practice], INP, Moskva, 2000.

⁵⁸ Sagers *et al*, *op cit.*, pp. 389-425. Furthermore Sagers' series of articles in *Post-Soviet Geography*, and *Post-Soviet Geography and Economics* on the Russian oil industry have been indispensable.

⁵⁹ Lane (ed.), *The Political Economy of Russian Oil*, Rowman & Littlefield Publishers, 1999, p. 9.

⁶⁰ *Ibid.*, pp. 9-10. As a social system Lane defines the Russian transition process as 'chaotic capitalism'. (*Ibid.*) While as capitalism is a difficult concept to define and therefore to disagree with, this thesis argues that the transition is not all that chaotic.

⁶¹ Brunsson & Olsen, *The Reforming Organization*, Fagbokforlaget, 1993, p. 25.

institutions that took on a quality dimension independent of their creators. Looking at the post-Soviet oil industry it is therefore necessary to ask to what extent the institutionalisation of organisations (when the behaviour of organisations is determined by 'culturally conditioned rules which give meaning to those actions) and behaviour can explain the ongoing transition process?

The main hypothesis of this thesis is that continuity of institutions will constitute the dominant element affecting the development of the Russian oil industry. This proposition draws on the works of Hedlund and North. Hedlund has argued, in game theory terms, that the dominant strategy in Russia is defection.⁶² As impersonal trust is a prerequisite for the functioning of a market economy it is assumed that Soviet economic institutions will remain dominant over market type institutions.⁶³ This creates a bias towards economic behaviour consistent with that, which will be described in part one of the thesis. Traditional economic behavioural patterns will remain central and positively correlated to institutional uncertainty and idiosyncrasy of transactions. Continuity in firm behaviour will be apparent in both organisational structure and adjustments to institutional reforms. This will be particularly true in the short-term while a platform for "political consensus" is being established. However, as the transition process carries on institutional competition will result in the establishment of new patterns of firm behaviour.

The second major hypothesis therefore is that given operational freedom institutional competition will result in a greater variation in firm behaviour – different strategies to maximise different goals. If reforms manage to increase the separation of the political sphere from the economic sphere and decrease institutional uncertainty, new organisation and firm behaviour will emerge that create greater value and more efficiently exploit the asset base compared to other organisations. Furthermore, as institutional competition increases

⁶² Hedlund, 'Path Dependence in Russian Policy Making: Constraints on Putin's Economic Choice', *Post-Communist Economies*, 2000, vol. 12, no. 4, pp. 400-401.

⁶³ North (1999), *op cit.*, p. 21.

different definitions of value and efficiency will affect the development of corporate strategies and objectives.

An important element in the separation of the political sphere from the economic sphere will be analysed through the redistribution of both *de jure* and *de facto* property rights. This process is characterised not only by the privatisation of state assets, but also by what property was in the Soviet Union. Crucially the oil industry was not only state owned and managed, but like the party structure and most of the economy in general it *was* the state.⁶⁴

Although the methodology employed in this thesis will have relevance for overall Russian economic reforms it nonetheless remains a study of a particular sector in the Soviet and Russian economy. It is hoped that although the thesis will not be able to explain Russia's eternal reform problem, it will shed light on the reform problems in this crucial sector. Being a producer of an internationally highly priced and mobile commodity the oil sector is in many ways unique in the Russian context.

⁶⁴ For an elaboration of this argument see Hedlund, 'Property Without Rights: Dimensions of Russian Privatisation', *Europe-Asia Studies*, 2001, vol. 52, no. 2, pp. 213-237. See also Gill, *The Collapse of a Single-Party System*, Cambridge University Press, 1994, pp. 1-12.

Part I

Historic Constraints:

Soviet Organisation and Institutions.

Chapter 1

A History of the Oil Industry.

'You know before the 1990s we had Soviet power, everything was state run and we had no problems'.

'Many years before – under Stalin – measures and steps were simple, but now there is some kind of sabotage, because the present mechanism does not work'.

Interviewee # 6

Until its demise the Soviet Union was the largest producer of oil in the world. Production in the Soviet Union went through several phases each tied in with a major area of production. Although not as famous as the oil producing capabilities of the Middle East (to a large extent a result of the lesser dependence of Western Europe and the USA on these reserves) the Soviet oil industry was by international standards a seasoned industry with major achievements to its name. At the turn of the 19th century, the tsarist oil industry was the largest producer of oil in the world. This was followed by a slump as other areas started exploring and producing, and as institutional arrangements in Russia were insufficient to exploit the resources efficiently. Oil production did not pick up until the discoveries of oil in the Volga-Urals area and later on in Western Siberia. There has, however, been much controversy and interest tied to Soviet oil (and energy) resources, not least in strategic studies during the Cold War. In April 1977 a Central Intelligence Agency (CIA) report on the Soviet oil and energy industry concluded that the Soviet Union's output of oil would peak by the early 1980s and then decline.⁶⁵ The report identified several aspects of the Soviet oil industry that would lead to production difficulties. After what Gustafson identifies as two Soviet oil crises, Soviet oil output peaked in 1987.⁶⁶

Just as the Bolsheviks inherited an economic system that they had to adapt and build upon, so in the early 1990s the Russian Federation had to take into

⁶⁵ Goldman, *The Enigma of Soviet Petroleum: Half-empty or half-full?* George Allen & Unwin, 1980, p. 6. Hewett, *Energy Economics and Foreign Policy in the Soviet Union*. The Brookings Institute, 1984, p. 45.

⁶⁶ Gustafson, *op cit.*, p. 107.

consideration and build upon the structure that was created during 70 years of Bolshevik rule. Both before and after the CIA report, several Western analysts warned that the Soviet method of exploitation and organisation could create severe problems in the immanent future with respect to development pace – over-exploitation – and efficiency of production.⁶⁷ On the other hand Soviet specialists and party leaders themselves were acutely aware of the problems in the industry, and several analysts have commented on the debate that developed during the late 1960s, 1970s and 1980s.⁶⁸

Historic Overview.

The development of the oil industry in Russia generally falls in to three broad periods, which by and large coincide with the main areas of production.⁶⁹ The major areas of production are depicted in Figure 1.1. The relative proportion of production and importance of the different periods can be taken from Tables 1.1 and 1.2.

The Caucasus. The main oil producing area before World War II (WWII) was in present-day Azerbaijan, and in the North Caucasus.⁷⁰ Commercial production on the Apsheron Peninsula east of Baku commenced in the 1870s. At the turn of the century Russia produced about 47% of total world output of crude oil.⁷¹ This proportion of world output was soon to fall as Russian production began to trail behind other producers.

⁶⁷ See Goldman, *op cit.*, pp. 35-40 & 173-174. Campbell, *The Economics of Soviet Oil and Gas*. John Hopkins Press, 1968, pp. 15-57. Dienes & Shabad, *The Soviet Energy System: Resource Use and Policies*. V.H. Winston & Sons, 1979, p.263-267. Gustafson (1989), *op cit.*, pp. 10-21. Hewett, *op cit.*, pp. 9-15, 24-31.

⁶⁸ Fischer, 'Die Folgen jahrzehntelanger Misswirtschaft in der Erdöl- und Erdgasindustrie der ehemaligen UdSSR [The consequences of decades of mismanagement in the oil and gas industries of the Former USSR]', in *Osteuropa-Wirtschaft*, 1993, vol. 38, no. 3, p. 241. Gustafson (1989), *op cit.*, chp. 2 & 4. Mal'tsev, *et al.*, '*Neftyanaya promyshlennost' Rossii v poslevoennye gody* [The Russian oil industry in the post-war period]', VNIIOENT, 1996, Chp. 3.

⁶⁹ In addition to the here mentioned periods and areas there has been production in some of the Central Asian republics, Belarus and the Ukraine. Their proportion and importance, however, has overall been negligible and they will therefore be omitted from this overview. (See Dienes and Shabad, *op cit.*, for a more detailed account).

⁷⁰ Due to the importance of the Baku fields both to the tsarist as well as Bolshevik oil industry this area will be treated as a part of the development of Soviet oil irrespective of its present political status.

⁷¹ Ebel, *The Petroleum Industry of the Soviet Union*, American Petroleum Institute, 1961, p. 62.

Figure 1.1 – Map of Russia's oil regions.



According to Hassman tsarist legislation was short-sighted and failed to accommodate the needs of investors.⁷² A counter-productive licensing system that divided fields into small and unconnected allotments made the efficient production of oil difficult and wasteful, with the sole intention of filling the government coffers.⁷³

Although proportionately smaller by world standards, the Caucasus was to keep its pre-eminence within the Soviet Union until the 1950s. Whereas the Azerbaijan Soviet Socialist Republic (SSR) in 1940 accounted for more than 70 percent of total oil production, by 1950 this proportion had fallen to 39 percent. The declining output after 1940 has several reasons.

The war disrupted production. Although the Baku fields were not seized by German troops, the effects of the war (disrupted communications lines and Soviet instigated destruction) contributed to the decline. In addition these fields were among the oldest and longest worked in the USSR. The development of the first major offshore fields in 1951-52 contributed to renew growth in production, however, production began to fall again in the mid-1970s, as the offshore fields were unable to meet their goals.⁷⁴ As shown in Table 1.2, the proportion of Soviet oil output in Azerbaijan had by 1991 become quite small.

⁷² Hassman, *Oil in the Soviet Union: History, Geography, Problems*. Princeton University Press, 1953, pp. 22-28. This was particularly the case with foreign investors who provided more than fifty percent of capital investment in the Baku oil industry prior to WWI.

⁷³ Hassman further argues that a government take of revenues close to 40% signalled a selfish and irresponsible attitude towards the development of the oil industry, a royalty payment is one of the levies that Hassman reacts to. Given present standards a 40% government take would be seen as highly competitive, however, under the circumstances presiding at the turn of the 19th century investors could find more attractive investment opportunities elsewhere.

⁷⁴ Dienes & Shabad, *op cit.*, p 51.

Table 1.1 – Oil and Condensate production by region 1950-2000. (In million tons).

	1950	1960	1965	1970	1975	1980	1985	1987	1991	1996	2000
1) USSR	38	148	243	353	491	603	595	624	515	Na.	Na.
2) RSFSR	18	119	200	285	411	547	542	569	462	301	323
3) Europe R.*	6.6	12.8	22	44	35	38	25	27	23	55	62
4) Volga-Urals	11	104	174	208	226	192	143	126	109	82	83
5) Siberia **	0.6	1.6	3.4	34	151	317	369	416	330	205	224
6) Western Sib.	Na.	Na.	1	31	148	314	366	413	329	203	220
7) Non RSFSR	20	29	43	68	80	56	53	55	53	Na.	Na.
8) Azerbaijan	15	18	22	20	17	14	13	14	12	Na.	Na.

Source:

- 1) For data on USSR 1950-87: *Narodnoe Khozyaistvo SSSR v 1967, 1975 & 1987*; for 1991: Dienes, Istvan, Radetzki, *Energy and Economic Reform in the FSU*, p. 7.
- 2) For data on RSFSR 1950-75 *Narodnoe Khozyaistvo SSSR v 1967 & 1975*; 1980-2000: *Rossiiskii Statisticheskii Ezhegodnik 2001*, except 1987: *Narodnoe Khozyaistvo RSFSR v 1988*.
- 3-6) 1950-1970: Mal'tsev *et al.*, *op cit.* p. 8-9; 1975-2000, *Rossiiskii Statisticheskii Ezhegodnik 2001*, except 1987: Gustafson, *Crisis amid Plenty*, p.122.
- 7) 1)-2).
- 8) For data on Azerbaijan 1950-75: *Narodnoe Khozyaistvo SSSR v 1967 & 1975*; 1980: Gustafson, *op cit.*; 1985-91: *Strany Chleny SNG*.

* Excluding Volga areas.

** Incl. Sakhalin

Note: Na.: not applicable. Discrepancies due to rounding. The official Soviet sources do not include breakdowns into regions within the republics. Other sources have been used to fill in where official Soviet/Russian sources have not been available.

Table 1.2 – Oil and Condensate Production, 1950-2002 (in percent of total USSR).

	1950	1960	1965	1970	1975	1980	1987	1991	1995	2000
USSR	100	100	100	100	100	100	100	100	Na.	Na.
RSFSR	48	80	83	80	84	91	91	90	100	100
European R. *	17	9	9	12	7	6	4	4	18	19
Volga-Urals	29	70	71	59	46	32	20	21	27	26
Siberia **	1.6	1	1.4	10	31	53	67	64	68	69
Western Sib	Na.	Na.	0.4	9	30	52	66	64	68	68
Non RSFSR	52	20	17	19	16	9	8	10	Na.	Na.
Azerbaijan	39	12	9	6	4	2	2	2	Na.	Na.

Source: See tab. 1.1 (Discrepancies due to rounding). na: not applicable.

* Excluding Volga areas.

** Incl. Sakhalin

Note: The non-RSFSR column includes production in the Ukraine, Belarus and Azerbaijan. After 1991 only percentages for Russian Federation.

The Volga-Urals and Komi Republic. Oil was first struck in the Volga-Urals region east of Perm in 1929. Although Soviet geologists seemed to think that the area had great potential, exploration did not intensify until WWII caused disruption of the traditional supply sources in the Caucasus.⁷⁵ As can be seen from tables 1.1 and 1.2 the output of oil from this region grew rapidly after the war. The giant Romashkino field in the Tatar Autonomous Soviet Socialist Republic (ASSR) was discovered in 1948 and additional large reserves were discovered in the Bashkortostan. By the mid-1960s the Volga-Urals area represented 71 per cent of total Soviet oil production. In absolute terms the area did not peak until 1975.

Situated in the northern parts of the European USSR, the Komi ASSR has been producing oil since the 1930s. Production remained negligible until the discovery of larger reserves in 1960s and 1970s. The main Komi development is situated between the Pechora River and its tributary the Usa. Production in the Komi ASSR peaked at 21 million tons in 1988.⁷⁶

Western Siberia. Before the development of the petroleum resources in Western Siberia, the oil industry was in a relative advantageous proximity to the main industrial areas and consumers. With the development of Western Siberia this strategic advantage was to change rapidly. In the 1960s the European part of the Soviet Union accounted for approximately 90 per cent of national production of oil, by 1980 the Asian part of the USSR accounted for more than half of total oil and condensate production.⁷⁷ In addition to being located at a greater distance from traditional industrial areas, the climatic, geographic and infrastructure conditions in Western Siberia were quite different from the previous oil producing regions.

The first developments in Western Siberia were concentrated in the Konda River valley, but the great reserves and deposits of the region were to be found

⁷⁵ The famous Soviet geologist I.M. Gubkin was a chief proponent of the belief in oil deposits in the Volga-Urals area (Ebel, *op cit.*, p. 65).

⁷⁶ Gustafson (1989), *op cit.*, p. 22.

⁷⁷ In table 1.2 add Azerbaijan, European Russia and Volga-Ural area.

further east in the middle reaches of the Ob River valley. Developments proceeded slowly at first due to the lack of infrastructure, while climatic conditions limited the time during which construction material and resources could be shipped. The completion of a 40-inch 650 miles long pipeline in 1976 substantially improved the infrastructural drawbacks that had hampered the exploitation and accessibility of Siberian oil.

In the period 1961-1969 exploration had identified 59 oil fields in the Middle Ob region.⁷⁸ Among these was the supergiant field - Samotlor, nine giant fields and nine large fields.⁷⁹ The development of Western Siberia during the 9th Five Year Plan (FYP) concentrated on the development of Samotlor, where production increased from 10 million tons in 1970 to 86.5 million tons in 1975 before levelling off at 130-140 million tons in 1977-78. The rapid growth and importance of Western Siberian oil can be taken from tables 1.1 and 1.2. From the Middle Ob region the development of Western Siberian petroleum resources has taken two general directions; north into the Surgut and Nizhnevartovsk districts and to the south-west – into Tomsk Oblast.

Features of the Historic Development process.

Soviet oil output grew in each consecutive year after the war until 1984. The gains in production increases were at times spectacular. The growth of the Soviet economy coincided with this access to ever-larger reservoirs of petroleum resources. But, as the industry fanned out from the Caucasus, increasing demands were put on the entire economic system to process information and on bureaucratic management to undertake appropriate policies for promoting the development of region specific policies. Industry grew because of access to cheap and plentiful energy, however as both industry as a whole and the oil industry grew, the oil industry increasingly consumed and demanded an increasing proportion of industrial output. With the depletion of

⁷⁸ This paragraph is based on Dienes & Shabad, *op cit.*, pp. 56-61.

⁷⁹ Supergiant fields are defined as having more than 500 million tons of recoverable reserves, giant fields are defined as having from 100 to 500 million tons of recoverable reserves, and large fields are defined as having from 50 to 100 million tons of recoverable reserves.

easy access oil, higher demands were put on quality of supporting industries and of factor inputs. Since the early 1970s these trends were reflected in the steadily increasing production costs and the slowing down of production gains (Table 1.3).

Table 1.3 – Soviet and Russian output of oil and condensate 1960-2000 and percentage difference over previous period.

	1960	1965	1970	1975	1980	1983	1985	1987	1991	1996	2000
USSR	148	243	353	491	603.2	616.3	595.3	624.2	515	na.	na.
% difference		64.2	45.3	39	22.9	2.1	-3.4	4.9	-17.5	na.	Na.
RSFSR	119	200	285	411	547	564	542	569	462	301	323
% difference		68	42.5	44.2	33.1	3.1	-3.9	5	-18.8	-34.8	7.3

Sources: USSR: *Narodnoe Khozyaistvo* various issues, except 1991 from Dienes, Energy and Economic Reform in the FSU, p. 7; *Narodnoe Khozyaistvo* v 1967 & 1975; 1970-2000 *Rossiiskii Statisticheskii Ezhegodnik* 2000, except 1983 & 87 from Gustafson, Crisis Amid Plenty, p. 122.

Geographic shift. As the Soviet economy became increasingly reliant on its hydrocarbon resources for energy, these resources were found in ever more remote areas and in difficult climatic conditions. From Table 1.2 can be seen the rapid growth and overall contribution of the oil resources located in Western Siberia. However, even the most accessible of these resources were located far from the main consumption areas of the metropolitan areas and the industrial Urals. Distance and remoteness were contributing factors to increased cost of production.

With the shift in extracting locations the oil industry became more dispersed. Initially the industry had been located in Azerbaijan and the North Caucasus, and much of the supporting industries were located close to these reserves. As resources had to be transported from the east to the west, equipment and production inputs had to be transported in the other direction which meant increased pressure on the logistical co-ordination and administrative capabilities of the oil industry and the Soviet economy.

Increased spatial distribution is often seen as a contributing element to inefficiency and economic loss.⁸⁰ Increased spatial distribution also puts a strain on the organisation's ability to formulate a coherent and adequate development policy as the growth of production circumstances requires the development of circumstance specific strategies, i.e. the ability of an organisation to diversify its operational procedures according to the need of a specific region. This certainly was the case in the Soviet Union where the producing areas had very different characteristics.

Dienes estimates that as a result of this production cost for the oil industry in real terms rose by 9.5 percent per year during the 1980s.⁸¹ The turbo-drill, which had contributed to the development of the Volga-Urals area proved less efficient in Western Siberia where rock formation is different, and at greater drill depths.⁸² In the Siberian case water-flooding was employed right from the beginning in order to boost production figures. The development of drill-depths represents the maturation of the oil industry to the extent that shallower deposits are tapped before deeper wells (which they normally are since shallower wells are cheaper to drill). In the Soviet case average drill-depths of wells increased from 1590 meters in 1956 to 2797 meters in 1978.⁸³ At the same time there was a growing awareness in the leadership that exploratory drilling during the 1970s was not proving up sufficiently new reserves to make up for the high level of exploitation.⁸⁴ Their response, as noted above, was to increase investment – although exploration's share of total investment continued to decline⁸⁵. Another indicator as to the exploitation intensity and maturation of fields is the productivity of wells – which in the Soviet Union has been declining rapidly for new wells since the late 1970s and for old wells since the early 1980s. Furthermore, in order to offset the declining production

⁸⁰ Coase, *op cit.*, p. 397

⁸¹ Dienes *et al.*, *Energy and Economic Reform in the Former Soviet Union; Implications for Production, Consumption and Exports, and for the International Energy Markets*, St. Martin's Press, 1994, p. 71.

⁸² Gustafson (1989), *op cit.*, p. 75.

⁸³ Kelly *et al.*, *Energy Research and Development in the USSR*, Duke University Press, 1986, p. 85.

⁸⁴ Gustafson (1989), *op cit.*, p.76.

⁸⁵ *Ibid.*

in older fields new smaller fields had to be introduced. These fields were on a well to well comparison less efficient as pressure in smaller deposits is lower thus resulting in a slower flow.

Not only was there a lack of infrastructure and manpower available to the planners as they sought to develop Western Siberia, supporting industry was (and to a great extent still is) heavily concentrated in the two earlier production regions. The lack of infrastructure implied increased development cost. Manpower (operating crews) had to be flown in (mainly from the Volga-Urals region) as part of a rotating system to assist their West Siberian counterparts in extracting the oil and maintaining production facilities.⁸⁶ The location of the supporting industries led to increased logistical and communication problems, and there was an increasing awareness that the equipment produced was not up to standard and thus not sufficiently suited to tackle the new geological and climatic conditions under which they had to operate.⁸⁷ At the end of the 1980s more than two-thirds of the necessary oil and gas producing equipment was being manufactured in and around Baku. Smaller production centres were in Grozny and the Volga-Urals region, while only little of the oil industry equipment was produced in Western Siberia. In view of the changing geopolitical circumstances of the early 1990s this factor worsened.

Reservoir and reserve quality. Reserves in the Soviet Union were characterised as *active* or *hard-to-produce* depending on technical characteristics of difficulty to produce and their well-flow characteristics.⁸⁸ Active reserves are reserves that have easy flowing oil (i.e. high rock/sand permeability) and have favourable geologic characteristics, while hard-to-produce reserves have low rock permeability, high viscosity oil and less favourable deposit characteristics. As a result of the technical and geologic differences the reserves in the first category are more attractive to developers, as they will be cheaper to develop and easier to master. In developing these

⁸⁶ *Ibid.*, p. 108 & 174.

⁸⁷ Fisher, *op cit.*, pp. 241-242

⁸⁸ Dienes *et al.*, *op cit.*, p.47.

fields the Soviets followed the same pattern that other oil producing countries follow – they start with the easiest and least costly fields to develop. However, as the proportion of fields that are easy to develop declines, the necessity to either find new fields of the same characteristics and/or start developing the hard-to-recover fields increases if production levels are to be maintained. Both approaches increase the strain on administrative capabilities of the industry, require increased investments and a more diversified policy approach.

While 85 per cent of production in 1976 came from active fields, by 1991 this had declined to 56 per cent. By then the depletion rate of the active fields was 63 percent while that for hard-to-produce fields was only 22 percent. All in all, hard to recover reserves had by 1991 contributed only 6 percent of cumulative output in Russia.⁸⁹

Production practices. Another factor contributing to rising cost and rapid depletion was the very intensive way, in which the oil resources of the Volga-Urals region and Western Siberia had been exploited. In contrast to the development of the Caucasus, the Soviets had made extensive use of waterflooding in the Volga-Urals and West Siberian fields. Waterflooding is a technique that involves pumping water into the wells in order to push the oil into the well and up to the surface by pressure maintenance. According to Soviet oilmen this technique enhanced total recovery, accelerated output and reduces cost by prolonging the period of free-flow.⁹⁰ Western oilmen on the other hand claimed that total recovery was reduced and cost was increased through the greater logistical needs and use of energy to install and operate the elaborate network of pipes and pumps.⁹¹ The early use of the waterflooding recovery method will initially result in highly productive wells through pressure maintenance, but as the reservoir becomes increasingly filled with water the product will contain an increasing cut of water. It may also result in

⁸⁹ The numbers in this paragraph have been taken from Dienes *et al.*, *ibid.*, table 2.2 (p. 39) and footnote 9 (p. 221).

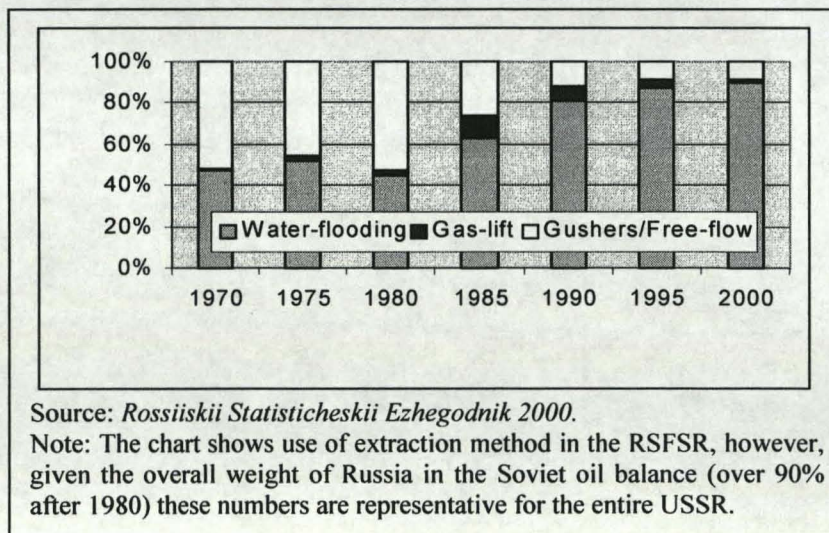
⁹⁰ Gustafson (1989), *op cit.*, pp. 114-116.

⁹¹ *Ibid.*

displacement of reserves and puts an extra strain on equipment in the form of proneness to freeze and water's effect on metal (rust).

However, both Westerners and Russians seem to be in agreement that the technique initially accelerates production. This again means that the well will peak quicker, which is what the Soviets experienced with their Volga-Urals fields in the mid-1970s and Western Siberian fields in the early 1980s. For comparison, the Soviet super-giant Samotlar initially held about 20-30% of the reservoirs of some of the largest Middle Eastern deposits, yet was forced to produce over two decades the same amount of oil.⁹² Hewett in his analysis gives the estimates that the depletion ratio in oilfields changed from 39 percent in 1961-65 to 88 percent in 1981-85.⁹³ This means that an increasingly large amount of resources has to be invested purely to replace previous production. In the Russian case the share of oil produced from free-flow wells declined from 52 percent in 1970 to 12 percent in 1990 and water-cut was 76 percent in 1990 while the Soviet average had been 50 percent in 1976.⁹⁴

Figure 1.2 – Production/extraction method proportions 1970-2000.



⁹² Dienes *et al.*, *op cit.*, p. 48.

⁹³ Depletion ratio: The proportion of additions to capacity that has to be devoted to covering output losses in existing fields. (Hewett, *op cit.*, pp.48-49). Meaning the share of addition in production capacity – output capacity – that has to be produced in order simply to cover and maintain reduction in already existing fields. A high ratio indicates that fields are in a mature and declining state, thus making total production increase relatively more costly compared to a low depletion ratio. A low ratio indicates a growing industry in which added capacity increases total production instead of covering lost production.

⁹⁴ International Energy Agency (IEA), *Energy Policies of the Russian Federation; 1995 Survey*, OECD/IEA, 1995, p. 109.

Water-cut is the proportion of water that is pumped up together with the oil. Figure 1.2 shows the balance of production methods from 1970-2000. This predatory extraction policy enabled the Soviet producers to enjoy rapid increase in output, which was their main objective, but at the same time it put greater strain on equipment and the maintenance of such high production levels. As deposits became exhausted and marginal output started to slow down, the Soviets relied on opening up new fields to compensate for the expected fall in production. Table 1.4 shows the decline in well productivity over the last 30 years.

Table 1.4 – Average well productivity Russia 1970-2000, tons per day.

	1970	1975	1980	1985	1990	1995	2000
Avg. yield	27.9	29.4	27.6	13.7	11.6	7.5	7.5

Source: Rossiiskii Statisticheskii Ezhegodnik 2000.

From the figures it should be obvious that increased production must coincide with enormous capital expenses. Efficiency gains are possible through new equipment and better production techniques and practices, but at the same time the Russians will need more wells and fields than in the past to produce the same amount of oil.

Apart from waterflooding there are several other means by which oil can be “forced” to the surface – secondary and tertiary recovery methods. From a planning point of view these methods are more uncertain than opening up new fields, especially after extensive use of waterflooding which makes the levels of increased extraction on the basis of these methods even more uncertain.

Further, such methods require huge capital investments over a prolonged period, not only in building new infrastructure but also in maintaining and upgrading equipment, which again raises the question of how well the Soviet economy was suited to such risk taking. Moreover, how willing would the planners have been to bring up the necessary resources for these investments as gas constituted a comparatively easier way of increasing energy

production? As shown in Chapter two, investment growth in oil was smaller than overall investment growth in energy during the 12th FYP.

Depreciation is the largest proportion of the extraction cost. In 1987 this alone accounted for 68 percent of all cost, while the industry's own consumption of energy amounted to 18 percent of its cost.⁹⁵ In an interview with Kuhnert in 1988 the Russian energy-specialist Kononov estimated that the extraction cost of the oil industry would continue to rise as a result of the increased need to explore increasingly remote areas and smaller deposits, under ever harsher conditions.⁹⁶ This shift towards smaller deposits and harsher conditions is one of the challenges that the Russian oil industry today has to overcome. Such a shift is natural for any extractive industry, because larger and more favourably placed deposits tend to be worked sooner than smaller and more marginal deposits.

However, Soviet structural factors, organisational, economic and political, contributed to the decline in development and exploration drilling, rising number of idle wells and reduction of new fields being brought into production.⁹⁷ According to Campbell the 'conservation issue' in Soviet field development practice was in large part influenced by considerations of a non-economic character.⁹⁸ Though Soviet practice in the 1960 tended towards wider well spacing,⁹⁹ pressure to maintain output growth and compensate for falling production in the older oil regions resulted in massive investments in development drilling throughout the 1970s and 1980s.¹⁰⁰ However, lack of

⁹⁵ Dienes *et al.*, *op cit.*, p. 127. The Soviet energy-specialist Kononov estimates this percentage to be 16 percent in 1980. (See Kuhnert, "*Die Energiepolitik Der Sowjetunion: Zwischen Planung und Muddling Through*", PhD, University of Vienna, 1989, p. 181.

⁹⁶ Kuhnert, *op cit.*, p. 181.

⁹⁷ Sagers, 'Energy Situation Update for 1992 for the Former Soviet Union', in PlanEcon, *PlanEcon Energy Outlook for the Former Soviet Republics*, PlanEcon, 1993, p. 3.

⁹⁸ Campbell, *op cit.*, pp. 45-53. The 'conservation issue' relates to the field development plans. Briefly summarised this issue relates to the intensity by which fields are worked. For instance fields can have a dense clustering of production wells that results in high annual production and quicker exhaustion, or wider spacing that resulting in slower production over a longer period. Other things being equal, total extracted amount will be the same, however, the cost of the two strategies differ, and contingency planning, i.e. exploration, differs. According to Campbell, in Soviet practice output-related considerations rather than capital-intensity considerations dominated the issue.

⁹⁹ *Ibid.*, p. 53.

¹⁰⁰ Gustafson, *op cit.*, pp. 90-95 & 118-123.

high-grade equipment, low priority of maintenance and repair, and poor industrial support resulted in poor well and infrastructural quality. Finally, Goldman argues that the Soviets would abandon fields prematurely as cost increased and production abated.¹⁰¹ A particular field is usually made up of a number of deposits of varying sizes, usually with a number of main deposits and a number of satellite (smaller) deposits. In Soviet practice the development of satellite fields was neglected in favour of moving on to new large deposits. This contributed to initial high production figures and "more secure" drilling and plan fulfilment figures. Quality of well preparation and maintenance of wells and infrastructure were factors leading to rising numbers of idle wells and rapid decline of production in the first half of the 1990s.¹⁰²

A number of large undeveloped fields are still available in Russia,¹⁰³ but increasingly production will have to come from smaller and more expensive fields. This again implies that increasingly Russian exploration efforts will also have to be concentrated in new and uncertain areas. As with the earlier shifts in geographic location, it is questionable how well the new Russian economy will be able to cope with the uncertainty factor that such exploration constitutes. The Energy Programme of 1984 had envisaged further development in Kazakhstan, the Caspian Sea and the continental shelf.¹⁰⁴ The two first options have as a result of the changed geopolitical circumstances been severely restricted. Unless Russia is willing to make greater use of economic standards of evaluating their involvement in these projects, it is unlikely that the new owners of these potential resources will invite the Russian State or Russian companies to co-develop these areas. With respect to the third option – the continental shelf – Russia is faced with a technological deficit. Having largely confined itself to onshore development Russian expertise in this field lags behind western standards.

¹⁰¹ Goldman, *op cit.*, pp. 43-48. Goldman argues that this stemmed from the incentive structure that Soviet managers and developers worked under, and the distribution of property rights with regards to capital investments and natural resources.

¹⁰² WB, *Staff Appraisal Report Russian Federation Second Oil Rehabilitation Project*, WB, 1994, p. 7.

¹⁰³ In 1994 there were 35 undeveloped large fields in Western Siberia. (*Ibid.*)

¹⁰⁴ 'Osnovnye polozheniya energeticheskoi programmy SSSR na dlitel'nyuyu perspektivu [Main position of the USSR long-term energy programme], *Ekonomicheskaya Gazeta*, vol. 12, 1984.

As one moves north, the probability of finding oil is reduced in favour of gas, which again increases the risk factor with regards to finding new sources of oil. The efforts by the Russians with regard to exploration and development in the Siberian Far East will therefore be a yardstick by which to measure changes in Russian energy and oil policy over Soviet policy. The West Siberian fields still hold vast resources, but the development of new uncertain areas will show whether the Russian oil industry is willing to take on more risk than its Soviet predecessor was. The Russians can rely on exhausting the West Siberian resources and then hope for another big find, or they can gradually develop other areas simultaneously thus possibly reducing the need for a rapid exhaustion of West Siberian resources. Crucially, this depends not only on Russian production practices, but the entire economic framework within which it operates. It would require both a change in production practices and a change of government policy towards the energy industries.

Throughout the first half of the 1990s Russian production plummeted (Table 1.3). Production in the Russian Federation in 1996 bottomed out 46.6 per cent below its Soviet peak in 1987/88. The reasons for this fall were in part financial, economic and political turmoil. Nonetheless, the depletion of traditional areas was a crucial variable as well, and the Russians will need to start developing new areas. These will primarily be the Russian Far East, the Russian Caspian Sea and the continental shelf. The exploration and development of these areas will require substantial investments and administrative flexibility. The Russian state is at the moment not in a position to finance these undertakings itself. It will therefore be reliant on Russian and international capital to finance such projects. For the Russian federal authorities this will imply a shift in the structures by which they previously exercised control and secured state revenues. In short it will require a shift from a despotic-patrimonial structure of state power to an infrastructural-bureaucratic structure of state power, without which the investment climate in Russia will remain too unattractive to attract the large-scale capital needed for such development. This shift must occur not only in form but also in substance.

Having said this however, it should be kept in mind that there remains a strong political and industry will to develop Russian oil resources *without* Western assistance and/or participation. In other words a Russian model may very well develop that accommodates this interest. Such a model does not implicitly imply a shift in state power, nor a failure to continue the development of Russian oil. What is being argued here though is that unless there is a corresponding shift in the structure of state power (and thus a change in the entire institutional matrix) the development of Russian oil will be hampered by high transaction costs that will impede both state autonomy and industry development. Ultimately this may lead to a continuation of a development path that has failed to provide widespread welfare.

Chapter 2

Energy in the Soviet Union and Russia.

'Communism is Soviet power and the electrification of the whole country!'¹⁰⁵

Lenin

'So, we produced as much oil as we needed!'.¹⁰⁶

Interviewee # 6

Production and supply of energy lies at the heart of any modern industrialised society. The preferred energy carrier or carriers vary between countries and over time, but energy is one of the defining elements of our modern industrial and post-industrial civilisation. The level of consumption in urbanised and industrial societies is such that provision of energy has become a major factor in ensuring social stability and prosperity.¹⁰⁷ Thus any regime will attach the utmost importance to the provision of energy. Such provision can take various forms, but any state will try to control or influence the energy producers to such an extent as it deems necessary in order to fulfil its political, ideological and economic goals. The Strategic Petroleum Reserve (SPR) in the USA is one example; national oil producers in the Gulf states are other examples.¹⁰⁸ In the Soviet Union the production of energy was the sole responsibility of the state. All production facilities belonged to the state and various ministries supervised the activities of the different energy carriers.

The GOELRO plan (State Program for the Electrification of Russia) of the 1920s was the first Bolshevik experiment with central planning. The importance that Lenin attached to this plan left a lasting legacy on Soviet energy policy. Speaking about electrification in grand words Lenin not only saw it as an important factor in overcoming the Soviet Union's backwardness, but also tied modernisation in with the historic scientific determinism of

¹⁰⁵ Lenin, cited in Anne Rassweiler, *The Generation of Power*, Oxford University Press, 1988, p. 3.

¹⁰⁶ On answering a question related to the investment burden of the Soviet oil and gas campaigns.

¹⁰⁷ In contrast to pre-industrialised societies the level of energy consumption is such that the average individual cannot produce the needed level of energy himself (i.e. gathering firewood, peat, etc.) without sacrificing a disproportionate amount of his time to this activity and thereby forgoing the higher standard of living that modern societies enjoy.

¹⁰⁸ The SPR was used as a price buffer for oil prices during the high oil prices of 2000. Although this was an exceptional circumstance, there seems to be at the time of writing

communism itself. Electricity, and in a wider perspective energy, would bring peasants and workers 'into the modern world of large-scale, scientific, and rational production'.¹⁰⁹ Electrification would be the basis for 'modern large-scale production' that would serve as the foundation upon which to reconstruct Soviet man.¹¹⁰ Energy was therefore not only the means by which the economy would grow, but ultimately the means by which communism would be constructed. This political legacy of the first planning attempt has been reflected in the evolution of Soviet energy policy ever since. The last long-term energy strategy of the USSR draws an important link between the political legacy of the GOELRO plan and its own recommendation for future energy policy.¹¹¹ In the Soviet Union the provision of energy was therefore ideologically and politically, as well as economically, tied in with the development of socialism and progress towards communism.¹¹²

Electrification and dependence on electricity is an irreversible step in the evolution of economies that potentially can have great centripetal effects, i.e. it binds together the various parts of the economy in greater mutual interdependence. The initial cost of this transformation is such that no individual or group can initiate and accomplish it on their own. In having realised the process an economy is (in the initial stage) irreversibly tied together and dependent on a central authority to oversee the efficient distribution of energy.¹¹³ This authority was until the 1980s predominantly state run or controlled. However during the past 10-15 years various forms of decentralised energy supply have emerged in several industrialised countries.

(winter 2001) a consensus in the US Senate to amend the current energy legislation to make the SPR a permanent tool of influencing prices on oil. (*OGJ*) Dec. 10, 2001, pp.31-36.

¹⁰⁹ Rassweiler, *op cit.*, p. 29.

¹¹⁰ Lenin, cited in Rassweiler, *ibid.*, p. 14.

¹¹¹ *Ekonomicheskaya Gazeta*, *op cit.* The development of the program was started in the late 1970s under Brezhnev, however, the debate about proper development and a series of deaths and ill-health of 3 general secretaries delayed the plan.

¹¹² Diskin argues that from the 1960 onwards an ideological shift occurred that increasingly emphasised 'growth of individual well-being, socialist legality, private initiative and responsibility'. (Diskin, 'Economic System of Russia: Problems of Institutional Genesis', *Social Sciences*, 1999, vol. 30, no. 2, p. 34).

¹¹³ As economies mature and the initial set-up cost has been recuperated a decentralisation of energy supplies is often believed to be efficiency enhancing and to have energy conservatory effects.

Decentralisation is often seen as an efficiency measure when an industry has reached a natural state of declining marginal returns and rising marginal costs. The increased competition that decentralisation is thought to bring about is to ensure that rising cost of production cannot be indiscriminately transferred to the end-consumer, thereby encouraging cost-saving measures – i.e. restructuring and innovation. Traditional primary energy resources (peat, coal, oil and gas) are finite resources. Eventually efficiency gains in production can no longer be achieved by additional investment, and hence the need for government operative control diminishes in favour of a more diverse operative structure. Cost saving measures such as reorganisation and restructuring are likely to improve the return on capital – a process which in Western Europe has been accompanied by a transfer of control to the private sector and a greater emphasis on shareholder-returns as a measure of operating success. However, the public sector in these cases seeks to maintain control of the industries through regulation and taxation.

Based on the Soviet experience, increased investment in the energy industries once these reached a certain level of diminishing returns on investment had an outright detrimental effect on the economy as a whole. If the authorities in charge of administering these industries are not able or prepared to reform them the result may very well have destabilising effects, i.e. economic slowdown or contraction.

The provision of energy is however, not only an economic matter. Some will see it as a public good and as such should be part of the public sector. Furthermore, some may see energy as such a crucial element of a modern society that it disproportionately affects the wellbeing of a society, i.e. political considerations (the centralising effects mentioned) and power distribution. Issues such as sovereignty and national security are issues that often influence energy debates.

The latter issue raises a point of concern in that authorities seeking to exploit the centralising (and hence power enhancing and legitimising) benefits of controlling energy in order to maintain or to create a basis for autonomy

and/or sovereignty, may themselves be the product of centrifugal forces. Examples in the Former Soviet Union (FSU) are Azerbaijan and Kazakhstan, and within the Russian Federation: Chechnya, Bashkortostan, and Tatarstan.¹¹⁴

Therefore in addition to the destabilising effects stemming from the capital drain as a result of "over-investment", a mature centralised energy industry in countries or regions aspiring to some form of higher autonomy is another long-term destabilising factor. This is because political and ideological considerations will be more emphasised than economic considerations thus either prolonging the capital drain and/or may result in non-investment due to unclear ownership titles and authority structure.¹¹⁵ Both results can have the same long-term effects, a contracting economy that is insufficiently equipped to provide its citizens with economic security and an acceptable standard of living.

Energy policy is therefore not only about the basis upon which energy provision should take place, but also about the management of an industry that constitutes the basis for several aspects of a modern society. The energy policy of any country should be long-term and flexible. It should be developed to take into consideration a sound and long-term development of energy and the environment as against short-term budgetary considerations and should incorporate strategies for the times when return on investment is diminishing.

From a political point of view, a long-term energy development plan stresses the common good that natural resources should be. A good that belongs to more than one generation, rather than immediate maximum benefits that only leave behind environmental devastation and reduces the economic options in following periods. Such strategies should ideally make provisions for the time

¹¹⁴ Other examples outside the FSU are Scotland, where the Scottish National Party (SNP) sees the control of the North Sea petroleum reserves as a medium for securing independence. The energy issue has also been a component in the East Timor independence struggle.

¹¹⁵ Arguments like protecting the national inheritance, protecting autonomy, independence and sovereignty on the part of both "seceding" and "remaining" parties.

when these non-renewable resources have become exhausted, and defer such times by enabling a shift from a Marx-pattern of growth to a Kuznets-pattern of growth.¹¹⁶ Growth in the former model stems from increased input of labour and capital, with a declining return on either input.¹¹⁷ The latter model of growth sees growth also resulting from increased technological innovation that leads to productivity gains.¹¹⁸

Energy Policy in the Soviet Union.

During its last decades the Soviet Union established itself as one of the leading energy producers and consumers in the world. Having had access to a plentiful raw-material base, energy became one of the driving inputs in the Soviet industrialisation drive. The main energy carrier in the energy balance went through several shifts in the post-war period, first from coal to oil and then to gas (Figure 2.1). From having been the world's leading producer of oil at the end of the 19th century, the importance of oil in the Soviet energy

¹¹⁶ '[T]he distinctive feature of modern economic growth is the frequent combination of high rates of growth of the total population and of per capita product, implying even higher rates of growth of total product...a rise in per capita product usually means an even larger rise in product per unit of labour input. [Growth under these conditions] are usually only possible through major innovations [p. 14]. Continuous technological progress and, underlying it, a series of new scientific discoveries are the necessary conditions for the high rate of modern growth in per capita income, combined with a substantial rate of growth in population [p. 29]'. Simon Kuznets, *Six Lectures on Economic Growth*, The Free Press of Glencoe, 1959. (The terminology of Marx and Kuznets pattern of growth is used in accordance with standard practice. It should be kept in mind, however, that Marx envisaged that ending alienation would increase productivity, ultimately creating an economic system more efficient than the capitalist system and capable of creating the material basis for an affluent communist society).

¹¹⁷ In the Marxist model growth in each historic epoch is finite and competition intensifies class antagonism. (Marx, '*Aufhebung der kapitalistischen Produktionsweise innerhalb der kapitalistischen Produktionsweise selbst* [The demise of the capitalist system of production within the capitalist system of production itself]', in Hirsch *et al* (ed.), *Karl Marx/Friedrich Engels – Staatstheorie: Materialien zur Rekonstruktion der Marxistischen Staatstheorie* [Karl Marx/Friedrich Engels – State Theory: Text for the Reconstruction of Marxists State Theory], Ullstein Buch, 1974, pp. 477-492). As the antagonistic relationship between the proletariat and capitalist class grows the proletariat will become increasingly violent. (Engels, '*Gewalt und Produktion* [Violence and production]', in Hirsch *et al* (ed.), *op cit.*, pp. 492-509).

¹¹⁸ Hayami argues that early phases of industrialisation in both the Britain and the USA are characterised by a Marx pattern of growth (growth through capital accumulation), while continued growth in the following mature industrial phase was characterised by a shift to a Kuznets pattern of growth (increased factor productivity). However, in the USSR a period of increased factor productivity did not follow the initial industrialising period with capital accumulation and high rates of growth. Hayami further argues that such a shift was fundamental in ensuring the continued growth of these economies *vis-à-vis* the USSR. Yujiro Hayami, *Development Economics: From the Poverty to the Wealth of Nations*. Oxford University Press Inc., 1997, pp. 128-129.

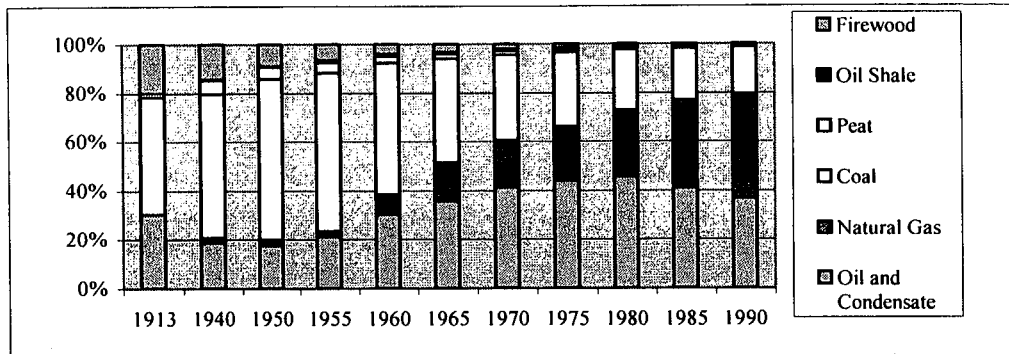
balance declined in the first half of the 20th century and did not pick up until the 1950s. Several factors have been regarded as contributing to this trend.

The Soviets faced a severe locational imbalance in their energy resources. The main producing areas – the central region, the Northwest region and the Volga-Urals region – were (or were believed to) be lacking in sufficient high-calorific resources. From a planning point of view the reliance on solid fuels – peat, shale and coal (lignite) – was therefore the rational choice. The great distances that alternative fuels would have had to be transported would have added to the cost of production.

Campbell argues that this initial de-emphasis on liquid fuels in the energy balance was a result of unawareness of the plentiful resources available and a systemic reluctance to explore the vast Eurasian landmass that the Soviet Union spanned.¹¹⁹ Systemic factors will be examined in more detail in Chapters 4 and 5. Suffice here to say that for an expanding economy experiencing resource pressure, there will always be a trade-off between allocating resources to productive use and allocating resources to innovation and development. In the case of energy resources there is also a trade-off between producing what is already present or known resources and what can (or cannot) be found. The Soviet administered system favoured production above innovation and exploration. With its emphasis on achieved levels of production the Soviet economy was averse to investment-risks. The initial unawareness of their resource situation and reluctance to develop new areas should therefore be regarded as a consequence of systemic factors and institutions.

¹¹⁹ Campbell, *op cit.*, pp. 10-13.

Figure 2.1 – Primary energy production in the Soviet Union 1913-90, in percentages of million tons of conventional fuel.



Source: Data 1913-1975: Goskomstat 1975, *Narodnoe Khozyaistvo SSSR v 1975*, data 1980-90: Goskomstat 1990, *Narodnoe Khozyaistvo SSSR v 1990*.

Note: Data for firewood is based on the official statistics. Campbell estimates that the use of firewood may be as much as twice the official statistics due to private consumption.

The development of primary energy production can be seen from Figure 2.1. The organisational structure and economic institutions of the Soviet economy aggravated this risk avers nature of its actors. Although organised in hierarchical chains of command and with a heavy reliance on bureaucratic organisation, as the Soviet organisation and economy grew it failed to capitalise on the potential benefits associated with a standardised and administered system.¹²⁰

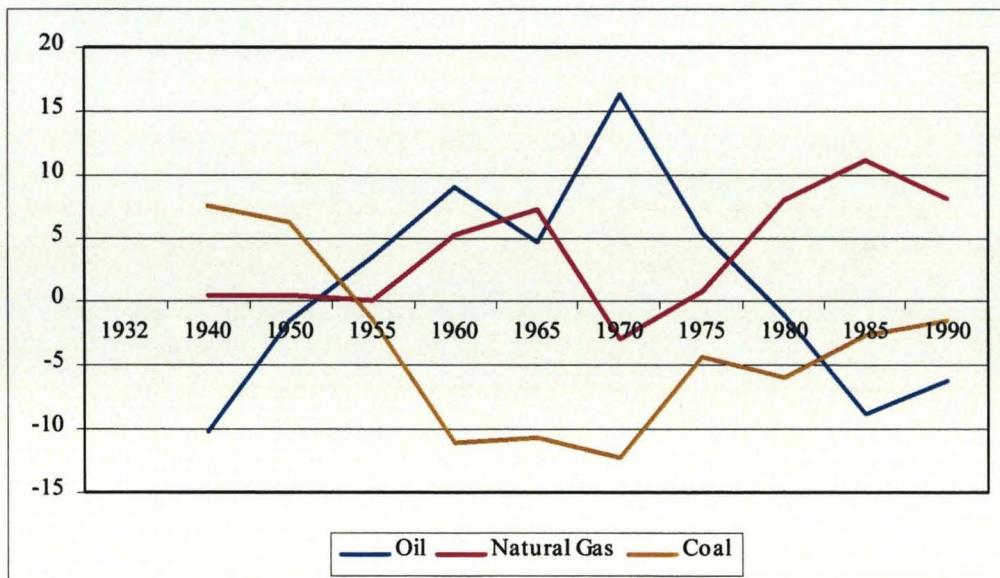
Hydrocarbon fuels have a higher energy content than solid fuels, and are therefore more productive. However, it is questionable whether this was the main reason behind the shift towards hydrocarbon based fuels. Campbell argues that Soviet energy planning and fuel-cost-utilisation programming was still very basic in the 1960's.¹²¹ The organisational structure of the Soviet energy sector underscores this point in that it lacked an organisation that dealt with energy planning exclusively and on an inter-fuel basis. Instead each energy carrier was organised in its own ministry with its own vertical structure of command and horizontal integration of operative units.

¹²⁰ According to Barzel 'Standards [] are public goods, and states often take part in producing them. In turn, as these are enhanced, contract trade and, with it, the scope of the state tend to increase'. (Barzel, *op cit.*, p. 270).

¹²¹ *Ibid.*, pp. 20-22.

According to Nove there occurred a shift in Soviet economic thinking after the death of Stalin.¹²² Greater emphasis was placed on measurements that resembled opportunity cost considerations. However, the basis for a true opportunity cost based planned economy was still missing in that cost indicators did not reflect the full cost of production, which again meant that even if prices had been constructed on a cost basis, they would not have been very good comparative measures. In actual fact, the major shifts in the energy balance occurred when the output from one energy source could no longer be increased at the same pace as before. The cost aspect was subjugated to the planning aspect. Coal's marginal contribution to total primary energy growth had already declined for several years before it was overtaken by oil in the mid-1950s. The shift to gas in the early 1980s was more timely, occurring as oil output began to slow drastically. Figure 2.2 illustrates the percentage growth in the energy balance of the three main carriers. Instead of favouring a balanced approach, selective attention and deficiencies of the incentive structure associated with plan fulfilment and Soviet administrative planning resulted in an over-development of a single carrier at a time.

Figure 2.2 – Energy balance: Growth in oil, gas and coal. (In per cent over previous period).



Source: Calculated from various issues of *Narodnoe Khozyaistvo SSSR* (see Figure 2.1).

Note: Growth was also a function of investment (party and bureaucratic attention). However, the graph illustrates the unbalanced development of energy carriers.

¹²² Nove, *op cit.*, p. 175.

The oil industry enjoyed massive investment boosts in two consecutive FYP (1976-1985) although its incremental contribution flattened and then declined from the early 1970s. Inter-fuel planning was largely reactive rather than proactive – reacting to circumstances rather than effectively influencing and determining circumstances. As such it was a function of planning dynamics, which led to a development imbalance and low efficiency. Its reactive nature contributed to wasting the bridging effects that could have been obtained if planning information had been more accurate and less politicised.¹²³

From the discussions on energy policy taking place throughout the latter half of the 20th century one can not help but feel that political and systemic considerations played a more important role in defining investment needs. Mal'tsev *et al* describes the euphoria that the Siberian oil reserves caused in party and industry leadership and how unrealistic development expectations connected with political ambitions came to dominate the extraction of the Siberian wealth.¹²⁴ The shifts occurring in the energy mix must be attributed more to systemic factors than to economic considerations.

Energy Intensity and Consumption Considerations.

The Soviet system did not favour a balanced development of the energy mix. The long-term approach advocated by Prime Minister Kosygin in 1976, which emphasised coal and nuclear power due to the costliness and value of oil and gas, was discarded in 1977 in favour of Brezhnev's crash campaigns on oil and gas.¹²⁵ The issue again demonstrates the pre-eminence of politics over economics. At the highest level there was an awareness of the energy situation, but political considerations demanded measures that had negative long-term effects. The crash program did manage to save the oil output targets for the 10th FYP, but only at the expense of massive capital investments in

¹²³ These themes will be developed further below and in Chapter 4.

¹²⁴ Mal'tsev *et al*, *op cit.*, pp. 114-115 & 121-122. Mal'tsev was USSR minister for the oil industry 1977-85. They further argue that the Siberian wealth reduced the need and pressure for innovation and technological progress amongst the leadership and thus was an important factor in the economic stagnation that later developed.

¹²⁵ Gustafson (1989), *op cit.*, pp. 22-35.

Tyumen, which further put a strain on the production/reserve ratio and on the infrastructure. The long-term approach would have reduced the immediate production potential of the Soviet Union due to lower overall energy production, a non-option from a political point of view.

The U.S. Office of Technology Assessment (OTA) calculated that during the years from 1965 to 1975 the Soviet Union had a unitary income elasticity of energy demand, but that this relationship worsened in the following FYP¹²⁶. Both the energy-program from 1984 to 2000 and the 12th FYP under Gorbachev planned to reduce energy intensity.¹²⁷ Western and Soviet estimates differ as to the development of energy intensity, Gustafson reports rising energy intensity since the 1960s', while Makarov (cited in Kuhnert) reports declining energy intensity until early 1980s'.¹²⁸ The relationship between production and energy consumption is illustrated in Figure 2.3.

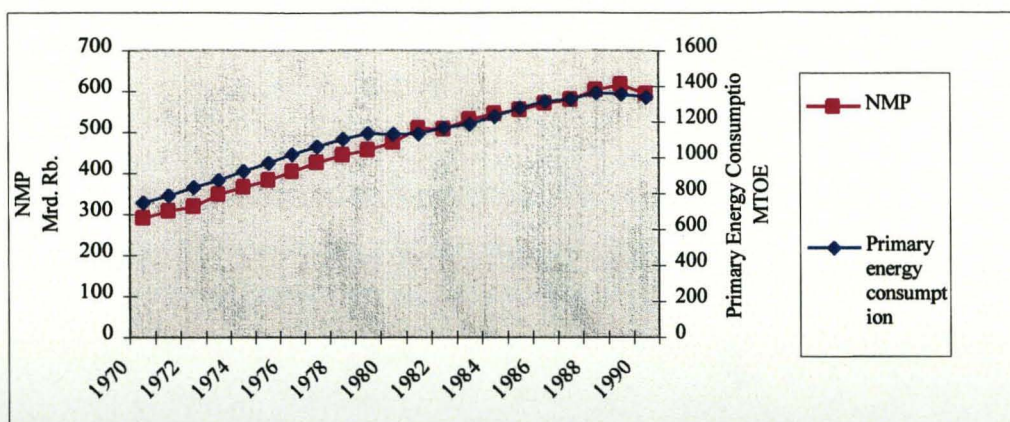
This raises the question how successful the Soviets were at capitalising on the energy bridges that they have used twice in the last century. Both the shift to oil and later to gas could have given the Soviet economy a breathing period that could have enabled them to reform their economy and make it more efficient, i.e. a shift to a Kuznets pattern of growth. The reactive rather than proactive nature of the energy shifts failed to achieve the desired bridging effect.

¹²⁶ U.S. Office of Technology Assessment (OTA), *Technology and Soviet Energy Availability*, Congress of the United States, 1981, p. 267. Unitary elasticity means that a 1 percent increase in GDP corresponds with a 1 percent increase in energy demand.

¹²⁷ *Ekonomicheskaya Gazeta*, *op cit.* Ryzhkov, *O gosudarstvennom plane ekonomicheskovo i sotsial'novo razvitiya SSSR na 1986-1990 gody* [On the state plan for economic and social development of the USSR 1986-1990], *Pravda* 19.7.1986.

¹²⁸ Gustafson (1989), *op cit.*, p. 230. Kuhnert, *op cit.*, p. 101. However, in a different source Makarov acknowledges that the abundance of cheap energy resources had led to a general decline in the energy conserving tendencies of the economy. (Melentev & Makarov, *Energeticheskii kompleks SSSR* [The energy complex of the USSR], Moskva Ekonomika, 1983, p. 50).

Figure 2.3 – USSR Net material product and primary energy consumption 1970-1990.



Source: For NMP: *National Accounts and Statistics: Main aggregates and detailed tables 1980, 1983 & 1990*, United Nations; for primary energy consumption: *BP Statistical Review of World Energy 1989 & 1992*, The British Petroleum Company.

Note: NMP is calculated in constant 1960 prices, based on the official reports. There are different estimates of production growth in the USSR. The chart is intended to show the close relationship between production and energy consumption. Primary energy consumption is calculated in million tons of oil equivalents (MTOE) and does not include the use of wood, peat and animal waste. Although these sources were important early in the 20th century for the period covered in the chart their proportion had become quite small (see Figure 2.1.). See also footnote 129 on NMP calculations.

If these shifts had occurred before the decline of the dominant carrier the shift would indeed have given the planners an opportunity to switch without a corresponding production decline. Apart from the political pressure to keep the economy growing there were systemic features that aggravated this lack of inter-fuel planning. After the OPEC oil shock in 1973 Western economies were restructured to become less energy intensive and in the following years GDP per unit of energy consumption has increased substantially. In the Soviet Union, however, the relationship between production and energy changed only little.¹²⁹

¹²⁹ (All references in primary energy consumption as defined in chart 2.1). If one uses the official estimates of Net Material Product 2.51 MTOE was consumed per 1 Mrd. Rouble of NMP in 1973, this relationship was 2.26 in 1990, which is an improvement of 11%. (Calculated from figure 2.3). Regressing primary energy consumption on NMP (1970-90) gives a correlation of .991 ($R^2 = .98$). The model fit shows the close relationship between primary energy consumption and NMP in this period. Using the CIA estimates of GDP Gustafson estimates that this energy intensity was increasing. 0.71 tons of coal equivalent produced \$1000 of GDP in 1970, while the relationship was 0.83 in 1987. (Gustafson (1989), *op cit.*, p. 230). For comparison: One MTOE in Germany in 1973 produced 2876 Million DM of GDP, by 1988 this had improved by 32 % to 3793 Million DM (constant prices 1970); one MTOE in Norway in 1973 produced 3255 Million NOK, by 1988 this had improved by almost 60% to 5188 Million NOK (constant prices 1970); one MTOE in the USA in 1973 produced 0.86 Thousand Million Dollars GDP, by 1988 this had improved by almost 40% to 1.2 Thousand Million Dollars (constant prices 1975). Sources see figure 2.3.

To some extent it is clear that although there are varying opinions about Soviet industrial achievements, the Soviet economy was expanding for most of its history. The decline that set in during the late Brezhnev period would probably have been worse if these shifts had not occurred. From this perspective, the shifts did have a positive effect on the Soviet pattern of growth. On the other hand, the shifts were not used to stabilise production of industry and energy, nor to make production more efficient.

Although the two are inter-connected, if the Soviet economy had been less wasteful and the Soviet leadership could have accepted a different economic strategy (i.e. less emphasis on energy intensive industries, slower growth), the shifts could have served as bridges to make the economy more efficient.¹³⁰ This did not happen in large part due to systemic and institutional reasons. Energy intensity remained high, and increased energy production through increased investment remained policy. The system was designed to operate as an efficient political system not an economic system.¹³¹ Thus the Soviets have squandered these "natural" opportunities – twice – and are now leaving it to the Russians to manage a restructuring without the short-term shift benefit potential.

¹³⁰ Speaking of slower growth becomes somewhat pointless exercise considering that Soviet growth had slowed to a trickle by the late Brezhnev period and declined in the 1980s. There has remained much discussion around Soviet growth statistics. For a discussion on alternative Soviet growth statistics see for instance Harrison. (Harrison, 'Soviet Economic Growth Since 1928: The Alternative Statistics of G.I. Khanin', *Europe-Asia Studies*, 1993, vol. 45, no. 1, pp. 141-167). According to Aganbegian the Soviet economy stagnated between 1981-85. (Aganbegian, *The Challenge: Economics of Perestroika*, Hutchinson Education, 1988, p. 3).

¹³¹ In evaluating Soviet efficiency one should take care not to put too much emphasis on economic measures of efficiency. There is an argument to be made for that the Soviet economy primarily served political ends rather than economic ends. Thus efficiency must be seen as the economy's ability to fulfil political ends. In the SU achieving levels of production was not only economically important, but also politically. A politically ambitious individual was reliant on the functioning of industries under his jurisdiction, efficient thus became what fulfilled the main objectives of the plan rather than other measures. From the leadership point of view, efficient became that which increased its self-perceived prestige, and that which seemed to fulfil its political promises.

The Burden of Energy.

The question then arises, to what extent did economic considerations contribute to the shifts and to what extent were they the result of "systemic selection", meaning that they occurred because they fulfilled systemic or political considerations rather than economic considerations. If economics had been the motivation behind the shifts, could we not have expected to see an improvement in efficiency in the production of each carrier following the successive shifts? Could we not have expected to see a greater emphasis on energy conservation?

The Alexandrov Commission was established in 1979 to develop a Long Term Energy Program. Although its recommendations envisaged a more balanced development of energy resources the Energy Programme itself and the surrounding debate illustrate the conflicts at hand in policy development (long-term vs. short-term) and the burden of energy provision.¹³²

The Energy Programme stressed the need for a balanced development of energy resources, with greater emphasis on a coal-nuclear energy strategy. It acknowledged the increasing cost of hydrocarbon resources – especially oil. It recommended that the overall share of oil in the energy balance should be reduced, particularly by reducing oil in heating stations and power generation. This was to be achieved by employing gas as a bridge, and then gradually increase the proportion of coal and nuclear energy in the overall balance.¹³³ However, it also recommended increased extraction of oil from Western Siberia and greater exploration efforts in new prospective areas – especially Kazakhstan and the continental shelf. Significantly it also stressed the need for energy conservation, reduction in the use of liquid fuels and greater energy efficiency of production.

¹³² *Ekonomicheskaya Gazeta, op cit.* All references to the 'Energy Programme' in the following paragraphs refer to this publication unless otherwise stated.

¹³³ According to Soviet specialists at the time, the acceleration of nuclear energy and coal were first in importance with respect to the reorganisation of the energy industries. However, the emphasis of developing a gas bridge made them secondary in terms of acceleration. (Melentev & Makarov, *op cit.*, p. 6).

The Energy Programme was to be implemented in two stages. The first stage (until 1990) was to be one of preparation for more vigorous conservation in the second phase. Crucially a gas and nuclear bridge would ensure that energy provision would not become a bottleneck for industrial growth in the initial stage, as measurements of energy consumption would be improved, improved coal quality, replacement of obsolete and inefficient equipment, and displacement of oil with gas. The second stage (1990-2000) would be a further modernisation of the technological processes by which energy was extracted, greater use of coal in the energy balance, further electrification of industry and reallocation of energy intensive industry. In order to realise these strategies the Energy Programme estimated that about 20-22 percent of the total investment budget would have to be allocated to the energy industries.

Crucially the Energy Program illustrated the twofold burden that energy provision had become. Firstly, the link between energy and industrial growth was acknowledged in the fact that total energy growth was to be maintained so that industrial growth would not be adversely affected by the changes. Secondly, that the marginal cost of energy provision was rising steeply. Relating this to the earlier discussion of measures of success, it was now clear that energy had become both a political burden and an economic burden. The massive investments that were allocated to energy cannot have gone down well with managers and leaders of other industrial or economic sectors. Similarly, the investments needed constituted a great drain on the economy's economic potential and development options. Faced with these two problems, the Politburo leaders, for all their good intentions, were inadvertently restricted in their alternatives by the need to conform first and foremost to political aspirations.¹³⁴

The actual investment figures over the last 20 years of the Soviet Union's existence illustrate this dilemma. The Energy Programme was confirmed and

¹³⁴ With respect to economic criteria as standards of evaluation of the Soviet economy's performance Nove argues that '[o]ne might even say that it is a typical 'deformation professionnelle' of economists to concentrate on "economic" categories like prices and calculations of rate of return rather than other and probably more significant matters'. Nove, *op cit.*, p. 155.

reflected in the Five Year Plan (FYP) of 1986-1990.¹³⁵ In 1980 the energy sector consumed 50 percent (incl. transmission and exploration) of investment in industry and 5.5 percent of the workforce¹³⁶. Table 2.1 shows various Soviet investment figures for the period 1975-1985. Both in the 10th and 11th FYP investments in the oil industry consumed approximately 60 per cent of the increase in energy investment. While energy in the 11th FYP consumed 68 per cent of the total increase in industrial investment. Over the 15 year planning period 1970-85 oil industry investment as a share of total energy investment increased from 32 to 46.4 per cent. Energy's share of industry investment increased from 28.6 to 36 per cent.

Table 2.1 – Capital Investment in the Soviet Union 1970-1985.

	1971-75	1976-80	+/- Growth	1981-85	+/- Growth
Total Investment	562.8	717.7	154.9	843.2	125.5
Industry	196	251.4	55.4	300.7	49.3
Energy	56	74.9	18.9	108.4	33.5
Oil	17.9	29.3	11.4	50.3	21
Industry of Total %	34.8	35.0	35.8	35.7	39.3
Energy of Industry %	28.6	29.8	34.1	36.0	68.0
Oil of Industry %	9.1	11.7	20.6	16.7	42.6
Oil of Energy %	32.0	39.1	60.3	46.4	62.7

Source: *Nar. Khoz. V* 1985.

Note: In comparative prices 1.1.1984. First part shows capital investment in billion roubles. Second part shows various industry investment percentages and growth as a share of various industry investment growths. Later issues of this series do not contain separate entries for the oil industry.

In the first 4 years of the 12th FYP these relationships remained relatively constant despite Gorbachev's commitment to energy conservation. The first 4 years of the 12th FYP are shown in Table 2.2. In fact in order to combat the decline in oil and energy production that had taken place in 1983-84 a massive drilling and investment campaign was initiated to increase energy production while industry was supposed to be restructured and became more efficient.

¹³⁵ 'Osnovnye napravleniya ekonomicheskovo i sotsial'novo razvitiya SSSR na 1986-1990 gody i na period do 2000 goda [Main direction of economic and social development of the USSR 1986-1990 and in the period until 2000]', *Pravda*, 9. Nov. 1985.

¹³⁶ Taking into account manpower and capital requirements in supporting industries these numbers amount to 80 % and 13-15%. (Gustafson (1989), *op cit.*, p. 37).

Table 2.2 – Capital Investment in the Soviet Union 1986-89.

	1985	1986	+/-	1987	+/-	1988	+/-	1989	+/-	Sum	+/-
			Gth		Gth		Gth		Gth	86-89	Gth
Total Investment	179.5	194.5	15	205.5	11	218.2	12.7	228.4	10.2	846.6	3.4
Industry	65.5	71	5.5	75	4	79.5	4.5	85.7	6.2	311.2	10.5
Energy	25.5	27.5	2	30.3	2.8	31.9	1.6	34.9	3	124.6	16.2
Oil	11.4	12.6	1.2	14.2	1.6	14.6	0.4	15.3	0.7	56.7	6.4
Industry of Total	36.5	36.5	36.7	36.5	36.4	36.4	35.4	37.5	60.8	36.8	308.8
Energy of Industry	38.9	38.7	36.4	40.4	70.0	40.1	35.6	40.7	48.4	40.0	154.3
Oil of Industry	17.4	17.7	21.8	18.9	40.0	18.4	8.9	17.9	11.3	18.2	61.0
Oil of Energy	44.7	45.8	60.0	46.9	57.1	45.8	25.0	43.8	23.3	45.5	39.5

Source: *Stran Chlenov SEV v 1990*.

Note: In comparative prices 1.1.1984. First part shows capital investment in billion roubles. Second part shows various industry investment percentages and growth as a share of various industry investment growths. Later issues of this series do not contain separate entries for the oil industry.

During these years oil as a share of energy investment abated somewhat, but energy as a share of industry increased to 40 per cent. In fact increased investment in energy exceeded the total industry investment increase. The reasons for this escalation of energy investment was partly due to the leaderships commitment to growth (the energy inelasticity of industrial production), and rapidly increasing production costs in the energy industries. According to Considine & Kerr 'by the mid-1980s, Gosplan had effectively planned its way into a quagmire, a vicious cycle of rising targets and expenditure, from which there was no escape. First and foremost was the absolute requirement for increased energy supplies. The alternative, constant or falling domestic supplies, would have resulted in the unthinkable – a domestic energy shortage (lower exports and/or increased imports of energy) – which in turn would have threatened government revenues and the fulfilment of annual targets in industries throughout the USSR'.¹³⁷ In the end an effort to maintain domestic production prevailed, between 1988 and 1992 exports fell by 55 per cent thus exceeding the decline in production.¹³⁸

The recovery in oil production in the mid-1980s had placed unsustainable expectations on government revenues.¹³⁹ Coupled with tentative industry

¹³⁷ Considine & Kerr, *The Russian Oil Economy*, Edward Elgar, 2002, p. 200.

¹³⁸ Vibe Christensen, *The Russian Federation in Transition: External Developments*, IMF Occasional Paper, 1994, p. 18.

¹³⁹ Considine & Kerr, *op cit.*, p. 199.

restructuring and lower oil prices in the mid-1980s the government's investment ability subsided in the last year of the 12th FYP. Declining oil production then further aggravated state finances by reducing state exports. 'Increasing macroeconomic imbalances and structural problems during the second half of the 1980s [] left the U.S.S.R with a rising external debt'.¹⁴⁰ Oil export earnings dropped from \$27.1 billion in 1990 to \$11.8 billion in 1991,¹⁴¹ thereby reducing foreign exchange reserves and the ability of the state to finance balance of payments with the proceeds from exports. This again led to reduction of imports and a shortage of essential inputs for the oil industry.¹⁴² Supply disruptions and lacking investment funds again aggravated this situation. In 1991 only 60-70 per cent of planned supplies were received.¹⁴³ After 1987 the growth rate in oil industry investment declined and was negative for 1990. This is illustrated in Table 2.3. In 1991 capital expenditure in the oil industry was only 50 per cent of the planned level.¹⁴⁴ Growing regional resistance to further oil development and price liberalisation of oil industry inputs (but not outputs) further impeded development.¹⁴⁵

Table 2.3 – Investment Growth in the Soviet Union 1976-1990.

	1976-80	1981-85	1986-90	1986	1987	1988	1989	1990
Total Investment	3.3	3.5	6.2	8.4	5.6	6.2	4.7	0.6
Industry	3.4	4.2	7	8.4	5.7	5.9	7.8	-7.9
Oil	12.2	8.8	8.2	10.6	14.4	3.5	4.5	-13.7

Source: IMF, *Economic Review: The Economy of the Former U.S.S.R. in 1991*, IMF, 1992, p. 52.

Note: Average annual growth rates in comparable prices.

Despite increased overall energy investment, the investment level did not reach the level recommended in the Energy Programme to achieve its implementation. Oil extraction, where investment increase was curtailed compared to overall growth in energy investment, failed to reach its target. In the final draft of the 12th FYP oil extraction was set to grow to 635 million tons by 1990.¹⁴⁶

¹⁴⁰ Vibe Christensen, *op cit.*, p. 10.

¹⁴¹ *Ibid.*, p. 11. Based on transactions outside the FSU.

¹⁴² *Ibid.*, p. 12.

¹⁴³ IMF, *Economic Review: The Economy of the Former U.S.S.R. in 1991*, IMF, 1992, p. 5.

¹⁴⁴ *Ibid.*

¹⁴⁵ *Ibid.*

¹⁴⁶ Ryzhkov, *op cit.*

However, oil production peaked in 1987/88 and by 1990 only reached 571 tons. Neither did any of the other carriers reach their planned level, with coal and gas respectively ending some 92 million tons and 35 billion cubic meters short of the plan.¹⁴⁷

The Energy Programme was dealt another blow by the Chernobyl disaster of April 1986. The program, which had relied heavily on a gas-nuclear bridge for the first phase, was now in tatters and with it any plans to switch to a more energy efficient mode of production. Although Soviet leaders at the time emphasised the human error that had led to the catastrophe and argued that nuclear power was still a safe source of energy,¹⁴⁸ the construction of new nuclear power stations ceased.¹⁴⁹ However, the 12th FYP, which was presented after the accident occurred, still planned an increase in nuclear electricity capacity of 233 percent and a growing share of nuclear power in the energy balance.¹⁵⁰

The investment figures illustrate the burden of energy to the Soviet economy in both respects. Awareness of the growing cost of energy is clearly demonstrated by the investment provisions, but likewise the political considerations behind them. Surfacing with the controversy over policy choice between Brezhnev and Kosygin it is clear that the voices of moderation and balance were present in the Soviet Union before the eventual collapse and before the situation became critical.

¹⁴⁷ A note on investment and construction: despite the massive investment cited here, the speed with which such investment contributed to real value creation was a factor leading to low efficiency of investment. Several analysts comment on the slow development of construction exceeding both the official norm and Western construction time. However, unfinished construction was still being counted as value creation, thus enabling construction crews to reach their targets even though construction was not finished. Nove, *op cit.*, p. 155-6. Schroeder, *The Soviet Economy on a Treadmill of Perestroika*, in Dallin & Lapidus, *The Soviet System in Crisis*, Westview Press, 1991, p. 376-382. Schroeder further argues that the backlog of unfinished construction reached its highest post-war level during Gorbachev's first five years – 1985-89.

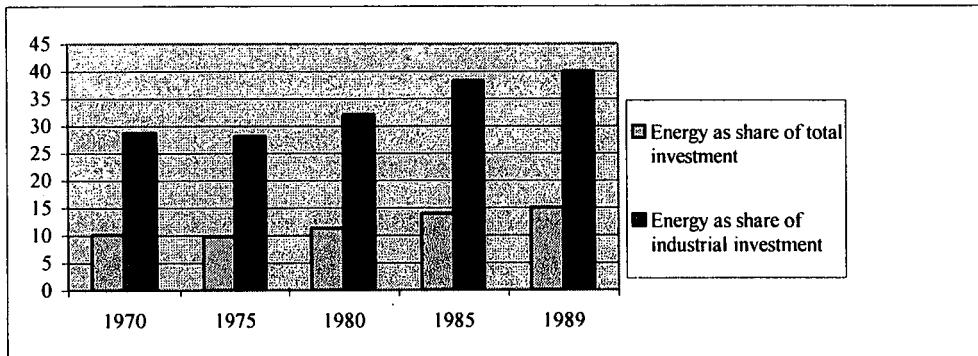
¹⁴⁸ Marples, *Chernobyl & Nuclear Power in the USSR*, Macmillan Press, 1986, p. 175-6.

¹⁴⁹ IEA (1995), *op cit.*, p. 220.

¹⁵⁰ *Pravda*, 19.7.1986, *op cit.* Nuclear power was to increase from 167 billion kWh in 1985 to 390 billion kWh in 1990. However, by 1990 nuclear power had only increased to 212 billion kWh. (Eurostat, *Country profile: the Soviet Union 1980-1991*, Statistisches Bundesamt 1992).

Economic prudence would have suggested a restructuring of the energy sector and energy balance as marginal costs began to rise and investments stormed ahead. Yet political considerations did not leave room for the negative effects that reduced energy growth would have had on the entire economy. Figure 2.4 shows the relative share of energy investment. Further, systemic factors contributed to the difficulty of transforming the economy.

Figure 2.4 – Proportional energy investment 1970-1989.



Source: *Stran Chlenov SEV* v 1980 and 1990.

Note: In order to achieve figures in comparable money, the values of 1970 and 1975 have been inflated by a coefficient of 1.131 to bring their relative value in money of 1.1.84. This coefficient was obtained by comparing time-series in different money and estimating the difference.

During the late 1970s and early 1980s there was a distinct awareness of the growing burden of energy supply. One might argue that the shifts in energy carriers that did take place were the result of better economic management. Likewise one could argue that the shift came about as result of planning from the achieved level and that this process inadvertently came about as some branches fulfilled (and over fulfilled) their targets while others struggled to reach their targets.

The latter argument does not deny that the shifts then also exhibited some economic logic, it does however, question to what extent the planners and leaders could have taken a proactive role in reforming the industry. If the political sphere dominated the economic sphere, and that political standards of measurement again were awaiting economic results, then reforming the Soviet energy industries – i.e. a greater emphasis on energy conservation – would

have implied reforming the entire economic, societal and political structure.¹⁵¹ It is the argument of this thesis that the systemic inefficiencies were a result of Soviet economic and political institutions. As such a reform of the system would have to take into consideration the incentive structure generated by the institutional matrix starting with the 1st order institutional dimension. As the Soviet economy grew a conflict of goals arose. As transactions became more idiosyncratic and organisational growth impeded efficient monitoring of the economy and agent behaviour a conflict between political control on the one hand and economic growth on the other arose.

This raises serious questions about the ability of the post-Soviet leadership to reform the energy industries and shifting to economic criteria of measurement. If political criteria have indeed been the standards by which economic policy was set and measured, then how is the new leadership and management – that to a great extent stems from the old system – to be able to understand and employ radically new measures? More importantly, is it plausible to believe that a systemic change can occur given a constrained economic and political situation? In the following chapters the thesis will therefore examine some of the 2nd and 3rd order institutions of the Soviet system and their relationship to the 1st order institution.

¹⁵¹ Rutland on the same note argues that '[I]t is essential to analyse the command economy as a political phenomenon' and that "the advantages of political stability, and concentration of power outweigh the disadvantages of economic sluggishness and inefficiency'. Rutland (1985), *op cit.*, pp. 259-260.

Chapter 3

Organisation of the Soviet Oil Industry.

'Whenever he has to choose between idea and apparatus, he [Stalin] consistently stands on the side of the apparatus. Koba will not take a programme seriously unless it has developed its own bureaucracy. Suspicion towards the great mass and individuals alike, is the cornerstone of his nature.'¹⁵²

Leo Trotsky

The development of the organisational structure of the Soviet oil industry did from its start in the early 1920s reflect many of the principles that were to characterise the administered economy. Chief amongst these was the primacy of political efficiency contra economic efficiency. In NIE framework organisations are instrumental to maximising specific goals. The evolution of the organisational structure of the oil industry is in this thesis therefore related to the evolution and implementation of the state power. The mode of organisation will reflect transaction cost considerations, while changes in the organisational structure reflect efforts to strengthen the implementation of state power and reducing transaction costs. With respect to late Soviet and post-Soviet evolution the closeness between state power and organisational form constitute an important factor of path dependency.

In the Soviet Union industry was an integral part of the state apparatus and therefore reflected the structure of state power. Centred upon a patrimonial-despotic structure of state power the organisation of state and industry was instrumental in extending the leadership's control and ability to monitor the system. Political legitimacy and goal maximisation emanated from the ability to control and redistribute the flows of resources and rent, both of which constituted the necessary means to create an incentive and reward structure to support the patrimonial-despotic system of state power. The maximisation of state power was the chief dependent variable.

¹⁵² Trotsky, *Stalin: ein Bild seines Lebens* [Stalin: a portrait of his life], Verlag Rote Weissbücher, 1953, p. 80.

However, organisations will also be a function of the existing incentive structure. Pre-Gorbachev the formal incentive structure remained highly uniform, however, this started to change with the reforms in 1987/88, which resulted in the formalisation of the previous informal incentive structures and the establishment of new organisations to operate in the altering situation.

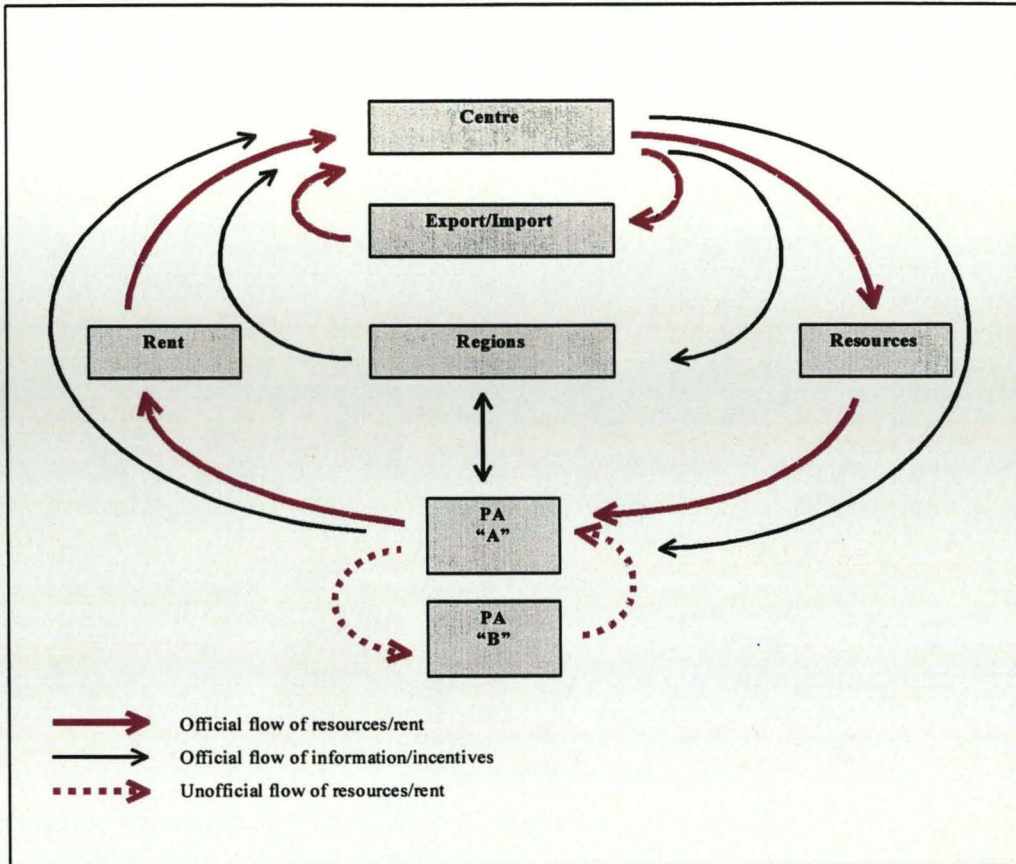
The centre had an ideologically based monopoly on the distribution of resources and the collection of rent and income. With the state both acting as producer and consumer of resources its organisational structure was geared to enable direct mobilisation efficiently. As complexity and spatial distribution increased the principal-agent costs, associated with the implementation of state power, rose. Simultaneously, the state's weak infrastructural power base necessitated strengthening patrimonial structures of implementation. In the early years of the Soviet Union ideological zeal arguably was conducive to reducing transaction costs, however as the system became institutionalised transaction costs associated with principal-agent considerations increased.

Reorganisations of the industry served as a means to reduce transaction costs associated with upholding the state's monopoly in the circulation of resources and rent/income. The structure of flow of resources and rent is illustrated in Figure 3.1. The distribution of resources occurred through Gosplan and the branch ministries, while the collection of rent and income occurred through the Ministry of Finance USSR.

Taking for granted the primacy of central planning and other things being equal, the main principles of organisation in the USSR alternated between a functional and a territorial structure of planning implementation. Functional in this respect implied the implementation of plans and the generation of information through vertical hierarchies of command from a functional approach, i.e. the organisation of a specific activity within a singular ministry – vertical communication rather than horizontal communication. A territorial structure implied greater reliance on territorial co-ordination in order to further the holistic development of an area and/or industry. The latter reflected the attempt at greater horizontal communication to increase information accuracy

and efficiency. A second element of the territorial approach was the organisations of production associations (PA) that functioned as integrated social and economic territorial structures.

Figure 3.1 – Flow of resources and rent in the Soviet oil industry.



Both these principles are reflected in the development of the organisational structure of the Soviet oil industry. In fact, it has been argued that the development of the organisational structure of the oil (and gas) industry in many respects served as a testing ground for the development of the entire Soviet economic structure.¹⁵³ The oil industry was nationalised by decree of V.I. Lenin on the 20th of June 1918, however, the Soviet Union did not actually control the vital Baku fields until the end of the civil war in 1920. From the early 1920s the organisational structure started to develop the characteristics that have been dominant throughout the development of its structure – its functional and territorial approach. Although both principles are present at all times the relative weight of their significance has varied.¹⁵⁴

¹⁵³ Kryukov & Moe, (1996), *op cit.* Kryukov (1998), *op cit.*, pp. 70-71.

¹⁵⁴ Kryukov (1998), *ibid.*

These principles are reflected both in the organisation of the economy as well as in the administrative-territorial division of the state bureaucracy. From its nationalisation by Lenin in 1918, the development of the Soviet oil industry in many respects served as model for organisational development.¹⁵⁵

Initially all operations of the oil industry – i.e. production, refining and distribution came under the administration of the Oil Syndicate (*Neftesindikat*). Centralised accounting at the Syndicate level led to a centralised system for supply of resources for the operation of its constituent operating units. As the geographic position of the industry moved north and then east the organisation altered accordingly. The administrative organisation was renamed The People's Commissariat of the Fuel Industry in 1939 (*Narkomat*), while two independent ministries were created in 1946, these were the Ministry of the Petroleum Industry for the Southern and Western Regions and the Ministry of the Petroleum Industry for the Eastern Regions.¹⁵⁶ The two ministries were again amalgamated in 1948.

At the same time there was added a territorial dimension to the hierarchical structure through the establishment of regional main administrations - *glavki*. Both in Tatarstan and Bashkortostan there were established associations that administered all production and drilling activity in the respective regions, and similarly a separate ministry for the petroleum industry in Azerbaijan was created in 1954. After the 1973 reforms only the largest of these remained (*Glavtyumenneftegaz*) in order to ensure more balanced and long-term development of this vital energy region. *Glavtyumenneftegaz* initially incorporated the production associations: *Nizhnevartovskneftegaz*, *Surgutneftegaz*, and *Yuganskneftegaz*.

The abolition of the ministerial structure during Krushchev's *Sovnarkhoz*-reform (1957-65) continued the trend towards greater territorial emphasis in order to increase horizontal communication and thus increase productive efficiency. The Brezhnev-Kosygin reforms of 1965 returned the structure to

¹⁵⁵ *Ibid.*, pp. 70-74.

¹⁵⁶ Ebel, *op cit.*, p. 12.

the functional organisational principle.¹⁵⁷ However, several of the territorial features and units of the structure prevailed until further reforms in 1973 extended the functional principle to all levels of the structure. These implied removing several organisational units and more tightly integrated the operative units into the production associations, establishing the PA as the locus of operational co-ordination.¹⁵⁸ The ministries retained most of the important transactional and financial functions. The immediate operative structure, from the ministries and down, was reduced from a six to a three-layer structure. (Apart from Western Siberia where *Glavtyumenneftegaz* remained).

The growth in oil production, shift of location after WWII and the subsequent shift to fluid hydrocarbon fuel all posed political challenges to the Soviet administered system. This resulted in a gradual fragmentation of the organisational structure, along lines of greater specialisation. *Goskomnefteprodukt* took charge of distribution of oil products. Pipelines were separated into another directorate *Glavtransneft*. Refining was separated into a department (and then a ministry), while responsibility for gas production was separated into the Ministry of the Gas Industry (*Mingazprom*) in 1965, leaving the Ministry of the Oil Industry (*Minnefteprom*) with the responsibility of oil production. In the early 1970s specialised ministries were set up to serve the oil and gas industry, the Ministry of Oil and Petrochemical Machine Construction (*Minneftekhimmash*) and the Ministry for the Construction for Enterprises in the Oil and Gas Industry (*Minneftegazstroi*). Figure 3.2 presents a stylisation of the main structure of the oil and related industries as it appeared after the 1973 reforms until the Gorbachev reforms. An important aspect of Soviet industrial organisation was that all organisational units constituted integral parts of the state structure.

¹⁵⁷ The Ministry for Oil was one of the ministries to be abolished during the *sovnarkhoz* reforms. Nonetheless, according to Mal'tsev *et al* a *de facto* re-centralisation of the industry through Gosplan occurred from the early 1960s. (Mal'tsev *et al*, *op cit.*, p. 77).

¹⁵⁸ Kryukov (1998), *op cit.*, pp. 78-79.

Main Structural components.

The Central Policy Organs. At the top of the hierarchy were the central organs of the Communist Party of the Soviet Union (CPSU) and the government of the Soviet Union (these were the USSR Council of Ministers and the USSR Supreme Soviet). Figure 3.2 shows a simplified diagrammatic presentation of the hierarchical system and therefore conceals some of the overlapping authority and responsibility at central level. This overlap reflects what Kelly *et al* call the 'shadow power structure that underlies and unites the formal structure'.¹⁵⁹ Although on a formal basis the government was responsible for running the economy, major policy decisions were taken by the Politburo. This was particularly evident in the late 1970s in connection with the debate around whether to concentrate on coal as the main energy carrier, or on oil and gas. The Politburo of the CPSU Central Committee (CC) was the apex of power in the Soviet Union, and was responsible for the elaboration of economic policy and the allocation of resources to realise that policy. However, the individual members of the Politburo relied to a great extent on expert assistance and advice.¹⁶⁰ The party's role in the political-administrative system of the Soviet Union had four main aspects: decision-making, verification, implementation and staffing.¹⁶¹

The Secretariat of the CPSU CC (hereafter the Secretariat) had several departments that provided the Politburo with advice and policy proposals. The production of energy fell under the Department of Heavy Industry. Kelly *et al* note that these departments had some operational control in that they could send directives to managers via government officials or Party members at the various local, city, *oblast* and regional level. On the influence of the Party structure Mal'tsev *et al* note that frequent meddling by party officials was like a sword hanging over industry managers.¹⁶²

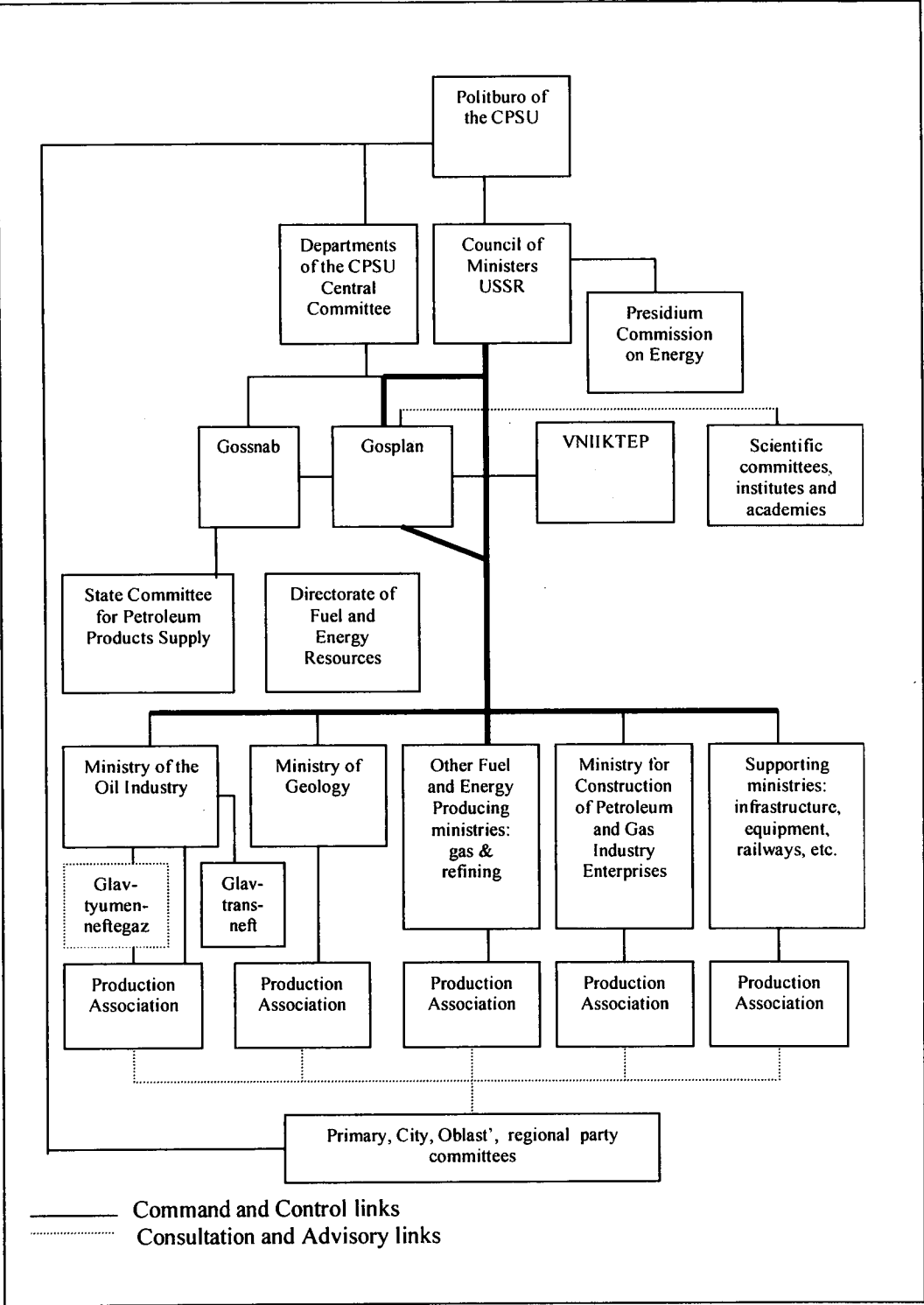
¹⁵⁹ Kelly *et al*, *op cit.*, p. 9.

¹⁶⁰ *Ibid.*, p. 10.

¹⁶¹ Gill (1994), *op cit.*, p. 4.

¹⁶² Mal'tsev *et al*, *op cit.*, p. 123.

Figure 3.2 – Organisational Structure of the Soviet Oil Industry.



The Council of Ministers of the USSR (hereafter the Council of Ministers) together with the Secretariat was responsible for nearly all technical, scientific and economic activity in the Soviet Union. The Council of Ministers consisted of ministers, chairmen of state committees, and chairmen of the

fifteen Union-Republic Councils of Ministers. The Council of Ministers was responsible for the issuing of state plans and for the financing of economic activity. Like the Secretariat the Council had its own commissions with responsibility for the development and execution of economic programs. For the energy sector these were the Presidium Commission for Energy and Fuels, and West Siberian oil and gas region development programs.

The Central Planning Organs. The State Planning Committee of the USSR (Gosplan) issued plan directives in the name of the Council and was as such an organ of operational command.¹⁶³ Gosplan had overall responsibility for the formation of plans that complied with the policy directives established by the Party. These were the so-called Five Year Plans (FYP) and the year to year basic or operational plans.

Gosplan, like other agencies, was subdivided into several entities that were preoccupied with different parts of the economy. Gosplan was divided into departments for various economic sectors, which again were grouped together in directorates for related departments. Each department contained several officials with responsibility for a certain aspect of each industry. The most important of these were the chief financial accountant, the chief of the planning section and the chief of the purchasing section. Division of labour is one of the defining elements of a bureaucracy and modern society. However, in the case of the Soviet Union this division of labour was reproduced at all levels of the organisation, resulting in an excessively bloated organisation. For such a system to work, it is necessary that tasks become more general as one moves up in the hierarchy – that the upper echelons of the system are left to plan and make strategic decisions, while the lower levels concentrate on operation and day-to-day administration. In many respects the organisation of the Soviet economy lacked this fundamental principle of industrial and bureaucratic organisation.

¹⁶³ Based on Nove, Rassweiler argues that most Gosplan economists belonged to a teleological school of planning that 'planned resources for economic sectors and derived yearly plans and strategies in accordance with an overall development plan [as opposed to the geneticists who] extrapolated growth from existing circumstances and shaped their goals accordingly'. (Rassweiler, *op cit.*, p. 40).

Like the other administrative organs Gosplan had its own advisory organs. For the energy-sector the major such organ was the All-Union Scientific Research Institute of Comprehensive Fuel and Energy Problems (VNIITEKP). VNIITEKP, created in 1974, was entrusted with the responsibility to make energy production and consumption forecasts. In an effort to increase regional co-ordination an Interdepartmental Territorial Commission of Gosplan was established in Western Siberia.¹⁶⁴

The Branch Management Organs. Throughout the history of the oil industry there has been great fluctuation in the composition of ministries at this level and their responsibilities. In an administered economy it is essential that plans are implemented and that correct information is passed on to the next level. If this does not happen, the central planners lose oversight of the condition of the economy, which again will lead to further distortion of information and policy.

The task of the ministries was to break down the aggregate plan targets they received from the central planning organs and allocate these to the operational units in their structure. After 1965 these were predominantly the production associations. The ministries functioned as loci for collecting and passing on information coming up the system as well. The ministries therefore had a near monopoly on controlling information and resources related to their respective hierarchies. With increased spatial distribution and complexity of the Soviet economy, the fragmentation of the ministerial structure was supposed to facilitate the flow of information in order to increase the accuracy and relevance of information being presented to the computational centres. Their organisation increasingly reflected a Tayloristic approach to organisation – i.e. specialisation of functions – in order to ensure maximisation of plan fulfilment.

¹⁶⁴ Kryukov & Moe, 1996, *op cit.*, p. 17.

Ministries in the Soviet Union had two forms. The more important ministries were organised as All-Union Ministries,¹⁶⁵ meaning that they were not replicated at the regional level. Ministries of lesser importance were organised as Union-Republican ministries, which meant that apart from the central ministry in Moscow replications of the ministry existed at the republican level. After the 1965 reforms the Ministry of the Oil Industry was an All-Union ministry. For practical purposes this implied that the firms and production associations of the oil industry had one administrative layer less than Union-Republic ministries, and in effect were more closely integrated. (In Western Siberia another administrative layer, *Glavtyumenneftegaz*, survived until 1990).

Kelly *et al* identifies some 17 ministries involved in energy sector.¹⁶⁶ In addition there were other ministries with responsibility for the transportation and the military-industrial complex that influenced energy policy. However, with respect to the oil industry there were three major ministries to consider. The first was the Ministry of Oil Industry (*MNP*). This ministry had responsibility for the development and production of petroleum. Further it had the main responsibility for exploratory drilling in the older oil producing regions. A sub-agency within the MNP was *Glavtransneft*, which was responsible for the operation of the pipeline system and performed the role of buyer and distributor of crude oil.

The second major ministry was the Ministry of Geology (*Mingeo*), which had the responsibility for geophysical surveying and mapping of prospective areas as well as corehole drilling and exploratory drilling in new areas – chiefly Western Siberia. As the centre of the industry shifted eastward Mingeo's share of total exploratory drilling increased from 40 percent in 1970 to 61 percent in 1987.¹⁶⁷ Until 1987 the Ministry of Geology was a Union-Republican ministry.¹⁶⁸ *Minneftegazstroi* had the responsibility of

¹⁶⁵ Berliner, *op cit.*, p. 16.

¹⁶⁶ Kelly *et al.*, *op cit.*, pp. 18-20.

¹⁶⁷ Gustafson (1989), *op cit.*, p. 70.

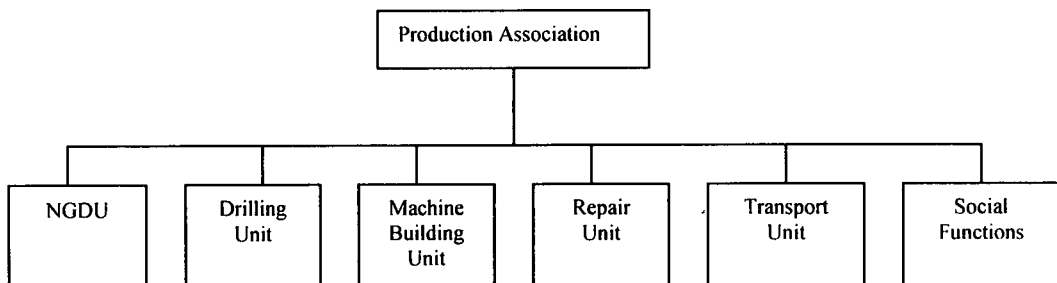
¹⁶⁸ *Ibid*, footnote 9, p. 70.

constructing pipelines, housing, infrastructure and development of the production sites.

Like the central planning organs the ministries also had a chief accountant, a chief of the planning department, and a chief of the purchasing department. Like their counterparts higher up these officials engaged in the planning process, but in addition they had a greater stake in the operational side of the units within the ministry's jurisdiction.

The Production Associations. The pre-eminent entity of the Soviet oil industry was the Production Association (PA). The PA's were the property of the state, in the hierarchical system they were under the authority of their respective ministries. The development of PAs signified an attempt to increase horizontal communication at the operational level (by combining the operative oil and gas producing units (NGDU) in each territory); and vertical integration (by combining several related functions under one administration) – fig. 3.2. As such they represent a convergence between the functional and territorial approach. After the 1973 reforms they functioned like “mini-ministries” for the entities under their umbrellas. With respect to production and reserves many of the Soviet production associations were of a size equal or larger to many Western oil majors.

Figure 3.2 – Structure of a Production Association



Most of the Soviet PAs bore the names of the geographic area where their activity took place. Fragmentation of the administrative structure occurred at this level as well. As in the remainder of the system the impetus for such reorganisations were twofold. Firstly, in the hierarchical logic of the Soviet

system, higher levels of administration ensured their pre-eminence by controlling the size and economic "muscle" of its subordinates by retaining key functions within their own organisation.¹⁶⁹ Secondly, fragmentation occurred in order to improve the development of specific tasks. Both elements affected the development of the west Siberian oil industry. In order to rectify the imbalance in organisational size and economic "muscle" the NGDU *Var'yeganneftegaz* was split off from the PA *Nizhnevartovskneftegaz* and raised to the status of PA.¹⁷⁰ As production moved north within the Tyumen region new PAs were created to operate these areas: the PA *Noyabr'skneftegaz* was separated out from PA *Surgutneftegaz* in 1981; further north the PA *Purneftegaz* was established in 1987.¹⁷¹ Both operated in the Yamal-Nenets Autonomous Okrug. *Krasnoleninskneftegaz* was established in 1982.¹⁷²

Additionally the PAs from the Volga-Urals administered field directorates in Western Siberia. *Langepas*, originally part of the *Nizhnevartovskneftegaz* structure, was administered by Tatneft (Tatarstan), Kogalym, originally of *Surgutneftegaz*, was administered by Bashneft (Bashkortostan). Production in these directorates contributed to the plan fulfilment of the Volga-Urals PAs. These arrangements were cancelled in 1988, at which time the directorates became independent enterprises.¹⁷³

From a producing point of view the NGDU was the pre-eminent unit within the PA, and most of the remaining units were performing contract work for the NGDU (though the PA administered such transactions). Although administering the property of the PA, the NGDU had little financial or operative independence, as the PA established these.¹⁷⁴ Most of the NGDUs in the oil industry were of a "structural character" as opposed to industrial

¹⁶⁹ Kryukov & Moe (1996), *op cit.* 17.

¹⁷⁰ Shabad, 'News notes', *Soviet Geography*, 1986, vol. 27. no. 4, p. 253. At the time *Nizhnevartovskneftegaz* accounted for 57 per cent of *Glavtyumenneftegaz*'s production. In 1983 *Nizhnevartovskneftegaz* accounted for 210 million tons of oil compared to *Glavtyumenneftegaz*'s total of 366 million tons. (Sagers, 'News notes', *Soviet Geography*, 1991, vol. 32, no. 4, table 3, p. 257).

¹⁷¹ Sagers (1991), *ibid.*, pp. 258-59.

¹⁷² *Ibid.*

¹⁷³ *Ibid.*, p. 256.

¹⁷⁴ Kryukov (1998), *op cit.*, pp. 79-80.

units of the "state enterprise character", which had the status of independent judicial entities. The latter ensured them greater financial and operative independence within the entire administered system. In the oil industry such units were mostly construction and transportation units.¹⁷⁵ The PA had the right to create, reorganise and liquidate structural sub-units within their structure.

Respectively both the PA and the NGDU were only links within the Soviet economic structure. Even though the PA extensively affected the NGDU operative parameters it was under similar constraints from the ministerial level. Their operative parameters were part of state plans and the state's structure of power. These ultimately defined and affected their functional independence. This was also true for the ministry itself.

Organisational Reform under Gorbachev.

The increase of organisational units in the oil industry in the 1960s and 70s had led to increasing problems of co-ordination and supply of resources. The Soviet economy had increasingly been unable to handle the diverse climatic and geographic conditions that oil extraction took place under. Goal conflict between the various ministries resulted in a situation where information was diffuse and lines of authority were unclear.

The reforms initiated under Gorbachev aimed at increasing co-ordination and transferring greater authority and responsibility towards the associations. To this effect a Bureau on the Fuel and Energy Complex was created under the Council of Ministers in 1986, and a Department of Comprehensive Planning of Fuel and Energy Resources was created within Gosplan in order to increase inter-branch planning and co-ordination at the highest level.

The law 'On the State Enterprise' (1987) extended the rights and independence of the associations.¹⁷⁶ This shift towards the PAs resulted in the

¹⁷⁵ *Ibid.*

¹⁷⁶ Kruykov & Moe (1996), *op cit.*, pp. 17-18.

abolition of *Glavtyumenneftegaz* in early 1990. Moe & Kryukov remark that although the law was intended to transfer the 'centre of gravity' from the ministries to the PAs, the abolition of *Glavtyumenneftegaz* resulted in the transfer of its administrative functions to MNP thereby strengthening the role and influence of the ministries.¹⁷⁷

The reforms furthermore altered the incentive structure at work in the economy, enterprises were put on a self-financing basis and a limited use of contracting prices came in to use. At a time when the centre's ability to maintain the high levels of investment growth of previous years fell, prices started to spiral. This led to a conflict of rent division. The enterprises gradually began to exert pressure on the centre in order to allow them to retain and realise parts of their production outside state channels. Industrial action in the oil industry led to concessions whereby the PAs were allowed to realise part of their above-plan production for hard currency (exports).¹⁷⁸ With the altered flow of rent (see Figure 8.1) the organisational structure began to alter as well. The PAs under *Glavtyumenneftegaz* became independent units, making it easier to fulfil their respective plans. Likewise, newer or better-equipped units within the PAs claimed their independence. Both *Megionneftegaz* and *Chernogorneft* split from *Nizhnevartovskneftegaz* in January 1991. The former became an independent enterprise, while the latter became a "lease hold" enterprise.¹⁷⁹

Splitting up the larger PAs gave the smaller the opportunity to realise a "profit" from their production. Thus "good" production units could avoid having their surplus production negated by other units' deficit production,¹⁸⁰ leading to the accumulation of legal capital/rent outwith the state structures of rent and capital accumulation.

¹⁷⁷ *Ibid.*, p. 18.

¹⁷⁸ Sagers (1991), *op cit.*, p. 255.

¹⁷⁹ *Ibid.*, p. 256. Sagers, 'Russian crude oil production in 1996: conditions and prospects', *Post-Soviet Geography*, 1996, vol. 37, no. 9, p. 544.

¹⁸⁰ Sagers (1991), *op cit.*, p. 256.

During the late 1980s and early 1990s the first experimentation with vertical integration took place. These originated from all three participating levels in the circulation of rent and resources. LUKoil was the first industry initiated vertically integrated company (VIC), while Sinko and Rosneftegaz were initiated at regional and federal levels respectively. As these events are more closely related to the post-Soviet oil industry the subject will be examined in greater detail in Chapters 7 and 8. Suffice here to say that the altered circumstances in the late Soviet period along with changes to the incentive structure profoundly affected the objectives of organisational units.

In 1989 the Ministry of the Gas Industry was merged with the Ministry of the Oil Industry into the new Ministry of Oil and Gas. However, the administration and enterprises of the former Ministry of Gas were kept as an independent "socialist concern" under the name of *Gazprom*, effectively leaving the Ministry of Oil and Gas control only over the oil industry.¹⁸¹

Trend in organisational development.

Throughout the entire Soviet period of organisational reform there are certain trends that stand out. Firstly, there was a constant spatial increase of operations, which resulted in the need for territorial co-ordination and a growth in organisational units. This affected the structure by the resulting in greater fragmentation. Simultaneously however, the fragmentation was counterbalanced by integration within administrative units. Thus, the Oil Syndicate (then *Narkomat* and finally the ministry) had initially administered the entire oil industry. To this were added *Glavki* and PAs, which extended the hierarchical chain and shifted operational locus.

Secondly, the latter development resulted in a gradual shift of operative responsibility away from the planning and strategic (state) organs towards the organs nearer to the actual scene of production. However, the excessive organisational structure failed to capitalise on the virtues of bureaucratic

¹⁸¹ IEA (1995), *op cit.*, p. 97.

organisation due to the incentive structure generated by the institutional matrix.

Thirdly, in order to optimise the structure, i.e. enhance the information efficiency and operative efficiency there were constant attempts to centralise again after a period of decentralisation. This is reflected in the increased specialisation of organisation. As spatial distribution grew and complexity of operations and transactions increased the number of vertical command chains increased. While as the Oil Syndicate had initially concerned itself with all aspects of administration, increasingly operative, strategic, and financial transactions were separated from each other and organised within their own structures.

Table 3.1 – Main chronology of organisational reforms in the USSR.

Years	Functional	Territorial
1920s-1946	Oil Syndicate, <i>Narkomat</i>.	
1946-1948		Ministry of the Petroleum Industry for the Southern and Western Regions, & Ministry for the Eastern Regions.
1948-1957	Ministry of the Petroleum Industry.	
1957-1964		<i>Sovnarkhoz</i>-reform
1965-1973	Brezhnev-Kosygin reforms, <i>MNP</i>	Main administrations and regional PAs
1973-1989	<i>Ministries</i>	Integrated territorial PAs

Note: Bold letters indicate dominant organisational approach, i.e. functional vs. territorial.

Finally, in order to counter balance departmentalisation and improve the co-ordination of the economy a gradual convergence between the functional and territorial approach developed into the classic Soviet organisational model; the functional-territorial approach.

These trends represent not only the desire to control the economy, through maintaining autarky and ensuring that no administrative layer would become too powerful, but also the realisation that output growth depended on PAs and

NGDUs ability to operate under relative independence. The trends thus represented an attempt at gaining economic efficiency without forsaking political efficiency (represented by the principles of administration and planning).

Reforms introduced reflect the constant conflict between on the one hand macro control and on the other micro efficiency, and a gradual clarification of responsibilities and duties pertaining to the different levels. Crucially though, the reforms stayed true to the principle of central administration, culminating in a central node of (perceived) supreme administration. At the same time though reforms failed to create *de facto* division of responsibilities and duties thereby impeding the development of infrastructural power. Reform proposals right until the very end of the Soviet Union remained anchored in these principles and dilemmas.¹⁸² Repeated reforms were a sign of the awareness of the administrators and the planners that the structure did not generate the desired returns on investments necessary to ensure political control and legitimacy. As the industry (and this would be true for all industries in the USSR) grew, a rising number of goods and services made it increasingly important that the central node of strategic planning possessed accurate and necessary information. Organisational reforms must therefore be regarded as having had two main objectives.

Firstly, to increase the return on investment. In the Soviet case this implied greater production of goods and services which could be administered from a central point. The primary return on investment was political rather than economic. From this point of view economic efficiency was not the overriding goal as initially the system was capable of producing greater physical volumes by added manpower investment. Production volume was in itself important, and the delivery of such was the scale by which success was measured. Greater production was a means to ensure legitimacy of the

¹⁸² See for example Bugayev, 'Improving the administrative-territorial division of the USSR', *Soviet Geography*, 1991, vol. 32, pp. 545-51. Also, Makarov *et al*, 'Formulating and Implementing an Energy Strategy: Economic Estimates', in Rudenko, *Energy Reviews*, Harwood Academic Publishers, 1992, p. 1-33.

political regime. Increased production was a form of investment in the political institutions, authority and legitimacy of the USSR.

The second point is connected to the first. In order to administer production from a growing number of industries, reorganisation was necessary in order to create information that could be aggregated and, importantly, minimise complexity. Specialisation (functionalism) in this respect made it easier to control and aggregate information as it passed up the system and disaggregate it when it was passed down. This made it easier to devise standards of evaluation that could more easily be verified, thus ensuring greater political control with the economic system. Vertical communication and lines of responsibilities made it easier to control the economy from a political point of view, in that it favoured vertical relationships of loyalty rather than horizontal or decentralised loyalty relationships. It also favoured patrimonial (personalised relationship) structures of loyalty rather than bureaucratic (impersonal relationship) structures of loyalty.

It is interesting to note that the Soviet bureaucracy portrays many of the same qualities that western scholars on bureaucracy have studied in western societies. Namely the difficulty in removing organisational layers once they have been created, the difficulty in transferring or removing administrative powers from an existing unit, and departmentalisation.¹⁸³ The Soviet period is characterised by a struggle between existing organisational layers to maintain their powers and the need for establishing new layers of control in order to increase planning/political efficiency and to curtail the potential powers of existing organs. Power in the SU was closely linked with the authority to create organisational units.

Although *de facto* operational control increasingly became concentrated at the lower end of the organisational structure (close to operation), the higher layers maintained control over the allocation of resources (and thereby having an influence on operation), planning of targets, the general framework of

¹⁸³ On this topic see Blau & Meyer, *op cit.*

operation and administering the incentive structure. With respect to the PAs their growing power was constantly checked by their limited ability to affect the flow of resources and access to investment funds.

Chapter 4

Economic institutions of the Soviet economy.

'As so often the interests of the party apparatuses stood in stark contradiction to the interests of the classes once these had come into motion. In the days after the overturn of the monarchy even the cadres of the Bolshevik party, that had gone through an extraordinary revolutionary school, openly showed a tendency to remove themselves from the mass and to identify the special interests of the apparatus with that of the working class. For what did one not have to brace oneself when these cadres became an almighty state bureaucracy?'¹⁸⁴

Leo Trotsky

The purpose of this chapter is not to give an extensive analysis of the Soviet economy, rather it focuses on the institutional factors that shaped economic behaviour in the USSR. Production in any economy can be co-ordinated in at least two ways.¹⁸⁵ First, by lateral communication, which implies negotiation and mutual accommodation between the different participants of the economy. These participants constitute suppliers and demanders in the economy. Second, by an administrative approach, which implies formal control and orders emanating from the higher end of a hierarchical system with responsibilities for the production of a particular variable being allocated from the top down. In reality no economy employs either of the systems in its extreme form, rather there is a mix of both systems in all economies.

In its idealised sense economic interaction in the former mode of co-ordination is based on non-personalised relationships, horizontal and decentralised communication, transparent and stable "rules of the game", and market driven demand and supply. The latter mode of co-ordination should in its idealised form also be based on non-personal (i.e. bureaucratic) relationships, vertical and centralised communication, stable and transparent "rules of the game", and a planned allocation of demand and supply. For various reasons the Soviet administrative economy failed to develop these idealised qualities. In

¹⁸⁴ Trotsky, *op cit.*, p. 302.

¹⁸⁵ Campbell, *op cit.*, p. 25.

part this was due to the effects of the first order path dependency on the lower orders. A patrimonial-despotic structure of direct mobilisation of resources affected the organisational structure of state and economy. Administrative planning as a substitute for demand and supply facilitated the extension of state power through a formal monopoly on the distribution of resources and collection of rent. Due to resources and time pressure the Soviet political structure developed a patrimonial structure of power and authority implementation as a substitute for bureaucratic infrastructural power base.¹⁸⁶ This structure facilitated the implementation of a political monopoly through the ministerial structures and administrative planning. The second order dimensions were conducive to promoting a verifiable structure of monitoring agency. On the other hand crude standardisation of measurements was not conducive to promoting a dynamic flow of information and corresponding adaptation as complexity and spatial distribution increased.

It is often argued that the advantage of an administered economy lies in its ability to evaluate the performance of the system as a whole and that sequential decision making reduces the effect of bounded rationality. This makes it easier to achieve economies of scale, which will contribute to higher efficiency and lower overall cost. The idea being that there is a central node that evaluates and weights information and then issues instructions according to an optimal plan for the whole economy. In the Soviet Union this node was Gosplan which had the overall responsibility for the creation of state plans.¹⁸⁷ In addition each ministry and enterprise had its own planning department that participated in the establishment of plans. Although the final plan had the

¹⁸⁶ Gill (1990), *op cit.*, pp. 5-6

¹⁸⁷ Although Gosplan was responsible for fewer balances than Gosststat the weight of the balances that Gosplan administered was 80% of the total allocated value in the USSR (Nove, *op cit.*, p. 26.), and 100% of 'Funded Commodities', which were the most important commodities. Central planning was not a new or undisputed approach to managing the economy of the Soviet Union. The tsarist government had been debating the virtues of central planning as means to overcome Russia's poverty and technological backwardness. Soviet planning in many respects reflected continuity with the imperial period. Within the Bolshevik leadership there were opposing views on how to govern the economy. The Bukharinites were in favour of a controlled market economy, while the Stalinist faction was in favour of forced industrialisation and collectivisation through central planning. (Rassweiler, *op cit.*, pp. 5-6, 20 & 23-24).

status of law its formation was the result of a hierarchical bargaining process.¹⁸⁸

Management and motivation.

The Soviet economy was erected on the foundations of a despotic-patrimonial structure of state power. Power and legitimacy in the Soviet system emanated from the ability of the party-state to carry out its objectives. For the purpose of this thesis whether these objectives were altruistic or not is of less concern. As long as the party-state managed (or seemingly so) to fulfil its objectives it could remain unaccountable to the vast majority of its constituency. Such unaccountability was an important pre-requisite for a system that was based on the 'rule by law', rather than the 'rule of law'. By monopolising the right to re-negotiate the 'rules of the game' *ex post*, the state was in a position to protect its patrimonial power foundation. Importantly, neither the state (economic) bureaucracy nor the party could emerge as vehicles for championing state accountability since the two structures themselves were integral parts of the state.¹⁸⁹

The ideologically founded position of the system gave rise to the closeness of the political and economic sphere. Kornai argues that the centralised and bureaucratic organisation of power was a result of the paternalistic role assumed by the party, i.e. its vanguard ideology.¹⁹⁰

¹⁸⁸ Kornai uses the term vertical bargaining. For general works on the formation of plans the reader is referred to the works of Kornai, Nove, and Gregory and Stuart. See bibliography for details.

¹⁸⁹ Though both these structures pursued different interests their behaviour as groups served to reinforce the patrimonial (and thus unaccountable) structure of the state. Gill argues that the General Secretary's power was linked with the executive organs of the party 'as he sought to rule and extend his power through the organisational arms of the party...[]Consequently, the party functionaries had their own vested interest in supporting the drift toward centralisation[.]' By protecting the apparatus from 'attacks made upon it by those outside the apparatus' the General Secretary could maintain his position as the appointer of the members of these organs. (Gill (1990), *op cit.*, pp. 318-319). Furthermore, there was a lack of 'organisational coherence and integrity' in the CC and the Politburo. (*Ibid.*) This would again have weakened these organs as champions of state accountability. Similarly, the economic bureaucracy had little interest in championing reforms that would have endangered their rent appropriating position. (Winiecki, 'Why Economic Reforms failed in the Soviet system: a property rights based approach', in Lee *et al*, *Empirical Studies in Institutional Change*, Cambridge University Press, 1996, pp. 75-79).

¹⁹⁰ Kornai, *op cit.*, pp. 56-7.

The vanguard ideology had two major consequences for the organisation of the economy. Firstly, the vanguard knew the objective and true desires of its constituency, which represented the justification for elaborate plans. Secondly, in order to maintain its power monopoly and generate the necessary information in order to evaluate the state of the economy, a centralised and controlled mode of organisation was required. Derived from these two consequences followed a great many of the system's characteristics designed to reduce agency cost. Agency cost in the Soviet system arose from the use of economic resources inconsistent with the objectives of the political leadership.¹⁹¹ The organisational overlap and corresponding unclear authority distribution along with resource pressure created strategic room for individual action where property rights and circulation of rent could be contested. That situation gave rise to specific agency costs related to elements of Soviet industrial organisation. From a NIE and TCE view these principal-agent costs were moral hazard, information asymmetry, non co-operative solutions and hierarchical bargaining. Elements of Soviet industrial organisations are examined below.

Hierarchy and division of labour. The creation of additional hierarchical layers is a means of promoting division of tasks into a sequential process that enables each actor to concentrate on a small part of the task rather than the whole. For such an organisation to be effective, however, the division of tasks needs to be clear. In the Soviet economy this quality was lacking. The overlap of responsibility impeded the efficiency of the bureaucratic structure. 'Loss of control' as organisations grow is well established in organisational and bureaucratic literature,¹⁹² however, in the Soviet Union such loss of control was aggravated by the overlap of responsibility and performance indicators that different agencies work towards. 'Loss of control' implies that when an organisation grows, eventually the extended lines of communication and distance between operative and strategic agencies incur greater loss of information and control, than is gained by the same process. In the Soviet oil

¹⁹¹ Moore, *op cit.*, p. 200.

¹⁹² Williamson (1985), p. 134.

industry both spatial distribution and political (control) factors resulted in a growing bureaucratic organisation.

The strength of bureaucratic organisation partly lies in the division of labour through specialisation. Soviet society and economy failed to take advantage of this organisational strength, by reproducing within every organisational unit the functions and responsibilities of the units that it came in contact with. Division of labour therefore, did not so much lead to sequential labour, but rather the establishment of an increasing number of agencies that were to serve as checks on information. Being geared towards political control the division of labour further implied that planning imposed a vertical political hierarchy on economic decision-making, which inhibited horizontal flows of information.¹⁹³

Optimisation. The management structure developed in response to optimisation efforts. The increasing complexity of the economy led to a continuous refinement of the organisational structure by creating a growing number of specialised operational and strategic units. These were created with the objective in mind that a specialised nucleus would be better equipped to promote and exercise a particular function. Economically the rationality for this could be twofold. Firstly, optimisation as an attempt to optimise both the flow of information and the development of an economic activity. Secondly, by creating a separate entity simpler standards of verification could be employed thus enhancing the monitoring of the economy's functioning. On the one hand such organisational optimisation simplified the monitoring of the system. On the other it inhibited the flexibility of the economy by creating an information over-load as the co-ordinating capabilities of the system became exhausted with increased complexity and spatial distribution. The absence of significant horizontal communication aggravated this situation.

However, politically optimisation could have another objective. As in the case of *Var'yeganneftegaz* and *Nizhnevartovskneftegaz* optimisation of the

¹⁹³ Rutland (1985), p. 264.

management structure was a means of safeguarding power relationships. As the importance of petroleum (and gas) production grew it became increasingly important for the official structures of political power – the Communist Party – to ensure that no part of the economic structure could develop into a centre of independent political power.¹⁹⁴ Although the reorganisations that occurred resulted in a clearer division of labour, it also made the various branches of the industry increasingly dependent on the co-ordinating ability of the higher echelons, which again could more easily be controlled by the Party. The monopoly in creating organisations and redefining organisational objectives was of great importance to the state. This gave the state the ability to create an incentive structure that would ensure a sufficiently large constituency with vested interest in maintaining the structure of state power. It would also allow the state to ensure that no competing centre of power would arise that could challenge the state's position in the circulation of income and resources.

While hierarchy, division of labour and optimisation eased the monitoring and control of the system it also impeded the development of balanced energy development, co-ordination between the various branches, and optimisation of investments. According to Gustafson 'A chronic problem of Soviet energy policy has been weak central management'.¹⁹⁵ Instead this task formally rested with Gosplan, which had to perform this optimising task – often resulting in a competition for resources between the ministries of the different energy carriers. As the complexity of the economy grew and the state bureaucracy became institutionalised the planning organs increasingly came to absorb industry people. According to one source the appearance of industry people in the planning organs was an important element of ensuring the functioning of a sector.¹⁹⁶ The reliance on experts was used to increase understanding at all levels of the hierarchy, yet at the same time the importance of the personal qualities over office qualities served to deepen patrimonial structures of state power. Chung also argues a case of pressure

¹⁹⁴ Kryukov & Moe (1996), pp. 9-10.

¹⁹⁵ Gustafson (1989), *op cit.*, p. 292.

¹⁹⁶ Mal'tsev *et al*, *op cit.*, pp. 121-123.

groups – in conjunction with the development of the Western Siberian energy resources – influencing energy policy.¹⁹⁷

Gustafson, on the other hand, argues that the development of the energy resources reflects 'the difficulties of dealing with a shifting and uncertain reality, as well as differences in information available' and that interest groups were not the main movers behind policy formulation.¹⁹⁸ This thesis would agree with the latter argument in that policy was not interest group driven, but rather a function of institutional factors. As such patrimonial structures could very well cut across interest groups.

It should be noted that the inherent deficiencies in this vertically structured system were well known to the Soviet leadership, planners and specialists themselves.¹⁹⁹ The entire organisational structure of the oil industry reflects the constant attempts at optimising the flow of information and production. Both the functional and territorial approaches have this in common. Reforms throughout the Soviet period aimed at 'finding the optimum ratio of centralization and decentralization of management, as well as on the combination and coordination of sectoral and territorial approaches in planning and management'.²⁰⁰ In an expanding economy though, such an optimum ratio is difficult to find. For it (in addition) to be efficient it requires that the economy remains static, as bureaucracies are slow to pick up alterations in the economy, and even slower to adapt to altered circumstances. However, in the Soviet system controlling whatever production was created was more important than maximising the return on investments in economic terms. Indeed, employed technology, crude standards of verification, risk aversion and fixed prices all contributed to portraying the economy in terms of static indicators.

¹⁹⁷ Chung, *Interest Representation in Soviet Policymaking*, Westview Press Inc., 1987.

¹⁹⁸ Gustafson, *op cit.*, p. 16.

¹⁹⁹ See for example Trifonov, extensively cited in Kryukov (1998) *op cit.*, pp. 70-74. Mal'tsev *et al* comment on the antagonism between political aspirations and industry considerations. (Mal'tsev *et al*, *op cit.*, pp. 114-124).

²⁰⁰ Bugayev, *op cit.*, p. 546.

Motivation and Incentive structure. Dysfunction and inefficiency originated also from the motivation of individuals. While the Soviet leadership counteracted system specific flaws by creating additional administrative organs, it failed to sufficiently appreciate the importance of individual motivation. Admittedly, premiums were geared towards motivating the individual, but as practices developed these motivational benefits were contrary to economic efficiency goals. Bonuses were established in order to motivate actors to fulfil the plan or sub-plan, but wholly artificial incentives and the use of the ratchet principle were again counteractive to achieving economic efficiency.²⁰¹

Important in this respect was the distribution of property rights. These were on the operational plane quite ambiguous. Formally the central organs administered all property for the people. This however, implied that everyone owned everything and nothing. Formally there existed no venues for accumulating surplus value outside the official state channels (i.e. all production/value belonged to the state). A production association administered the property entrusted to it, while an NGDU administered that part of the property, which had been entrusted to the PA and then again had been entrusted to it. Each unit therefore strove to formally prove that the entrusted property had been used to fulfil the allocated targets. All resources were put to this end and the actual management of the property was only of secondary importance. There were few incentives to innovate or economise on the input of resources. Firstly, because any surplus created this way would be taken from the unit. Secondly, because the ratchet principle would make plan fulfilment more difficult in the next period.

This is not to imply that there was no innovation in production technology. On the contrary, innovation occurred both at unit level and at the centralised level. However, for the manager it became imperative to conceal the true state of his unit's production potential in order to prevent securing output targets

²⁰¹ For bonuses and incentives see Berliner *op cit.* On Motivation see also Kornai, *op cit.*, pp. 118-121.

beyond capability.²⁰² The fact that waste did not directly hit anyone's pocket as long as plans were formally fulfilled only exaggerated this.

However, as the system was geared towards plan fulfilment, this raised the question what to do with potential surplus production that did not feature in the official circulation of income and resources? From a manager's point of view over-fulfilling plan targets was as self-defeating as under-fulfilment. In return for resources units produced planned output, this was by default a result of the responsibilities tied to the state's investments. *Ceteris paribus* surplus that could be concealed from the state was not tied to the same "agreement". Through the bargaining process individual enterprises and ministries were at times able to reduce the output expected in return for investment. Thereby in effect creating a shadow structure of income accumulation and circulation. (See below).

In any organisation incentive structures should be working so that the eventual outcome of separate or individual action(s) deviates as little as possible from the overall objective. Bureaucratic organisation functions by dividing the task, the function of the incentive structure is to induce individual or separate action(s) to fulfil those tasks. If the allocated tasks are too difficult, there is a lack of resources or there is not enough time to perform all tasks to the same qualitative standard, there is a danger of goal conflict within the subunit in the form of selective attention. In the Soviet economy the chief formal incentives were bonuses for output fulfilment and by implication political status and leverage.

Selective attention is held to be most prominent where there is a short time span, resulting in operational goals being favoured over non-operational goals.²⁰³ The Soviet economy reflected this dysfunction through its practice of

²⁰² Furubotn & Pejovich, 'The Soviet Manager and Innovation: A Behavioural Model of the Soviet Firm'. In Furubotn & Pejovich, *The Economics of Property Rights*, Ballinger Publishing Company, 1974, pp. 203-216.

²⁰³ March & Simon, *op cit.*, pp. 172-179 on selective attention. 'When a means of testing actions is perceived to relate a particular goal or criterion with possible courses of action, the criterion will be called operational. Otherwise...non-operational.', (*Ibid.*, p.177).

emphasising particular tasks. Such tasks would receive additional resources and sufficient administrative support in order to succeed, and would be favoured at the expense of other parts of the overall plan. Selective attention resulted from several factors in the Soviet economy. Firstly, plans lacked coherence. Plans were evaluated on the basis of how well they conformed to ideological and political objectives.²⁰⁴ Thus plans were frequently more ambitious than resources would allow.²⁰⁵ This again led to a situation where both the systems of verification and time perspective affected which projects would be favoured. Secondly, the information overload in the system resulted in information and measures of verification becoming increasingly unsophisticated, thereby leading to displacement of real decision taking.²⁰⁶ Plans were passed down in aggregate form in order to be sub-distributed at lower levels of management. However, formal venues for horizontal communication were few resulting in a lack of co-ordination. In the Soviet system selective attention often took the form of campaigns. During such campaigns physical and administrative resources were geared towards its successful implementation, while the plan lost coherence due to the diversion of resources and the short-term horizon of these campaigns.

The development of the oil industry reflected this campaign style system. Development was unbalanced and favouring short time and operational goals over long term solutions in that development was biased towards Tyumen over the rest of Siberia, development over exploration, field operation over industrial support and autarky over interdependence.²⁰⁷ In fact the last point runs contrary to "good bureaucratic" practices in that theoretically higher specialisation requires higher co-ordination. Even within the ministries selective attention was biased towards operational goals. Mingeo, which had the main responsibility for exploration in Siberia, favoured the down-stream activities connected with its exploration responsibilities, i.e. the provision of information to support development, instead of reserve addition.²⁰⁸

²⁰⁴ Zaleski, *op cit.*, p. 483.

²⁰⁵ Kornai, *op cit.*, p. 164.

²⁰⁶ Zaleski, *op cit.*, p. 511.

²⁰⁷ Gustafson (1989), *op cit.*, p. 58.

²⁰⁸ *Ibid.*, p. 96.

Campaign style management characterised the development of western Siberia, while structures of incentives and evaluation/verification further aggravated this one-sided development by favouring low-risk operational goals, i.e. production over reserve addition. Thus, one of Mingeo's operational criteria, was not reserve addition, but meters drilled – a criteria that is more easily quantifiable and predictable, yet not necessarily well suited to ensure reserve addition and long term viability of the oil industry. Mingeo's other targets included reserve addition, which led to the "over-exploration" of areas already known to have favourable conditions, as opposed to new frontiers.

Finally, optimisation and selective attention led to departmentalism. In organisational literature the term departmentalism refers to the practice of placing higher emphasis on the sub-goal of a unit within an organisation, rather than the overall goal of the organisation.²⁰⁹ A subgoal may sometimes become the overriding operational goal of the unit. Such dysfunction is not particular to the Soviet Union; however, in light of the absence of market type indicators of efficiency it may have been more difficult to control as standards of evaluation were less transparent. The Ministry of Geology who had the responsibility for geophysical surveying and core-hole drilling was also evaluated by additions to reserves which they then tended to overstate, while oilmen who then had the responsibility of working those reserves would understate them in order to achieve lower production targets.²¹⁰ One target indicator for the MNP was meters drilled. This again led to an emphasis on development drilling where commercial drilling speeds were faster than exploratory drilling and targets are thus more easily reached.²¹¹ A final

²⁰⁹ March & Simon, *op cit.*, pp. 59-64 & 95-97. Displacement of goals is another term that describes the conflict between the various constituent goals of a strategy and the strategy goal itself. However, this term seems to be more closely related to individual strategy, while departmentalism refers to a sub-group goal. I will refer to departmentalism as a term that spans both approaches. On displacement of goals see Blau & Meyer *op cit.*, pp. 139-161. The pursuit of subgoals is also referred to as internal opportunism. Williamson (1975), p. 125.

²¹⁰ Gustafson (1989), *op cit.*, p. 72. See also Nove, *op cit.*, pp. 93-108, on the difficulties with Soviet success indicators.

²¹¹ Hewett, *op cit.*, pp. 55-58. Gustafson also attributes this in part to a miscalculation on the Soviet planners' behalf that the reserve prospects in Western Siberia were not threatened and

example on how departmentalism led to conflicting goals were the maintenance crews whose targets were measured in number of well repairs and not quality of repair (i.e. did the wells break down again right away?).²¹² Such deficiencies, however, were not unique to the oil or energy industry, similar deficiencies could be found in most aspects of the Soviet economy.

Prices and income extraction.

In a market economy, prices play an important allocative as well as informative role.²¹³ Allocative in the respect that price affects consumption and establishes a balance (equilibrium) between demand and supply. Informative in that they reflect (marginal) cost and scarcity of a given product, and thus are important information carriers with respect to allocation decisions.

The assumption that prices reflect marginal cost enables consumers to make a trade-off between satisfying competing claims on limited goods or resources. The market in this respect by balancing demand and supply also serves as a mechanism to achieve a Pareto efficient allocation of resources.²¹⁴ In a market economy efficient allocation of resources reflects optimal allocation of capital spending. Taking into considerations foregone benefit of alternative spending (opportunity cost), investment will be directed towards maximising utility. In a market economy prices also indicate relative scarcity, in that goods and inputs in heavy demand can command a higher price and discourage "overuse" use of scarce resources. In a competitive market the supply curve for any given commodity is also the marginal cost curve of providing that commodity. Thus in a competitive market prices perform two main roles. Firstly, they ensure equilibrium between quantity supplied and demanded. Secondly, "prices are guiding individual consumers and producers, each acting

therefore the immediate need (despite the geologists warnings from the 1970s onwards) for greater investment in exploration not being crucial. (Gustafson (1989), *op cit.*, pp. 123-129).

²¹² Gustafson (1989), *op cit.*, p. 117.

²¹³ The market economy model assumes absence of distortions or market failure, free flow of information and cost-less enforcement of contracts and property rights.

²¹⁴ The Pareto criterion assumes that actors will have consistent and clearly ordered preferences. There is little evidence that these assumptions hold for each individual, but for a

only in their self-interest, to an allocation of the economy's resources that is Pareto-efficient. Nobody can be made better off without someone else [being] worse off".²¹⁵

In an administrative economic system these functions rest with the planners.²¹⁶ In the Soviet Union the State Committee on Prices (hereafter the Price Committee) had the overall responsibility for fixing prices. This had several consequences. Firstly, the task of fixing millions of prices was an immensely time consuming and resource consuming task (which for the sake of "efficiency" meant that once prices had been fixed keeping them stable would be timesaving and simplify the planner's job from year to year). Secondly, in order to determine prices the Price Committee was dependent of the same flow of information that the planners were and thus were held hostages to the same deficiencies in the flow of information.

Rather than marginal cost pricing, which reflects scarcity and opportunity cost, Soviet prices were based on average costs plus a centrally determined profit rate.²¹⁷ Average price setting (in an industry at the boundary of its production capabilities) is by its very nature lower than marginal. In a market economy this would have resulted in excessive demand, and production at a level that in the long run would not have been profitable.

In the Soviet economy the problem was identical, however, excessive demand was a cost incurring to the state not the enterprises. This made economising

polity (the sum of individual preferences) these assumptions may be more appropriate as a guiding principle.

²¹⁵ Begg *et al.*, 'Economics', McGraw-Hill, 1991, 3rd ed., p. 261. However, TCE questions the very idea of the competitive market, particularly so for idiosyncratic transactions and goods. (See Introduction and Chapter 5).

²¹⁶ Capital allocation and balancing of supply and demand was ideologically and politically determined rather than determined by prices. Instead prices in the administrative economy primarily performed the roles of: control (since output targets often were defined in value prices were used to evaluate and assess performance); measurement (the aggregation of dissimilar products for assessment of economic performance; and income distribution (below marginal cost prices affected real income). Gregory & Stuart, *Soviet and Post-Soviet economic Structure and Performance*, 5th ed., HarperCollins College Publishers, 1994, pp. 191-3.

²¹⁷ This profit margin lay in the vicinity of 3-5 percent of cost, and was to go towards extra-budgetary investments.

less attractive from an industry point of view. For the state it meant rapidly decreasing returns on investments.

Given the absence of informative prices, shifts in the energy structure was not so much a planned development, as a reaction to planning from the achieved level. Non-economic indicators influenced strategic decisions and perceptions of scarcity. This implied that the shifts in energy carriers could have been more efficient if planners had been able or willing to evaluate whether they could have produced more energy by redistributing resources differently without reducing production of each individual carrier. However, planning from the achieved level, did not pass judgement on this form of resource allocation which resulted in an overly wasteful and expensive industry.²¹⁸

In light of the organisational and institutional structure the pricing mechanism served its functions. Only after Stalin's death did prices become more important as tools of allocation, however, the economic structure as such remained geared towards serving political objectives rather than economic efficiency. Not only were prices determinants in the evaluation of the production process – i.e. fulfilment of targets which affected enterprise behaviour – but, they were also important in the accounting system and balancing of budgets through the *khozraschet* system.²¹⁹

Characteristic of the entire use of prices in the Soviet economy is that they were bureaucratic tools. They were designed to ease the task of planning and facilitate the monitoring of the system – thereby extending the structures of control throughout the economy. In order to facilitate this prices needed to remain static. They were not expected to be impartial information carriers alerting planners to relative scarcity and opportunity costs.

²¹⁸ Powell argues that an experienced planner could use other forms of information to decipher the true state of the economy, such as enterprise behaviour and resource requests. (Gregory & Stuart, *op cit.*, p. 194).

²¹⁹ On the *khozraschet* system see Nove, *op cit.*, pp. 14-16.

Cost of production had little impact on quantity of production. The economy was administered by means of direct bureaucratic control and not by fiscal and monetary policies.²²⁰

The chief results of this pricing structure, was that the oil industry due to its huge requirements for capital investments became a growing burden to the Soviet economy. The artificially (from a market perspective) low prices contributed towards a massive over consumption of oil (and energy) which again raised the demand for more energy as plan targets continued to rise.

Income extraction. The organisational structure set out in Chapter 3, the system of management, and the role of prices was geared to extract income from the economy. Income extraction in the Soviet economy differed from income extraction in capitalist societies. Income extraction by the state in capitalist societies is largely based on indirect collection through taxes and levies. The Soviet system was based on redistribution of produce that the state generated. Income in any economy can consist of two elements, an economic and a political component. Economic income is value that is in excess of the cost of production. Such income can then be absorbed and reinvested in order to generate more income. Political income is "value" that is created as a result of state intervention (subsidisation, price ceilings, state ownership *etc.*) resulting in a redistribution of producer surplus in favour of consumer surplus or *vice versa*. Such "value" is not necessarily in the economic sense, but can be an ideologically or culturally conditioned good.²²¹ The investment of such "value" is often non-productive.

While as the political component has gradually been ideologically overtaken by the economic element in Western societies (and thereby partly becoming part of it) the inverse was the case of the Soviet economy. In the West less state intervention is gradually seen as a means to increase national and global

²²⁰ Kornai, *op cit.*, p. 277.

²²¹ Value is here in inverted commas because all such value come at an additional cost to the state that has to be financed from other sources. For instance, in order to pay for a programme of industry subsidisation the state can increase taxes or prices in other sectors. Unless such

productivity and value. Economic growth for the sake of growth itself is gradually becoming a yardstick of political legitimacy. State intervention thus contributes to distorting market signals resulting in a suboptimal channelling of resources. (However, all Western states still maintain various levels of state intervention). For instance, although the welfare state remains an important political and ideological ideal, increasingly it is assumed that the provision of such should be cost effective and if possible self-financed. These considerations, amongst other factors, contributed to the initiation of privatisation programmes in Western Europe throughout the 1980s and 1990s. Thus growth is seen as a means for the state to increase its revenue base and thereby, possibly, increase its welfare commitment.²²²

In the Soviet Union the structure of income extraction was tied to the structure of state power. Growth in the Soviet system did not necessarily imply greater economic surplus. Rather growth was measured primarily in physical terms, which again were closely tied to the incentive and monitoring structure employed by the patrimonial-despotic state. Growth thus on the one hand contributed to giving the system a semblance of legitimacy, while on the other hand contributed to the implementation of the patrimonial-despotic state (coercion). The difference between economic and political income therefore

state intervention also leads to greater productivity as a whole, this being one of the rationales behind the welfare state, such political income is in fact a cost rather than a value.

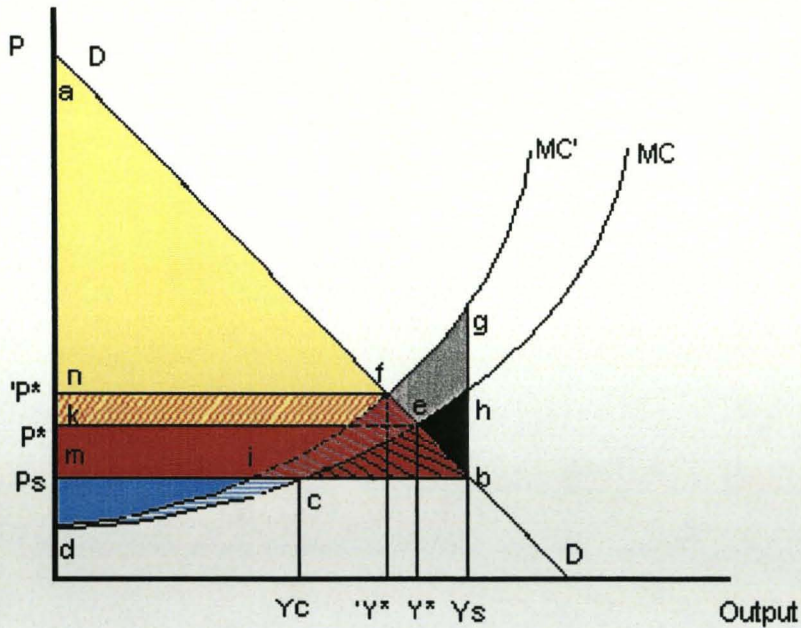
²²² While the state has traditionally had a paternalistic character in Russia, Western state tradition has to a greater extent been influenced by the liberal political philosophies that places greater emphasis on the accountability of the state and its role as a third party enforcer through standardised rules – the rule of law. (On the development of the state as a third party enforcer see for instance Barzel *op cit.*). Throughout most of the 19th and 20th centuries liberal (political and economic) philosophies dominated the development of states and economies in Western Europe. In Western Europe two main strands of liberal states (capitalist) developed in this period – enterprise capitalism and social capitalism (or social democracy). For a period after WWII Keynesian policies dominated Western Europe resulting in a shift towards social democracy that to a greater extent emphasised political income through the welfare state, more state intervention in the economy and the mixed economy. However, the Keynesian model's inability to tackle unemployment and inflation (stagflation) has again resulted in the emphasis on a less state intervention (the New Right). (For a brief description of this development in Great Britain (GB) see for instance Adams, *Ideology and Politics in Britain Today*, Manchester University Press, 1998, pp. 1-31). The New Right emphasises competitiveness (nationally and globally) as a prerequisite for growth – economic income. As such extensive welfare commitments are seen as non-productive (debt increasing) and state intervention as market distorting – growth inhibiting. This development has perhaps gone furthest in GB and the United States of America but is evident in much of Central Europe and Scandinavia as well and perhaps best captured in the phrase 'socially right and economically important'.

is that economic income can be measured in comparable terms, while political income can only be measured by some non-normative yardstick (and therefore not necessarily comparable between systems). In the Soviet Union this yardstick was closely related to the structure of state power.

In standard textbook economics the distribution of income from production is divided into a consumer and a producer surplus. In Figure 4.1 consumer surplus equals the area *ae**k* while producer surplus equals the area *ke**d*. Assuming a downward sloping demand curve as a result of different economic circumstances and consumer preferences, and an upward sloping supply curve as a result of different production circumstances then both areas represent the saved aggregate income/expenditure that buyers/producers would have been willing to pay/incur at any given equilibrium price. If production remained unchanged a price ceiling on energy – *P_s* – would imply a transfer of producer surplus (profit) *kecm* to consumers. However, in a market situation a price ceiling would, unless producers are compensated in another way, lead to lower supply of energy (*Y_c*). As both supply and demand were “controlled” by the state these factors differed in the Soviet Union.

Let *Y* indicate production at (*) market equilibrium (world price), (*c*) at competitive level with price ceiling and (*s*) at Soviet level. Let *P* indicate prices at (*) equilibrium and (*s*) Soviet level (price ceiling). *MC* is marginal cost and *DD* is demand. *A* (') indicates a shift. Figure 4.1 is a model of income and division of surpluses in the Soviet economy. In a market economy the section of *MC* exceeding average costs constitutes the aggregate supply curve. Since supply in the Soviet Union was administered *MC* has been used rather than a supply curve, since production of oil portrayed rising costs as fields matured (see Chapter 2).

Figure 4.1 – Structure of income in the Soviet system.



In the Soviet Union the area *abcd* was portrayed as total surplus created by the oil industry. However, the area *ebc* was only a political surplus in that it implied a *de facto* transfer of surplus from other sectors and the public to maintain a high level of production.²²³ Cheap energy was an important element of the Soviet industrialisation. Low and stable energy prices was seen as a 'good' that the Soviet model enjoyed over the capitalist model. However, cheap energy prices resulted in the over consumption of energy (high energy intensity), which implied a *de facto* transfer of investment resources away from other industry and a reduction in living standards due to the emphasis of investment at the expense of consumption. (The burden of energy has been described in Chapter 2). By seemingly increasing consumer surplus both effects were ideologically presented as necessary and/or positive, thus constituting forms of political income. Under market conditions the area *ehb* would constitute a subsidy from the oil industry to other sectors, in the Soviet economy this was a "hidden" cost. (Hidden because the sector balance was not presented in terms of costs and profits). This hidden cost implied a further transfer of resources away from other uses.

²²³ Mishan, *Economic Efficiency and Social Welfare: Selected Essays on Fundamental Aspects of the Economic Theory of Social Welfare*, George Allen & Unwin, 1981, p. 84.

Political income in the Soviet Union consisted of the components political rent and political surplus. Political rent is here used to indicate that part of income which in a market economy constitutes producer surplus. Political rent increased consumer surplus due to price fixing. In Figure 4.1 this is equal to the area *kecm*. Political surplus was generated by the administrative system by "increasing" consumer surplus through maintaining production levels higher than market output with a price ceiling (Y_s - Y_c). Based on its ability to extract these two forms of political income the state was able to maintain ensure its position in the circulation of rent and resources and create resources to maintain the patrimonial-despotic structure of state power and create a semblance of ideological legitimacy.

Political income in the Soviet Union was extracted whenever the economic system contributed to reinforce the legitimacy of the power structures. If planning was successful and the economy grew the vanguard was fulfilling its role. Hence the Soviet practice of cosmetic statistical output. Both the structure of resource circulation and structure of management were formed in order to maximise this goal. Zaleski writes that '[t]he priority of management over planning has been the dominant feature of the Soviet economy since Stalin's time',²²⁴ which shifts the attention from problems of planning to principal-agent issues concerning the operation of the hierarchical management structure.²²⁵ This again explains the systemic obsession with plan fulfilment, or the seemingly such, and was an important factor behind the various 'soft constraints' that existed.²²⁶ The means by which political income was realised was through centralised control with redistribution of resources and income in physical terms. The control over circulation of income that figured in the plan was a source of political income. On the other hand there also existed a shadow venue for resource and income circulation, which comprised a) such income and resources that could be disguised from the official system or b) income and resources in excess of that which figured in the plan. The former was a result of outright theft and various systemic

²²⁴ Zaleski, *op cit.*, p. 483.

²²⁵ Moore, *op cit.*, p. 192.

²²⁶ See Kornai (pp. 140-45) for details on 'soft' constraints.

practices. The latter comprised produce in excess of the plan, plus an element of over-fulfilling the plan, as a result of more favourable production conditions than known to the planners resulting from various systemic practices. (For details on systemic practices see below).

The Soviet solution to minimising transaction costs in the extraction of income were the tools of administration described in this chapter and the organisational principles described in Chapter 3. These tools were to extend patrimonial control and verification throughout the system. However, the system was ill suited to accommodate increasing complexity and spatial distribution and experienced what Coase termed decreasing returns on integration.

In addition to a political rent an economic rent was extracted. Economic rent is defined as the 'extra payment a factor receives over and above the transfer earnings required to induce the factor to supply its services in that use'.²²⁷ Given a difference in the cost structure of producer A and B (A produces at a lower cost) and a uniform price, economic rent constitutes that part of payment that exceeds the minimum price that A would have sold at. This rent is equal to the blue area in Figure 4.1 - *mcd*. In the oil industry such differences could stem from differing geological and geographical conditions.

Several sources of income of a rent-type character existed in the Soviet economy.²²⁸ Firstly, the difference established by the system of prices between producers and end-users (realised through the turnover tax). Secondly, the difference between domestic prices for oil and international prices. In effect the state could "buy" oil at domestic prices and sell at international prices while extracting the difference.²²⁹ Thirdly, by subsidising branches of industry, agriculture and construction with relatively cheap energy. This constituted the largest rent-type income source.

²²⁷ Begg *et al*, *op cit.*, p. 187.

²²⁸ Sagers *et al.*, *op cit.*, pp. 390-7. Kryukov (2000), *op cit.*, pp. 46-53.

²²⁹ The income generated by energy sales were important in trying to overcome bottlenecks in the domestic supply system. (Melentev & Makarov, *op cit.*, p. 201).

Fourthly, by giving industry and agriculture a competitive advantage through cheap energy allowing them to compete on world markets and the state to absorb the difference between domestic prices and international prices. (This was mostly relevant in the bilateral agreements with Eastern European countries and developing world countries). Lastly, through the consumer market, either in the form of low-cost production or energy in exchange for import of consumer goods.

Sagers *et al* estimate that oil and gas rent in the Soviet Union alone equalled almost 40 per cent of total budget revenues.²³⁰ Oil equalled almost 25 per cent. In their analysis declining world prices and rising industry cost in the 1980s severely affected the potential rent base of the USSR and thereby the assured functioning of the system.²³¹ The mechanisms for extracting economic rent were closely connected with the structure of extracting political income and remained largely hidden. This made it possible 'to attribute the economic and social success of the country to the "advantages of the socialist structure", and not benefits arising from the exploitation of low-cost, abundant natural resources'.²³²

As oil deposits started to become increasingly removed from the main centres of consumption and reserves became depleted the hidden nature of income extraction became a burden to the Soviet economy. Increasingly large investments were required to maintain production (see Chapter 2). This burden of oil is illustrated in Figure 4.1. The gradual depletion of oil and increased cost of production is represented by the shift in MC to MC'. Holding demand, prices and output constant it can be seen that while the income generated by the state (the red and blue areas) shrinks (area *icd*) the burden of the Soviet development strategy grew to *fbi* and *gbf*. This was the

²³⁰ Sagers *et al.*, *op cit.* p 395 (and table 1, p. 396). According to Melentev & Makarov, energy sales constituted the main source of gross income. (Melentev & Makarov, *op cit.*, p. 201).

²³¹ Sagers *et al.*, *op cit.*, p. 397.

²³² Sagers *et al.*, *op cit.*, pp. 391-2.

situation experienced by the Soviet Union in the late 1970s and 1980s. With the onset radical reforms under Gorbachev increased transaction costs shifted the MC function even further, implying a continually declining *de facto* income. The crucial question in reforming the oil industry would have to take into account how to reduce the burden of oil extraction to the state while at the same time ensure sufficient income to maintain the state. Since the *raison d'être* of the state was closely connected to the previously described structure of income extraction reforming the sector would be more a political than an economic issue.

The displacement of economic income by political income had several implications for the Soviet economy. It structured the economy in a way conducive to extracting the latter. The systemic emphasis on political income led to the adaptation of several systemic practices (informal institutions) that further impede the coherence of the plan and the functioning of the economy from an economic efficiency point of view.

Economic behaviour – informal responses.

The lack of planning coherence, constrained resource and time situation, and formal incentive structure resulted in the adaptation by economic agents of various informal responses. As set out in the introduction the development of informal responses are in line with NIE where informal institutions are seen as supplements to the formal institutions in order to maximise on a given incentive structure. In the Soviet Union the informal institutions responding to the incentive structure resulted in defection from the co-operative solution.

Hierarchical bargaining and informal practice. Since the system relied on the lower levels of the economy to produce the information by which the upper echelons would make the plans several strategies were present for a factory or plant manager to affect target levels. Since all levels in the system were both principal and agents at the same time no distinction will be made here between behaviour on the different levels. This implies that the behavioural traits described in these sections applied at all levels in the

hierarchical structure, as the ratchet-principle would be applied at all levels as well.

The safety factor concept implied that each agent would strive to conceal their true production potential in order to receive lower targets. Lower targets would ensure the relaxation of plan fulfilment both with respect to current production and future production and would allow some leeway in case of supply constraints or target alterations. Furthermore, safety factors would "allow" the diversion of resources to non-regulated activity.

Safety factors were established through the bargaining process that was plan formation. However, the upper echelons, expecting agents to apply the safety factor principle would initially set targets higher than intended in order to create bargaining ground for themselves. Several rounds of bargaining led to wasteful employment of management and human resources, severely increasing transaction costs.

The establishment of safety factors was not always successful, and falsification and *blat* were used to alleviate supply constraints and achieve fulfilment of targets. By falsification is meant the reporting a production or quality level different from the actually achieved one.²³³ *Blat* was the use of personal connections in order to obtain a favour in the form of reduced output targets, getting an allocation of resources that one did not have a legal claim to or achieving extra allocations of resources.²³⁴ Both practices resulted in the diversion of resources away from their planned use, in the first case by not being available at all, or belated, and in the second case by being diverted

²³³ Both falsification and *blat* are described in Berliner (*op cit.*, Chp. 10 & 11). Mostly falsification implied the reporting of a production level higher than the one actually achieved. However, Berliner, also describes the opposite practice. The reporting of lower output levels than actually achieved and holding back production for later time periods. This must again be seen in light of the "safety factor". Knowing that the ratchet principle would be applied in the following period, the reporting of output levels substantially above plan, would lead to higher targets in the following period. Substantially higher is in each case a subjective decision, and the outcome would have been a function of the units assessment of the practical achievable level in the following period and the premium obtainable for the present over-plan production.

²³⁴ 'In previous time, we had so called "telephone rights", a deal could be reached just by a telephone call and not through the usual procedure'. (Interviewee # 1).

from their intended use. Either way the practices contributed to the sub-optimal functioning of the planning system, in that they distorted information.

Presumably *blat* would unlock bottlenecks at the individual unit's level by creating a bottleneck somewhere else in the economy. Kryukov argues that a sector's ability to influence and divert the flow of resources was a function of its importance.²³⁵ In the case of the oil industry this was clearly reflected in the investment priority it enjoyed. But also within the sector resources were diverted towards productive units (see above on selective attention).

Both falsification and *blat* must be understood in light of the operational goal – the fulfilment of the plan. Both practices enabled the well-run unit to have or establish a “safety factor”, both with respect to output target and with respect to resources, which would ease the operation of the unit and enable it to earn premiums. However, these practices also contributed to increase the economy's wastefulness. Not only were resources distorted from their intended use, but resources would also end up in storehouses for emergencies and thus be non-productive.

Crucially this system displays the underlying propensity to defect from the co-operative solution, in that agents would maximise individual rather than collective goals, and would “seek self-interest with guile” at the expense of the state. The emphasis on political income over economic income facilitated this development. Priority projects and plan fulfilment became the “legitimising” factors behind these practices. This was again reflected in the incentive structure (rewards and penalties) that guided economic behaviour and the existence of ‘soft budget constraints’.²³⁶ The existence of such ‘soft

²³⁵ Kryukov (1998), *op cit.*, p. 80.

²³⁶ A ‘soft budget constraint’ implies that the firm can expect systematic financial assistance (in various forms) in case of overspending, thus limiting the threat of firm exit due to economic grounds. Kornai argues that the prevalence of ‘soft budget constraints’ in state owned enterprises contributed to a wasteful and inefficient economy. (Kornai, *op cit.*, pp. 140-5). Forms of ‘soft constraints’ were subsidy, taxation, credit, and pricing, having in common that their levels could be affected both *ex ante* and *ex post* through hierarchical bargaining. Importantly though, ‘soft budgets’ were not a panacea for poor management. Managers were still dependent on achieving targets in order to make a career and/or maintain a ‘good life’. Therefore although a sense of economic ‘soft budgets’ existed there were no

constraint' impeded the restraint of systemic investment hunger and the development of a shortage economy.²³⁷ Both phenomenon contributed to deepening patrimonial structures of state power.

The lack of planning coherence contributed to the development of these practices. Gregory in his study of *khozyaistvenniki* and *apparatchiki* shows how the different units had different criteria to perform to, and how this again led to a tension between the different actors of the information exchange process.²³⁸ The *apparatchiki* set the framework (rules, norms and directives) under which the *khozyaistvenniki* had to operate. Gustafson labels this tension a "tug-of-war" between planners/technocrats and oilmen.²³⁹ This tension had its origination in the practice of planning from the achieved level. Planners would push for high targets, while oilmen (producers) would argue for low targets. The discrepancy that existed once a plan was set could be alleviated through the practice of *blat*, falsification of reports or substandard production. (In the oil industry substandard production could relate to well construction, maintenance, infrastructure construction *etc*). Berliner describes the *tolkach* and his role in "alleviating" the strains on the economy from such discrepancy.²⁴⁰

However, although different in form there was a likeness in substance between the various operational goals – plan fulfilment. This point was important because it allowed the practices of falsification and *blat* to penetrate the entire system. The fact that all levels of the structure were held to this one standard made the different layers mutually dependent on each other, which permitted and in deed (informally) encouraged the passing on of imperfect information.

equivalent political 'soft budgets'. The latter is important since it again emphasises the importance of safety factors.

²³⁷ See Kornai *op cit.* for details, pp. 160-5.

²³⁸ Gregory, 'Soviet Bureaucratic Behaviour: *Khozyaistvenniki* and *Apparatchiki*', *Soviet Studies*, 1989, vol. 41, no. 4, pp. 511-525.

²³⁹ Gustafson (1989). *op cit.*, 133.

²⁴⁰ Berliner, *op cit.*, pp. 207-230.

The informal practices described in this section further spurred the development of both vertical and horizontal loyalty networks that served as means to hedge against political and economic (logistic, plan fulfilment *etc.*) uncertainties.²⁴¹ Though “independent” of the main state structure these networks further served to extend the patrimonial character of the Soviet system. Vertical networks joined lower- and middle-level leaders ‘with those at higher levels who could afford them assistance and protection’, while horizontal networks were based in a local area.²⁴² Both these types of patrimonial structures became important in the (official) alteration of the circulation of income and resources that took place after 1987/88.

Property rights and informal practice. Property rights in this context constitute the right to control both tangible and intangible assets. The right to control is represented through the right to decide how assets are employed, and the right to utilise value created by property.²⁴³ In a capitalist society this right in itself constitutes an incentive to maximise production and minimise costs, i.e. create a profit (or surplus value). In the absence of a right to utilise surplus value created by the means of production an artificial incentive is needed to motivate the users of capital to create a surplus.²⁴⁴ In the Soviet Union these were the use of bonuses and penalties, while the state had ‘usurped the rights of ownership of natural resources, concentrating in its hands all functions related to their use and the disposition of the proceeds’.²⁴⁵

Although the plans formally allocated targets and resources and monitored plan fulfilment activity outside these targets went largely unmonitored. The Soviet economy functioned, to some degree, on the symbiosis of formal and informal activity. The right to utilise surplus value was even less clear. There was no clear owner as each level of the bureaucracy was subordinate to a higher level and at the top-level political standards rather than economic

²⁴¹ Gill (1994), *op cit.*, p. 9.

²⁴² *Ibid.*

²⁴³ The major work on property rights in TCE and NIE is probably Eggertson's *Economic Behaviour and Institutions*, *op cit.*

²⁴⁴ Kornai, *op cit.*, p. 65.

²⁴⁵ Sagers *et al.*, *op cit.*, p. 392.

standards evaluated the functioning of the system.²⁴⁶ Thus the entire bureaucracy was driven by artificial motivators, while those that actually operated the system had little or no incentive to make it efficient in economic terms.

Property rights were poorly defined and rested on the acceptance of the authority of the Communist Party and the state by each member in the principal-agent hierarchy. In this hierarchy principals and agents were simultaneously both. Thus the moral hazards represented by bounded rationality and opportunism was present at all levels. The acceptance of central authority was crucial to the distribution of rights and the functioning and enforcing of the structure. A manager in the Soviet Union managed the property of the state for the state, his obligations and goals were defined by the central authorities, yet leeway existed through his ability to influence the goals through hierarchical bargaining and systemic practices.

The Soviet manager's position was in many ways analogous to the manager in a western joint-stock corporation in that he controlled the asset on behalf of the owners, thus effectively controlling the property. The difference between the western manager and the Soviet manager consisted (amongst others) in that in the west a manager would be evaluated through his performance for the owners – i.e. through profit and dividend – and would (should) be subject to punishment in the case of non-performance. Although a western manager has *de facto* control over the asset, the right to this asset is clearly defined through ownership. In the Soviet economy the manager's position was different. A Soviet manager was evaluated through fulfilment/non-fulfilment of the plan. This gave him to some extent more control over the asset than his western counterpart. The fact that there existed no efficiency measurements equivalent to share prices and profit in a market economy, meant that the Soviet manager could to a greater extent exploit the information asymmetry that exists between actors in an economy. This he could do in order to (a) affect target levels through bargaining, (b) achieve additional funds due to the existence of

²⁴⁶ Kornai, *op cit.*, p. 124.

'soft budget constraints', and (c) divert residual production towards personal gains. The state's right to property existed through its members acceptance of the states authority. This again was centred on the functioning of the political system and the state's ability to deliver economic growth and a better life.

With the (formal) weakening of the authority of the CPSU in the late 1980s and early 1990s, the right to control assets came to the forefront.²⁴⁷ This struggle was represented both at the individual level, i.e. "spontaneous privatisation", as well as on the aggregate levels, i.e. the seizure of all assets on Russian soil by president Yeltsin in 1990.²⁴⁸ The shift to self-financing in the late 1980s increased the motivation of managers to participate in the circulation of rent and income, and drastically reduced the state's authority with respect to collecting political income. Gradually a formalisation of informal practices took place that altered the incentive structure. These and post-Soviet factors will be examined in the following chapters of this thesis.

²⁴⁷ The existence of widespread corruption, embezzlement and falsification throughout the Soviet period demonstrates that such rights were contested at all times of the Soviet Union's existence.

²⁴⁸ This process of weakening central authority and the subsequent "stealing of the state" has been characterised by Solnick as a form of "bank run" hastening the disintegration of the structure. (Solnick, *op cit.*, Chapter 7).

Chapter 5

Reform and Continuity.

'If we look at the reforms of various ages, everywhere radical reform has been attempted, there is a rollback, a sharp backlash. This is particularly true of the twentieth century. In Russia, not two land reforms, three revolutions, Lenin's new economic policy, Stalin's industrialisation, Khrushchev's thaw, or Kosygin's quiet reforms changed anything fundamental in Russia'.²⁴⁹

Boris Yeltsin

One of the great challenges faced by the Russian leadership after the demise of the Soviet Union was to form a strategy given the constraints represented by inherited political, economic, cultural and geographic conditions and institutions. Part I has examined some of these factors relating to the oil industry. Geographic conditions have played an important and path forming role in the development of Russia. However, for all practical purposes these conditions can only be influenced in a limited way. On the other hand political, economic and cultural institutions are functions of human motivation and incentives. In the development of societies factors of path dependency and institutional competition associated with specific institutional matrixes has resulted in the great variety of political and economic systems (and societies) that exist today.

Institutions in this respect are defined as '[T]he rules of the game in a society or, [] the humanly devised constraints that shape interaction'.²⁵⁰ Institutions can be either formal or informal, in the sense that they originate from an official source or develop as a response to formal rules and constraints. Examples of the former are legislation and organisational structure, examples of the latter are customs and adaptive behaviour. Williamson argues that the institutional matrix constitutes the governance structure within which transactions take place.²⁵¹ A transaction is taken to mean human interaction with the purpose of entering into a market or bureaucratic relationship of

²⁴⁹ Yeltsin, *The View from the Kremlin*, HarperCollinsPublishers, 1994, p. 145.

²⁵⁰ North (1990), *op cit.*, p. 3.

²⁵¹ Williamson (1990 [1979]), *op cit.*, p. 239.

exchange. Both types of interaction can be regarded as contractual and associated with agency costs. Agency cost is defined as 'the sum of the monitoring expenditure by the principal, the bonding expenditure by the agent and the residual loss'.²⁵²

In the Soviet economy organisational structure and administered planning were examples of formal institutions, whilst agency costs stemming from economic behaviour (*blat, tolkach etc*) were informal institution. Some institutions like rent extraction and hierarchical bargaining functioned due to a symbiosis of formal and informal institutions. Institutions serve to reduce the uncertainty of everyday life by making behaviour more predictable – thus reducing transaction costs. Two considerations arise from this. First, institutions are important phenomena in the study of social, economic and political change. Second, they provide a conservative element in periods of transition. Both personal experience and institutional constraints create path dependencies in human behaviour. Hence institutions are key to analysing historical change.²⁵³

In explaining human behaviour Pierre Bourdieu emphasises the influence of *habitus* on individual behaviour. *Habitus* is the objective pool of knowledge within which the individual acts. Individuals' behaviour is not always, but often, habitual and habits are a function of the historically accumulated pool of knowledge. *Habitus* 'accounts for the fact that social agents are neither particles of matter determined by external causes, nor little monads guided solely by internal reason, executing a sort of perfectly rational internal program of action. Social agents are the products of history, of the history of the whole social field and of the accumulated experience of a path within the specific subfield'.²⁵⁴ *Habitus* can be both one-dimensional (national,

²⁵² Jensen & Meckling, 'Theory of the Firm: Managerial Behavior, Agency Cost and Ownership Structure', *Journal of Financial Economics*, 1976, no. 3, p. 308. The principal can establish incentives in order to limit divergence from his preference (monitoring cost). In some situations it will pay the agent to expend resources to guarantee that he will not undertake actions contrary to the principal's wishes (bonding cost). The elimination of diverging interest can not be fully eliminated, hence a reduction in the principal's welfare (residual loss). (*Ibid.*)

²⁵³ North (1989), *op cit.*, p.3.

²⁵⁴ Bourdieu & Wacquant, *op cit.*, p. 136.

economic system) and multi-dimensional (class, enterprise, individual). In analysing social, political and economic evolution, institutions are a reflection of *habitus*. Institutions reflect historical habits as they have evolved throughout the centuries. They are a reflection of the knowledge and traditions that constitute the basis of culture and history that shape human behaviour. The rewards offered by polity specific economic and political institutions reflect the specific incentive structure through which agents in a polity have sought to maximise their goals. The mode of economic organisation reflect the opportunities afforded by the incentive structure.²⁵⁵

Organisations are '[E]ntities designed by their creators to maximise wealth, income, or other objectives defined by the opportunities afforded by the institutional structure of society'.²⁵⁶ In other words, organisations are designed to structure agency to a specific purpose, based on the opportunities and constraints that are inherent in any society. The motivation behind many Soviet organisational reforms was to reduce agency cost associated with the implementation of state power by creating specialised organisations to structure agency. As the state organisation developed the trend of reforming was to optimise fulfilment and control, rather than achieve greater economic efficiency.²⁵⁷

²⁵⁵ According to North and Thomas 'Efficient organization entails the establishment of institutional arrangements and property rights that create an incentive to channel individual economic effort into activities that bring the private rate of return close to the social rate of return'. (North & Thomas, *The Rise of the Western World*, Cambridge University Press, 1973, p. 1). Central to the argument in this book is the dynamic relationship between the state's fiscal (survival) needs and the development of property rights (an incentive for innovation and investment – economic growth). Where these two converge economic and political institutions are developed that can result in sustained growth. An important element of this argument is that the relative scarcity of input factors (land, labour and capital) determines the establishment of exclusive rights. Barzel further links this basic argument to the evolution of 'rule of law' states. For instance economies of scale in enforcement of rights and obligations where the constituency can maintain a constraint of the enforcer is conducive to the establishment of a 'rule of law' system. (Barzel, *op cit.*).

²⁵⁶ North (1990), *op cit.*, p. 73.

²⁵⁷ This consequence was not necessarily an intended result as control and administrative planning to some extent went hand in hand. Briefly: It was believed that administrative planning could be more efficient than the capitalist production system. However, since efficiency in the Soviet Union was measured by different standards, economic waste, as understood in a western sense, was a result of the incentive structure and the mode of state power. Also valuation in the Marxist sense differs from valuation in the capitalist sense.

From this it should be clear that change is a function of the relation between organisations and institutions. Both concepts define or influence one another, and both concepts evolve in a mutually reinforcing relationship to one another. In an effort to maximise the defined objectives, organisations alter institutions, and are themselves altered as a response to changes in institutions. Crucially, change is not necessarily towards greater economic efficiency, as objectives of organisations may not always be economic. This also implies that change can be analysed in terms of changes in both the organisational and institutional structures and their interaction.

The study of institutions and the associated organisational arrangements is therefore crucial in the analysis of change and reform. If organisations are designed to maximise the opportunities represented by institutions and in turn also alter them, then organisations can be designed to exploit the institutional possibilities that the actors wish to develop. The study of organisations can therefore tell us something about what institutions the leaders and leading actors have wished to develop, or what institutions have proven to be too difficult to change in any significant way.

Path dependence, is not the same as historical determinism, but emphasises the importance of history to the analysis of the present. It implies that the probability of understanding economic behaviour in a certain historic period, will be greater if such understanding is based on the preceding historic periods.²⁵⁸ Historical factors, represented by institutions, pose both possibilities and constraints. Possibilities by using the familiar in introducing the new. If existing economic institutions can be adapted to achieve other goals than the ones currently being pursued – then the probability of obtaining desired results increases.

On the other hand, institutions will constitute a constraint on altering behaviour if reforms (implying altered end-goals) do not take into account

²⁵⁸ An historic period in this sense is a period associated with a specific incentive structure that has proved to be evolutionary stable. (On evolutionary stable strategies see Samuelson *op cit.*, pp. 47-66).

existing practice and incorporating them into the behavioural pattern that will achieve the desired end-goal.

Hedlund uses the term 'revealed institutional preference' to describe a situation where: 'an external shock is delivered by radical changes from above in the formal rules, and where the informal norm system responds either by not moving at all or by budging and then gravitating back to previously well known patterns'.²⁵⁹ Several analysts have commented on the Soviet economy's institutional resilience, all the more making the study of Soviet institutions and organisations imperative for the understanding of Russian reforms.²⁶⁰

If one accepts this proposition then it becomes clear that reform must either incorporate existing institutions or be a gradual evolution of an altered symbiosis of formal and informal institutions.²⁶¹ In either case such evolution will require time, as it is unlikely that the collective pool of agents will be able to learn and adapt to the altered rules of the game quickly, as behaviour is a result of a lifetime of learning.

The origin of reform – i.e. are they a reflection of a change in popular consensus, are they brought about due to external pressure (conquest, conditional foreign aid) or endogenous pressure (antagonism between formal and informal institutions, antagonism between *de jure* and *de facto* property rights, revolution, coup d'état, etc)? – is of importance as well. Reforms brought about as a result of change in popular consensus are likely to be a product of past institutions because people's preferences will be a product of experience and environment. External and endogenous pressure on the other hand might or might not have taken into account past practice. Indeed such pressure is often the result of a minority's dissatisfaction with the existing

²⁵⁹ Hedlund (2000), *op cit*.

²⁶⁰ See for example Ericson, 'The Classical Soviet-Type Economy: Nature of the System and Implications for Reform', *Journal of Economic Perspectives*, 1991, vol. 5, no. 4, p. 12. Schroeder, *op cit*. pp. 376-382.

²⁶¹ This approach stands in contrast to approaches that claim that reforming the Russian economy would entail a complete removal of the old political, economic and social structures

structure, envisaging a future that goes quite contrary to its recent historic experience. As in the cases of the 1917 Russian revolution and the 1991 attempted 'shock therapy'.²⁶²

A major qualifying point is that there seldom is a consensus on what the future should look like. Democratic communication is biased toward compromise; likewise authoritarian regimes have several cliques of support that may have different demands and desires upon the acting leadership. The latter is implied in the term state capture. Thus, the process of reform will never be one that follows a pre-designed course, but rather one that shifts and turns at irregular intervals. Does this then mean that reform design, given these constraints, is futile?

Reform Design & Ten Years of Transition

With hindsight it is always easy to criticise policy choices that do not quite turn out the way one had wished. The appropriate subject of reflection however, should rather be what should the policymakers have known in order to develop a strategy to get where they wanted to be? What were the feasible, knowable options of getting there? There are several difficulties with such questions. First and foremost, how do we know that the majority of actors in the policy-creating sphere have not reached their goals? This is a very subjective matter. The following discussion therefore assumes that the demise of the USSR would not have occurred unless there had been a desire for change at least within some parts of the public and/or within some parts of the ruling establishment. It further assumes that the changes initiated are an ongoing process.

If we assume that change is generally desired (and will continued to be desired) if it can reach a more Pareto efficient state, then we can measure the success of policy to the extent that it approaches this goal. A policy that only

(See Ericson *op cit.* pp. 11-27 for this view). It further holds it unlikely that such a total makeover is at all possible.

²⁶² Hedlund (2000), *op cit.*, p. 393.

benefits the few, while making the majority of people worse off is not a Pareto efficient policy. On the other hand, a policy where some get extremely wealthy, and the majority only slightly or not at all is, by Pareto-standards, a successful policy. In Russia the former seems to be the case. The distinction between the two approaches further entails that a Pareto efficient change has a greater likelihood of creating a state of popular consensus (if it does not spring from such), while the other alternative is more likely to be endogenous or externally driven.²⁶³ This again has important ramifications for the collective result of the sum of individual behaviour, as expressed through economic behaviour, i.e. the former is more likely to experience less institutional resistance. In the absence of popular consensus the ability to implement policy is dependent on the state's mode of power implementation.²⁶⁴

A complicating factor with this measurement is that there is not necessarily harmony between a short-term Pareto efficient and a long-term Pareto efficient outcome. Reserve management in the oil industry is an example of this. In a finite sequences of extraction periods t_n , predatory extraction in period t_1 can be as Pareto efficient as a more careful approach to extraction in that particular period. However, viewing the embedded wealth as a resource to be divided between several periods the amount being extracted in t_1 will be inversely

²⁶³ A caveat with the popular consensus criteria is that information asymmetries in both political and economic markets can create a divergence between voters' *ex ante* assumption and *ex post* perception. Stiglitz argues that 'there are asymmetries of information between those governing and those governed'. (Stiglitz, 'Information and the Change in the Paradigm in Economics', *The American Economic Review*, 2002, vol. 9, no. 3, p. 461).

²⁶⁴ If policy enjoys (active) popular support then monitoring and implementation costs (transaction costs) associated with reform will be less. In this situation the state can to a greater extent rely on an infrastructural power base. In the absence of popular support the state needs to rely on a patrimonial-despotic power structure. In this latter case transaction costs associated with the implementation of policy is also lowered but the extensiveness of policy penetration is limited to the patrimonial-despotic structure. In such a case it will be in the state's interest to limit the bargaining structure to ensure survival (i.e. the collection of sufficient income and resources), as the transaction costs of bargaining grows with the number of bargaining interactions. In the absence of a market economy it will further be in the state's interest to maintain crude standards of evaluation as this again reduces transaction costs. Power in a patrimonial-despotic system emanates from the ability to tie and reward the bargaining hierarchy to the centre. Bargaining in this respect constitutes a *de facto* bribe and makes the bribe-taker (bureaucrat, nobleman *etc.*) an integral part of the system with a vested interest in ensuring its survival. From the state's point of view diffuse or non-existing property rights and the absence of constitutional limitations on its power are conducive to ensuring a central role in the circulation of income and resources and thus protecting its power.

related to the possible extraction of wealth in period $t_{2...n}$ (and in some cases also to the total extractable wealth).

The time horizon under which extraction occurs is further influenced by the producer's ability to appropriate income or rent from production. This ability is again affected by the distribution of rights to such income. Studies of raw-material extraction show that extraction of oil in an environment with poorly defined and enforced property rights (a situation corresponding to high transaction costs),²⁶⁵ will generate economic behaviour geared towards maximising short-term production at the expense of a longer production horizon and leaving potential production undeveloped.²⁶⁶ However, in situations where investments are sufficiently protected, implying well-defined and functioning property rights as well as a financial regime that producers find acceptable, individual actors can be expected to maximise total wealth, which again is likely to have a longer horizon of generating welfare.

These are the theoretical parameters within which policy formulation should take place. However, in Russia there is no tradition for seeking out a Pareto efficient state. Quite the contrary, the Soviet tradition has been to maximise short-term gains while unclear property rights resulted in high transaction costs. In order to minimise transaction costs and ensure income the Soviet state developed a patrimonial-despotic structure of state power that informally accepted income loss (diversion of rent) in order to strengthen the power structure.

A separation of interests did not exist in the USSR. Short-term objectives dominated the long-term objectives and long-term actors were also short-term actors. There are no guarantees that actors will seek a Pareto efficient state

²⁶⁵ Property rights are here defined as 'the *sanctioned behavioral relations* among men that arise from the existence of goods and pertain to their use. These relations specify the norms of behavior with respect to goods that each and every person must observe in his daily interactions with other persons, or bear the cost of non-observance'. [Italics in the original]. (Furubotn & Pejovich (ed.), *The Economics of Property Rights*, Ballinger Publishing Company, 1974, p. 3). The Term 'good' is in this book exchanged for 'asset'.

²⁶⁶ Bohn & Deacon, 'Ownership Risk, Investment, and the Use of Natural Resources', *The American Economic Review*, 2000, vol. 90, no. 3, p. 532.

whatsoever. Indeed it is more reasonable to assume that individuals are prone to pursue alternatives that contribute to the maximising of individual wellbeing if the threat of punishment is low.²⁶⁷ The threat of punishment will be negatively related to organisational size if organisational growth results in a reduced ability to monitor the system. The probability of individuals maximising individual wellbeing rather than collective wellbeing will also be affected by the institutional setting within which the individual has learned economic behaviour.

Given such a state it might be more appropriate to analyse political and economic development and strategic behaviour in the context of Nash equilibria rather than Pareto equilibria. Given the low degree of *ex post* stability it will be assumed that political and economic equilibria in the post-Soviet period are Nash equilibria rather than Pareto equilibria. Policy adjustments will remain Nash adjustments as long as the Soviet institutional matrix dominates post-Soviet development. Pareto shifts should only be expected if a 'rule of law' society develops.

Political and economic bargaining thereby becomes a reflection of self-interest and individual assessment of the attractiveness of a policy shift. *Ceteris paribus*, the lower transaction costs are, the more easily an institutional shift can be implemented. As highlighted in previous chapters the Soviet economic environment rewarded individual rationality at the expense of the collective.²⁶⁸ By "accepting" informal economic practice, such as *blat* and falsification, it rewarded economic practice that went against the entire philosophy of an administered economy.

In game theoretic terms Hedlund argues that defection was the dominant strategy for individual actors and that the Western democratic tradition of

²⁶⁷ In a 'rule of law' society there are venues for "punishing" the state/rulers, i.e. in democracies a government can be "punished" at the polls if the constituency is unsatisfied with its performance. The equivalent did not exist in the Soviet Union.

²⁶⁸ Classic well-fare economics says that in the absence of market failure individual rationality will produce collective rational optimal outcome as well. However, such a situation cannot be assumed in the FSU. (Nor anywhere else!). On market failure see footnote 311.

mutual rights and obligations, that are the basis of the 'rule of law', have no counterparts in the Russian tradition.²⁶⁹ By this he means that the prevalent notion in Western philosophy of mutual obligations between the rulers and the ruled, expressed through rights and laws, is absent as a defining institution, throughout Russian history.²⁷⁰ Instead there has been a deep distrust by the ruled of the state as an impartial enforcer and guarantor of common rules, and the law has traditionally been seen as an instrument of the rulers.²⁷¹ The state's monopoly to renegotiate the 'rules of the game' *ex post* further contributed to this distrust.

An example here is the planning process and planning from the achieved level. With evaluation of performance tied to production targets and planning tied to achievement; the result was one where actors played a series of end games rather than recurrent exchange. Further, the fact that Soviet managers and individuals diverted that part of the resources flow that did not go towards fulfilling the different plans to personal ends illustrates that a more philosophical conflict existed – a conflict about who should have the right to appropriate rent or income. The central organs' authority and coercion only embraced that part of the resource flow that was connected with fulfilling various plans. Outside the official circulation of resources and rent there existed an unofficial circulation of the same factors that contributed to plan fulfilment yet at the same time facilitated accumulation of capital outside the official channels.²⁷²

It thus paid to defect from the co-operative solution in that defection promised greater return than co-operation. In fact, perfect co-operation could turn out to

²⁶⁹ Hedlund (2000), *op cit.*, pp. 400-401.

²⁷⁰ This argument was developed further by Hedlund in a subsequent article that examines the historical and philosophical development of the rights and contract concepts in Russia. (Hedlund (2001), *op. cit.*, pp. 213-237).

²⁷¹ Kornai argues that "the formal system of the law is [was] subordinate to the current endeavors of the bureaucracy". (Kornai, *op cit.*, p. 47). Based on the results of the Business Environment and Enterprise Performance Survey (BEEPS) Hellman & Schankerman show that nearly 75 per cent of firms surveyed in Russia 'are not confident' that the state would uphold their property and contract rights in business disputes'. (Hellman & Schankerman, 'Intervention, Corruption and Capture: the Nexus Between Enterprises and the State', *EBRD Working Paper*, 2000, no. 58, p. 7).

²⁷² Furubotn & Pejovich, *op cit.*, p. 171.

be detrimental to personal wellbeing through the application of the ratchet-principle. If plan fulfilment became more uncertain, personal wellbeing would become more uncertain. In post-Soviet Russia, the continuance of defection as the behavioural strategy reflects on the low opinion that the international investment market holds of Russia. Uncertainty and weak enforcement of laws have been among the major worries of Western actors in Russia.²⁷³

Crucially the measurement of market effectiveness is measured against idealised functioning industrialised markets, based on an institutional base different from the Russian.²⁷⁴ This is not to say that such measures should not be employed, but they should be qualified by emphasising the particular circumstances that transition takes place in, and the goals that policy is trying to achieve.

Lawrence Summers' statement 'Spread the truth – the laws of economics are like the laws of engineering. One set of laws works everywhere' embodies this approach,²⁷⁵ which was operationalized in the so-called 'Washington Consensus'.²⁷⁶ In the course of the 1990s the 'Washington Consensus' has come under heavy criticism,²⁷⁷ and policy has changed accordingly with institution building receiving more attention.²⁷⁸ The 'Washington Consensus', as a panacea for economic development of non-functioning or non-existing market-economies, relies on the pre-existence of some market-type economic institutions and/or a general familiarity with market type institutional framework. Thus this approach seems to have had positive effects in some Latin American countries where such a framework existed, but less so in

²⁷³ The EBRD's 1999 transition report measures the legal effectiveness of Russia at 2.0 as opposed to the legal extensiveness 3.7 (both company law) on a scale from 1 to 4+, where "1 represent little or no change from the previous regime". (EBRD, *Transition Report 1999*, EBRD, 1999, p. 260).

²⁷⁴ *Ibid.*, p. 22.

²⁷⁵ Lawrence Summers, former chief economist at the World Bank, August 1991, Bangkok. Cited in Hedlund (2000), *op cit.*, p. 399.

²⁷⁶ The 'Washington Consensus' implied rapid movement towards liberalisation, stabilisation and privatisation – or shock therapy. (See for instance Kolodko, *Ten Years of Postsocialist Transition: the Lessons for Policy Reforms*, The World Bank, The World Bank Development Economics Research Group, 1998).

²⁷⁷ *Ibid.*

²⁷⁸ World Bank, *Emerging issues in development economics*, 1997, vol. 8, no. 4. At: <http://www.worldbank.org/html/dec/Publications/Bulletins/prb8.4.html> [29/1/2000].

African economies where market institutions are institutionally unfamiliar. The institutional settings of the latter are generally characterised by severe information imperfections and high transaction costs.²⁷⁹ This characterisation also holds true for the Soviet and Russian economies.²⁸⁰

This is not to say that there are no normative laws in economics, but rather a reflection on the circumstances under which such laws may operate. Given that no countries are alike, such laws only represent some of the independent variables in the evolutionary equation. Parameters of operation differ from country to country based on their specific institutional matrix. In order to employ the 'laws of economics' one has to take into consideration parameters represented by institutions and their functioning through organisations.

Reform design is therefore not futile, but it is an uncertain undertaking, one that is influenced by several factors and considerations. Chief amongst these are historical factors carried forward through institutions, which again affect behaviour and the pool of knowledge that influence political actors in defining goals, means and organisations.

In considering both the developments of the Soviet oil industry and the oil industry in the Russian Federation, reforms have very much been implemented by endogenous and external pressure. Organisational inertia or outright unwillingness to implement decisions in the Soviet economy can be seen as an expression of 'revealed institutional preference' or lack of consensus. Institutional preferences in a post-Soviet setting will have to be accommodated and at the same time manipulated through organisational design to achieve the desired outcome. This leads back to the question of actors' desired outcome(s). Several solutions present themselves. First, desired outcome(s) may already be in place. Second, change is still an ongoing process with

²⁷⁹ Stiglitz, *op cit.*, pp. 460-461. See Hayami on the effectiveness of structural adjustment policy. (Hayami, *op cit.*, p. 273).

²⁸⁰ 'The economic problem confronted by Russia at the end of 1991 seemed to combine most of the ills of the large Latin American economies of the 1980s [] with many of the problems posed by the economic reconstruction following the Second World War in Europe and Japan. [] Russia is different from other cases in one critical respect: before 1992, 95 percent of its

design. Third, there is at the moment no consistent direction away from or towards anything. Each alternative generates its own particular organisational and institutional make-up. The first will remain more or less static. The second will be fluid, but with a trend. The last will be fluid without a trend.

In the post-Soviet situation reforms should aim at creating a synergy between historical institutions, new (market-type) institutions and organisations. Particularly, organisations should be designed to incorporate both the change that the leaders wish to achieve, and the constraints that institutions pose. Analysis of the post-Soviet oil industry organisation can therefore help us evaluate the reforms initiated, and how well they are suited to accommodate a market type (Western) development.

Economic Change.

According to Douglass North, economic change is the result of change in the quantity and quality of human beings; the state of human knowledge; and the incentive structure of society defined through the institutional matrix.²⁸¹ The preceding chapters have already touched upon the subject of the state of knowledge in the Soviet economy and a link has been drawn between the operational goals and the development of plan formation and existence of informal institutions. The organisational and institutional matrix within which individuals operated impaired the development of knowledge conducive to a market economy. Turning to the development of post-Soviet Russia it is clear that reforming the exchange and production of knowledge is a pre-requisite for the successful transformation of the oil industry. Successful is here meant to mean a transition to a Kuznets pattern of growth, and hence more efficient extraction and consumption.

In order to achieve a shift from a Marx-pattern to a Kuznets pattern of growth major structural changes in economy and society are needed. For these

economy [] did not operate according to market mechanisms at all'. (Odling-Smee & Lorie, *The Economic Reform Process in Russia*, IMF Working Paper, 1993, WP/93/55, p. 1).

²⁸¹ North (1999), *op cit.*, p. 9.

structural changes to take root, corresponding social and institutional adaptations need to take place.²⁸² On the other hand economic change is not a uniform process, but dynamic and multidimensional.²⁸³ It 'suggests that economy-building is culture-building (changes in models) and authority-building (enforcing these models) – a power-culture link of *definition*, *reification*, and *selection*. Put simply, principles of activity are used to judge behaviour; nonconformism is punished (market exit), and conformism reproduces "correct" practices'.²⁸⁴

Institutional modification is a complex process, and the outcome is dictated by "rewarded" behaviour rather than desired behaviour. Stifling institutional competition can lead to stagnation, while allowing institutional competition will not necessarily result in a "better society". With regards to the post-Soviet experience therefore, the study of organisational arrangements in the Russian oil industry can illuminate several questions. What organisational changes have there been in the Russian oil industry, and can one deduce from these to what extent the industry is becoming more conducive to both accommodating institutions of the past, as well as the introduction of new ones (market institutions)?²⁸⁵

It is important to note that political considerations will remain of great importance during the transition period, and that the political legacy of the USSR will manifest itself in state dominance of policy development and parameters of operation.²⁸⁶ If one accepts the proposition that behavioural

²⁸² Kuznets, *op cit.*, p. 15.

²⁸³ Hass, 'The Great Transition: The Dynamics of Market Transition and the case of Russia 1991-1995', *Theory and Society*, 1999, no. 28, p. 384.

²⁸⁴ *Ibid.* Italics in original..

²⁸⁵ Jan Winiecki argues that 'economic reforms in the STEs, even those with strong popular backing, do not bring about systemic modifications seriously limiting the ability of the party *apparatchiks* and economic bureaucrats to extract rent'. (Winiecki (1996), *op cit.*, p. 79). The oil industry with its highly idiosyncratic needs, sunk capital, and high exposure to a lucrative export market constitutes a sector where potential income from rent-seeking is high. One would therefore expect high resistance to reform of the structure by which income is appropriated from this industry. Examining the changes in one of the industrial branches where one would expect a high resistance to reform can tell us something about the probability of change in other less rent conducive branches.

²⁸⁶ The term state in this respect encapsulates the entire official political structure. Within this structure there is an added element of tension between some regions and the centre. Both dimensions of the structure are heavily engaged in the attempted domination of the extractive

learning is an incremental process affected by both formal and informal institutions, then one must accept the proposition that the dominant behavioural pattern of a previous period is likely to be dominant in the following period as well.²⁸⁷ Especially so if there is a lack in general consensus, a lack of suitable incentives to change behaviour, a situation that puts additional pressure on scarce resources, or a society in political turmoil.

Common to these factors is that they increase the level of experienced uncertainty and increase the probability of reverting to accustomed patterns of behaviour. It is therefore, unreasonable to expect major change overnight yet changes that are introduced can give an indication as to intention and direction of outcome. Organisational reform can give an indication of which institutions are more likely to be dominant and how new institutions are likely to fit in to the overall institutional matrix.

The institutions that affect human behaviour and through which societies are governed are not themselves isolated entities within a society, but can be a product of political, ideological and religious goals and values that also shape the evolution of societies. 'Institutions define and limit the set of choices of individuals' thus they reduce uncertainty by providing structure and predictability to human behaviour.²⁸⁸ The latter point is of relevance as both predictability and stability have been major concerns of foreign investors in the transition period. By reducing uncertainty between participants to a transaction, institutions promote efficiency. In the post-Soviet experience however, there is a discrepancy between the institutions Western actors are

industries within their boundaries. See Kellison, 'Tiumen, Decentralization, and Center-Periphery Tension', and Glatter, 'Federalization, Fragmentation, and the West Siberian Oil and Gas Province', in Lane, *op cit.*

²⁸⁷ However, if defining elements of incentive cohesion breaks down in period A, then lower order institutions are likely to modify in period B. Consider the gradual increase in regional power in the FSU. With the demise of the incentive structure connected to the CPSU in the late 1980s the regions and republics were able to absorb some of the centre's previous functions. The lack of a substitute political force to the CPSU has enabled a modification in the circulation of resources and rewards in favour of the regions that have left these with greater independence. As such the demise of the cohesive powers/authority of the CPSU has enabled the development of a different evolutionary strategy to compete with the 'presidential vertical' strategy of the federal authorities.

²⁸⁸ North (1990), *op cit.*, pp. 3-4

accustomed (and some of formal institutions established by the Russian leadership) and the institutions that Russian actors are accustomed to. Within each institutional matrix transactions are facilitated, and thus increase trust and predictability.

Reduction of uncertainty can promote efficiency of transactions by reducing the time period within which negotiations take place; by allowing greater resources to be delegated to investments (as opposed to monitoring investments and contracts), and; by increasing the amount of potential risk capital when return on investments can be calculated on a more stable basis. In short, by making an environment more predictable, which is exactly what economic institutions do.

With respect to the development of the post-Soviet oil industry this posed an acute dilemma. Not only has there been political and ideological turmoil, (which have increased uncertainty) but also the leading actors in the reform process have come from different institutional backgrounds, thus having different expectations as to how this sub-economy should work. With regards to the entire economy Jeffrey Sachs phrased this situation accordingly: 'in the case of Russia he had felt like a surgeon who sliced open a patient only to discover nothing that was supposed to be there'.²⁸⁹ Yet Russia had its own institutional make-up, one which Russians themselves were accustomed to, but of which non-Russians had little or no experience. While actors from a Western industrialised background would expect certain economic institutions to be created and function, Russians would maintain the same with respect to their own institutions.

Problems of reform were therefore exacerbated by actors from differing institutional backgrounds trying to advise and operate changes within an unfamiliar institutional setting. This worked both ways. The disparity between the "Western paradigm" and the "Soviet paradigm" exemplifies the institutional gap between the Russian despotic-patrimonial structure of state

²⁸⁹ Hedlund (2000), *op cit.*, p. 391.

power and the Western European infrastructural-bureaucratic structure of state power. Due to increased information asymmetry this gap is an important source of continued high transaction costs.

As already mentioned, institutions are not necessarily geared towards economic efficiency. Institutions can represent an impediment to economic efficiency. This was the case in the USSR, where the institutional matrix operating through the organisational structure was geared primarily towards political control. According to North: 'Institutions provide the structure for exchange that (together with the technology employed) determines the cost of transacting and the cost of transformation. How well institutions solve the problems of co-ordination and production is determined by the motivation of the players (their utility function), the complexity of the environment, and the ability of the players to decipher and order the environment (measurement and enforcement)'.²⁹⁰

As the Soviet economy evolved these factors became more complex. All three factors – motivation, environment and evaluation – have been examined in the preceding chapters, and together they form the analytical make-up that the majority of actors in Russia will possess. A society's ability to revolutionise itself is limited, and since few political theories believe in a continuous process of revolution, institutions from one regime tend to be carried forward to the next.²⁹¹ This again reflects the importance of institutions in shaping everyday life. In the Soviet Union the Bolsheviks soon lost their capability for innovation, entrenching the institutions of Soviet style socialism, while Soviet institutions themselves carried forward elements of the old tsarist institutions. (For instance a patrimonial-despotic structure of state power).

With the expansion of the economy, the bureaucratic organisation that accompanied it grew as well, reflecting both a political and economic environment becoming more complex. The political environment grew more complex as the Soviet state became more entrenched and informal institutions

²⁹⁰ North (1990), *op cit.*, p. 34

²⁹¹ *Ibid.*, p. 6.

materialised (or resurfaced) to make up for allocative inefficiency through adaptive efficiency. For instance the Soviet administrative economy was not able to adjust to the dissimilarity of transactions that arose from the increased spatial distribution in the oil industry.²⁹² Organisational reform in the Soviet Union aimed to reduce the transaction costs associated with the maintenance of the mode of state power and the state's position in the circulation of income and resources.

A Transaction Cost Economics View.

Transaction cost economics (TCE) aims at joining economic with organisational theory. The approach is based on the Coasian view of the purpose of organisation.²⁹³ Human beings are regarded in the neo-classical tradition as maximising individual satisfaction. To these behavioural assumptions TCE has added the concepts of "bounded rationality" and "opportunism".²⁹⁴ As with the New Institutional Economics (NIE) that emerged in the 1970s, TCE view institutions as having an economising role. NIE shifted the focal point of analysing economic organisation from the firm, reduced to the production function in which the state of technology represents the boundary between the firm and the market, to an analysis incorporating ownership and control.²⁹⁵ This again shifts the focus of analysis from rational choice models to contracting implications embodied in the organisational and institutional matrix.

²⁹² '[I]t would appear that the cost of organising and the losses through mistakes will increase with an increase in the spatial distribution of the transaction[.]' (Ronald Coase, *op cit.*, p. 397).

²⁹³ Coase argued that transactions will be organised within firms or across markets according to which exhibits the least cost. (Coase, *op cit.*, pp. 390-2).

²⁹⁴ Bounded rationality does in itself not explain economic behaviour, but rather provides 'ex post' rationalization for suboptimal behaviour and has not been very successful in generating new theory [regarding economic behaviour] or anticipating anomalies'. (Cohen & Dickens, 'A foundation for behavioral economics', *The American Economic Review*, 2002, vol. 92, no. 2, p. 335). Its contribution in this thesis is therefore not to explain economic motivation, but rather its implication for transaction costs, i.e. monitoring and enforcement, in economic systems.

²⁹⁵ Kochevkin *et al.*, 'Institutional transformation in Russia: a transaction costs approach', *Economics of Transition*, 1994, Vol. 2, no. 3, 374.

Within this framework the relationship between the members of an organisation is viewed as one of contractual obligations in a hierarchical manner. The contractual obligation between an employer and an employee is again a principal-agent relationship. Thus the mentioned behavioural assumptions and the institutional environment in which economic behaviour was learned impose the constraints that shape the parameters of interaction and limitations to contracts. In TCE and institutional economics a firm (or an organisation) is viewed as a "nexus of contracts where several input makers make bilateral contracts with a central agent"²⁹⁶. Principal-agent relationships and organisational structure will therefore be affected by transaction cost considerations. In order to create an efficient organisation contracts regulating principal-agent relationships should aim to minimise the effects of opportunism and bounded rationality.

These two latter factors will be positively related to organisational size, degree of specialisation, geographic dispersion, time horizon, economic incentives, and the ability to direct the relationship between the employer and his employees in an ordered and consistent manner through a clear specification of rights and obligations. The latter point implies that property rights and the enforcement of such rights should be clearly specified, lest in a destabilised situation such rights become contested and the organisational integrity breaks down. In the Soviet Union the principal-agent relationship was characterised by a propensity to defect, and as far as the principal in most cases would have functioned as an agent as well, this propensity to defect extended all the way from the lowest levels to the higher levels. As the economy grew transactions became more idiosyncratic as a result of spatial distribution and industrial complexity. The structure of incentives was such as to reward short-termism, which again was related to resources pressure and the patrimonial structure of state power.

On a more general level, uncertainty is aggravated by opportunistic behaviour. Williamson argues that the assumption that human agents are given to

²⁹⁶ Eggertson, *op cit.*, p. 112.

opportunism is justified in all interactions between agents.²⁹⁷ This does not mean that all behaviour is opportunistic, but that the hazard posed by opportunistic behaviour increases transaction costs. Uncertainty, the number of organisational levels and institutions are factors affecting the cost of transacting, which again is a variable in the production function of a firm.

The neo-classical production function is dependent on the factor inputs land, labour and capital. To these TCE adds the cost of transacting, a variable which is positively correlated to uncertainty, non-functioning market institutions, and weak legal enforcement. In the post-Soviet economic environment such uncertainty will be high until an adequate legal framework has been implemented and is functioning. This implies that the cost of transactions will remain high, reducing both the volume and frequency of transactions and affecting the organisational arrangements that will emerge in order to minimise such uncertainty.

Opportunistic behaviour is assumed to be a hazard in all interaction, but particularly so when transactions involve transaction-specific investments in human or physical capital.²⁹⁸ Transaction-specific investments are held to be investments of an idiosyncratic nature where second best use is of a substantially lower value, and the difference constitutes an 'appropriable quasi-rent'.²⁹⁹

Consider the development of a new oil field. Upfront investment in infrastructure and fixed capital are considerable. Consider now a licensing dispute for the same field. (The licensee falling afoul with local authorities for instance). Having already committed resources the investor will want to recoup his losses in case of abandonment of the project or resolve the dispute. In the first case a second investor can offer to buy-out the original investor for a price substantially below the invested value. Knowing that the already

²⁹⁷ '[O]pportunism [] is a deep condition of self-interest seeking that contemplates guile'. (Williamson (1991), *op cit.* p. 92).

²⁹⁸ Williamson (1990 [1979]), *op cit.*, p. 224.

²⁹⁹ Klein *et al.*, *op cit.*, p. 298.

committed resources cannot easily be converted to other uses and that the licensing dispute serves as a deterrent to other potential buyers the investor may be forced to sell his investment for less than he paid for it. The difference between the original investment and sell-out price constitutes an 'appropriable quasi-rent'. In this case the second investor extracts the 'appropriable quasi-rent'. In the second case the licensing authorities may be willing to resolve the dispute in return for a bribe. Knowing that the investor stands to lose a considerable sum of money if he has to sell-out the licensing authorities can agree to resolve the licensing dispute for part of the differential between the original investment and the potential sell-out price. In this case the licensing authorities extracts the 'appropriable quasi-rent'. The probability of either case occurring will strongly affect the original investor's decision to commit any resources in the first place.

Further, TCE examines the 'comparative cost of planning, adapting, and monitoring task completion under alternative governance structures'.³⁰⁰ Governance structures are the formal and informal arrangements that facilitate transactions, 'induce conflict resolution, and is embedded in transaction patterns'.³⁰¹ Inherent in the approach is that the integration of transactions *can* lead to a reduction in monitoring costs, by economising on the mentioned behavioural traits. Such costs, however, will be the function of level of uncertainty, and size of the organisation. This implies that there is a point where the marginal benefit of increased integration will be less than the marginal cost of monitoring the organisation.

Using this approach allows one to analyse the reorganisation of the Russian oil industry through the conceptual approach of path dependency and institutional competition. If institutions develop to reduce uncertainty and organisations affect the institutional matrix and try to maximise on the constraints and possibilities posed by such, then persistent uncertainty can signal several phenomenon. Firstly, the organisational structure does not maximise economic objectives. Secondly, there is a conflict between institutions and the

³⁰⁰ Williamson (1985), p. 2.

³⁰¹ Kochevkin *et al.*, *op cit.* p. 374.

organisational structure does not manage to create a synergy. Thirdly, actors in the economy have not yet managed to capitalise on the given institutional and organisational structure. Or, finally, uncertainty and high transaction costs generate a "strategic space" that allows for the prevalence of a specific structure of state power (which in itself may be a goal).

From a Russian point of view the late 1980s and the transition period can be viewed as period in which the authority of the central organising authority was weakened thus, in the light of a situation where property rights had been poorly defined, unleashing the full strength of opportunist behaviour.³⁰² In addition to the breakdown of the previous structure, there is an added element of uncertainty introduced by the attempted realignment to a different economic structure. Taken together this has increased the cost of transacting in the post-Soviet setting.

Transacting has three dimensions in TCE (1) frequency, (2) subsection to type and degree of uncertainty, and (3) condition of asset specificity.³⁰³ Frequency refers to whether transactions are of a reoccurring type while being of an idiosyncratic nature. With respect to the Russian oil industry the frequency dimension has already been incorporated into the operational structure through the creation of vertically integrated oil companies. This reflects both the need for greater co-operation between upstream and downstream activities for efficiency purposes, and the danger of 'hostage taking' in asset specific industries. The first point refers to the standardisation of transactions which can be more efficiently organised in-house than across non-existing markets. The second point refers to the legacy of Soviet industrial organisation. With an expected drop in industrial output as a result of the transition, several entities of the Russian upstream sector could have been exposed to hostage taking through the existence of *de facto* monopsony power by the down-stream sector, (i.e. the oversupply of oil could have left the downstream sector with undue market power (and *vice versa*), affecting macro-political and economic goals.

³⁰² Solnick, *op cit.*, pp. 33-38.

³⁰³ Williamson (1990 [1979]), *op cit.*, p. 239.

Institutional uncertainty will be greater if organisational reform cannot create a synergy between Soviet institutions and market type institutions. The degree of uncertainty in the post-Soviet oil industry will be a function of both type of uncertainty and government ownership. If one assumes that government owned oil industry actors are more likely to have a political as well as an economic function, then less government ownership should theoretically imply greater emphasis on economic returns.³⁰⁴ Further, if asset value is influenced by numbers of agencies that affect the flow of income,³⁰⁵ then we can expect less government ownership and control to attract greater foreign investment and higher asset (stock market) valuation. Ownership, however, is not the only variable in this case, as the general legislative framework and protection of investments plays a vital role in the resultant expected outcomes.

Asset specificity means that capital employed in the production phase is specialised to a particular procedure, or that assets once installed or acquired (sunk costs) cannot be removed without considerable cost and the value of its second best use is substantially less than its first best use.³⁰⁶ In the oil industry this condition applies to production capital and to infrastructure,³⁰⁷ production fields and processing equipment.³⁰⁸ Common to these assets is that there is a threat of hostage taking in order to extract a 'quasi-rent'. Asset specific investments will further constitute investments such as obtaining licences (drilling, exploration, construction or export) and special up-front payments.

Although licences do not need to be owner or site specific, the transfer of ownership right or alteration of site is often difficult. The initial investment for such licences are therefore hard to recoup if needed to transfer or the

³⁰⁴ Jensen & Meckling have analysed the agency cost stemming from a divergence between the interest of management and owners. (Jensen & Meckling, *op cit.*) Given the Soviet contestation of property rights it must be assumed that state ownership in the post-Soviet setting would decrease the return on investment from oil assets.

³⁰⁵ North (1990), *op cit.*, p. 31.

³⁰⁶ 'Asset specificity has reference to the degree which an asset can be redeployed to alternative uses and by alternative users without sacrifice of the productive value'. (Williamson (1991), *op cit.*, p. 95).

³⁰⁷ Bohn & Deacon, *op cit.*, p. 531.

³⁰⁸ Klein *et al.*, *op cit.*, pp. 310-311.

operational environment alters. Where the 'rule of law' is a firmly established institution, venues exist that allow for *ex-post* arbitration or settlement; frequently such provisions are also made in the original contract.³⁰⁹ However, in Russia this is not yet the case. If one assumes the correctness of Hedlund's observation, then we can expect idiosyncratic exchange relations that are based on personal trust to survive greater stress and adaptability than idiosyncratic exchange relations that do not,³¹⁰ particularly so under circumstances of high transaction costs.

Integration of Transactions.

Market failures are never absent, and certainly not in societies that have had little experience with markets.³¹¹ In the post-Soviet economy this has particular significance. The existence of market failure is in itself an argument for government intervention, however, governments as organisations and as individuals are also prone to misallocating resources by sacrificing economic growth for political ends. This was particularly so in the Soviet economy, where government policy (from a market economy view) in itself resulted in the misallocation of resources.

TCE operates with two definitions of organisational integration. The first is the straightforward combination of transactions that were formerly organised by two or more independent units of operations into one.³¹² The second relates both to control over assets and control over actions. It holds that organisational integration is the 'purchase of the assets of a supplier (or of a

³⁰⁹ Notwithstanding that monitoring or *ex-post* arbitration may be too costly or difficult to satisfy the parties to a contract.

³¹⁰ Williamson (1990 [1979]), *op cit.*, pp. 240-241. The situation will be different for non-idiosyncratic exchange relationships since the quasi-rent appropriable under such circumstances will be low or non-existent. This is because under these circumstances either party to the exchange can return to the market and find the same good or service at a price identical to the initial contract. (Alternatively there will be additional buyers).

³¹¹ I am using, in this context, Hayami's definition of market failure as the 'divergence of market equilibrium from the point of Marshallian net utility or Pareto optimality'. Maximum societal utility in a free competitive market is therefore, represented by the demand-supply equilibrium, and no transaction can be undertaken that will not reduce the welfare of others. (Hayami, *op cit.*, p. 201). Textbook types of market failure are: asymmetric information and uncertainty, poorly defined property rights, externalities, monopoly power, and public goods.

³¹² Coase, *op cit.*, pp. 397-8.

purchaser) for the purpose of acquiring the residual rights of control'.³¹³ This definition sees organisational integration as a process of incomplete contracting which bestows all residual control and rights to action not specified in the contract to one of the parties.

If one accepts the proposition that the purpose of organisation is to minimise the cost of transacting, then an organisational structure that integrates all transactions which are more effectively performed in-house than across markets can be used as a model of comparison. By their very nature some transaction costs are difficult to measure, i.e. the cost of obtaining licences and protecting investments in an environment that has no functioning normative framework for the regulation of such transactions. Thus measurement of this variable cannot so much be a quantitative exercise. Rather, the mode of organising particular transactions must be seen as an expression of the implicit cost of any such transaction. This implies that if transactions are not clearly defined and functioning according to law or regulation, integration of transactions are likely to have either a lower or equal cost to the equivalent market transaction.

This is a very wide definition of integration in that it theoretically may incorporate both public and private spheres of responsibility. However, given the circumstance that Russia is experiencing such a broad definition is justified due to the poorly defined and functioning market institutional arrangements and the Soviet institutional legacy. If one accepts the proposition that institutions only change incrementally and that human behaviour is affected by history (*habitus*), then in an attempted separation of a formerly unified structure of operations such institutions are likely to remain operative in both spheres. As the state and the economy develop there will in the foreseeable future be a continued overlap of these spheres.

Further, if in an immature market economy and poorly defined legislative framework it pays to devote resources to affect the 'rules of the game', then by

³¹³ Grossman & Hart, 'The Costs and Benefits of Ownership: A Theory of Vertical and Lateral Integration', *Journal of Political Economy*, 1986, vol. 94, no. 4, p. 716.

implication we can expect a high degree of non-market transaction taking place between the public and the private sphere.³¹⁴ Given its institutional and organisational history the Russian economy has a well-developed structure of such non-market exchange. Such a broad definition of integration therefore, incorporates the fact that much economic activity in Russia will remain politically influenced and motivated, especially so in the reorganisation period but also later. Such integration will be noticeable through a high degree of state capture.

Integration will be used in two different contexts. Vertical and horizontal (organisational) integration will refer to organisational structures, while integration will refer to a process of conducting transactions outside a transparent market. Such markets can be either political or economic. The former case implies formal and informal ties between government or state bureaucratic representatives with private or corporatised organisations as a means of expediting and protecting transactions. The latter case implies transactions taking place not across impartial and competitive factor markets, but relying on former modes of economic exchange, such as barter and arrears, through direct contact.

Vertical Integration.

Coase's argument that firms integrate or trade via markets according to which structure exhibits the least cost of transaction, has had great influence on TCE where firms (hierarchy), markets and hybrid modes are seen as alternative forms of governance.³¹⁵ In this respect a productive organisation is seen as a governance structure that aims to minimise the total cost of production.³¹⁶

³¹⁴ North (1990), *op cit.*, p. 87. Also North, (*ibid.*, p. 79) argues that 'Organisations with sufficient bargaining strength will use the polity to achieve objectives when the pay off from maximising in that direction exceeds the pay off from investing within the existing constraints'.

³¹⁵ Williamson (1991), *op cit.*, p. 96.

³¹⁶ The production function in this respect consists of the usual physical and human capital inputs plus the cost of transaction. The latter is important in optimising the governance structure. Transaction cost economics further argues that '[V]iewing the firm as a production function is seriously delimiting. It encourages the view that technology is determinative of economic organisation, whence the allocation of economic activity as between firm and market is unproblematic'. Williamson, *Industrial Organization*, Edward Edgar Publishing Limited, 1990, p. x.

The level of transaction costs will have an organisational impact on the post-Soviet Russian oil industry. An organisational structure should be achieved that ensures separation of the political and the economic spheres, yet integrates the various stages of upstream and downstream operations into a number of vertically integrated companies. Such a structure should be desirable both for a political purpose as well as an economic purpose.

Politically, vertically integrated companies could be large enough, by international comparison, to ensure that they are not being "lost" to foreign investors. Further, keeping the oil industry in Russian hands would facilitate public control over this sector, which again would contribute to satisfy political and security concerns.

Economically, vertical integration promises greater control and co-ordination between the various stages of up and down stream activities, particularly so in Russia where economic institutions of the Western type are new and largely unknown. Under these circumstances vertical integration can reduce uncertainty, the scope for rent seeking and promote efficiency.

Although uncertainty prevails in the Russian oil industry, vertical integration should not be seen as a quick fix for correcting the dysfunctions of the Soviet oil industry. Theoretically the Russian oil industry could have been organised into a giant monopoly (combining several of the former Soviet ministries in a vertically integrated structure). However, the challenge of reforming the oil industry does not only lie in creating a more co-ordinated structure. It also lies in changing the economic structure from one of administrative planning to one of market competition, such that the emphasis on economic criteria will improve the efficiency and long-term social benefits of this industry. Given the historic institutional matrix it is unlikely that the dysfunctions described in the Soviet oil industry would be remedied by creating such a vast structure. In order to encourage institutional competition a number of independent companies of different sizes and specialisation are needed to facilitate

competition between different business approaches and to encourage cost savings.

With regards to situations where uncertainty due to opportunism prevails and there is only the possibility of a limited number of participants to an exchange, vertical integration enjoys several advantages over the market: '[T]he parties to an internal exchange are less able to appropriate subgroup gains, [], as a result of opportunistic representations; internal organisation can be more effectively audited; and internal organisation realises advantages in [] dispute settling respects'.³¹⁷ Bearing in mind diminishing returns on organisational integration, vertical integration may, in conditions of high transaction costs, reduce monitoring and enforcement costs and protect investments.

Organisational Reform.

Having argued that the interaction between organisations and institutions are the basis for structural development, the question arises what organisational reform will look like? If organisational reform can reduce transaction costs associated with the implementation of state power then we can expect a number of results.

Firstly, organisational change will be a result of and reflect the institutional framework. However, such a framework is not necessarily designed to promote economic efficiency, hence the organisational changes will not necessarily be devised to promote economic efficiency.

Secondly, organisational reform and economic behaviour will reflect the forms of communication and investment that give the higher return. This relates to both formal and informal economic behaviour. In the case of the oil industry, if organisational and institutional arrangements improve, in favour of the balance between short-term and long-term economic efficiency, then we would expect increased investment in exploration drilling and/or reserve acquisitions. If institutional arrangements like property rights and regulation

³¹⁷ Williamson (1975), *op cit.*, p. 29.

on the use of the subsoil were improved we would expect both increased investment and a greater inflow of foreign capital (equity or aid).³¹⁸

In the absence of institutional reform with continued uncertainty we would expect the following; a) falling production if unclear property rights and unaltered structure of state power, and; b) rapid draining of reserves and continued short-term strategies if property rights are settled, but structure of state power remains unchanged. This is because distrust of the state and the state's unaccountability will increase transaction costs and therefore not be conducive to investment.

A clearer separation of the public from the private sphere would lead one to expect a reduction in the number and responsibilities of government agencies involved in the regulation of the oil industry. If reforms in the post-Soviet era are aimed at structural change, reforms should aim at separating the political sphere from the economic sphere in order to establish clearer lines of responsibility, authority and accountability. This might reduce uncertainty and possibly lead to long-term economic growth. The essence of such reform should be to reduce the cost of transaction. The higher the cost of monitoring contracts, protecting property, and uncertainty, the higher will be the cost of operating in such a market. On a domestic basis this implies that transactions – trade, investment, etc. – will be smaller than they could be, and on an international basis it means that non-Russian governments, firms and International Financial Institutions (IFI) will allocate capital to areas of comparatively lower cost. Levels of employment, production, investments, types of drilling (and the ratios between these), reserve additions, modes of organisation, and government control will tell us something about the direction of the development of post-Soviet Russia.

The considerations mentioned so far have to a great extent been conditions that are open to manipulation and influence from a Russian point of view. However, as the Russian economy becomes increasingly tied in with the

³¹⁸ Research on investment in capital-intensive industry show that resources may remain unexplored if ownership of such is insecure or contested. (Bohn & Deacon, *op cit.*, p. 532).

global economy, it is clear that external considerations will have a greater effect than in the Soviet past. Of particular importance are the price of oil and the economic conjunctures of the global economy, and geopolitical stability, variables that that Russians only partly can influence. Further, there are geological conditions and well characteristics that are beyond influence (though not without solution). Clearly these considerations will in addition to the above mentioned have important effects on both the institutional and organisational structures. However, the structure of the Russian oil industry can be either more or less suited to meet these external challenges.

Soviet Legacy and the Challenge of Reform.

The organisational and administrative structure of implementing state power and the mobilisation of resources in the Soviet Union were related to transaction costs associated with ensuring the "efficiency" of the structure and the mode of state power. Agency cost related to economic behaviour were again a function of the principal-agent considerations stemming from an intricate incentive structure. The contesting of property rights and a tendency for rule evasion were informal responses to the formal incentive structure and transaction costs arising from a weak infrastructural power base and an ideologically based distribution of rights. Despotic implementation of state power was not conducive to the formation of a normative rule based society. This again strengthened patrimonial structures of state power as a formalised bureaucracy failed to develop in the absence of "law based" society.

Assuming that human beings are "economic men", then the evolution of societies and economies can be manipulated. However, transaction costs during transition will be inversely related to the institutional equilibrium. Thus unless there is, at least in part, harmony between the formal and informal incentive structure spiralling transaction costs will contribute to a drastic reduction of value creation and potential rent. Any transition will experience great uncertainty as individuals strive to adjust to "new ways of behaviour"

while still under the influence of the "old framework".³¹⁹ Such a situation must necessarily give rise to uncertainty and confusion. As transformation proceeds individuals will find different ways of adapting each based on their former experience. Depending on individuals' background, concepts such as markets, competition, democracy, property rights, contracts, and rule of law will invariably have different meanings and contribute to greater uncertainty.³²⁰

Regardless of the individual's understanding of these concepts there is an important added dimension of individuals motivation, manifesting itself at a more aggregate level, i.e. in the centre-region conflict, and in a more philosophical dimension, the role of the state and the distribution of rights and obligations. This latter implies culturally based perceptions of who has a right to what, for example the notion of collective property in government enterprises.³²¹ The discrepancy between historic institutions and attempted (or necessary) market institutions will result in an institutional deficit at the individual level. The sum of such institutional deficits will have a great impact on the transition period – i.e. in the elaboration and implementation of a legislative framework, the privatisation process, and the investment climate.

From a structural point of view the lack of appreciation for necessary reforms and the struggle to define reforms that are being initiated exemplify this. On

³¹⁹ According to Interviewee # 6, 'For 70 years we lived under Soviet power, I have lived all my life under this regime. Is it possible to change myself within 2 or 5 years? No it isn't. I was brought up in the Soviet era and I was proud of being a Soviet citizen. Now they say new Russians, I am not a conservative, but I don't respect people who left Russia, I understand well that some people left Russia, but I cannot respect this person – he's not a patriot. Maybe I am not right, but this is my opinion and there are many of us'.

³²⁰ Diskin argues that '[in 1992] we practically did not realize that the desired changes in the foundations of economic life were related to cardinal changes in the life models of practically each family...broad masses of people still had ideas about the immutability of paternalistic obligations of the state which was called upon to guarantee acceptable social conditions of life to everyone'. (Diskin, *op cit.*, p. 35).

³²¹ Yavlinsky argues that the rejection of the communist ideology did not necessarily imply a *de facto* acceptance of the market ideology. (Yavlinsky, *Reforms from below: Russia's future*, EPIcenter, 1994, p. 31). On the public's perception of the transition period, and particularly the privatisation programme, see White, who reports that the majority of people in a survey were sceptical towards the privatisation process, thinking it would lead to increased prices and unemployment – phenomena that the Soviet citizen had been accustomed to live without. (White, *Russia's New Politics: The Management of a Postcommunist Society*, Cambridge University Press, 2000, p. 128).

one hand the Russian government and presidency is eager to accommodate the new institutional paradigm (at least rethorically), on the other hand, the quality of reforms initiated often reflects the continued reliance on a despotic-patrimonial structure of state power and policy implementation. Both the 1992 'Law on Underground Mineral Resources' (hereafter Subsoil Law) and the 1995 'Law on Production Sharing' (hereafter PSA Law) were intended to clarify ownership rights and promote a better investment climate. Both laws were seen as imperative for the attraction of substantial foreign investment. Although taking steps towards achieving these ends, they failed to adequately specify ownership right to the subsoil (i.e. division of the claim between federal, regional and local authorities) and of the ownership of production. These factors will be examined in greater detail in Chapters 6 and 7 suffice here to say that besides the influence of the centrifugal/centripetal forces in Russian politics there also is a deeper post-Soviet ideological conflict that has its roots in Soviet institutions. Specifically this conflict comes to the fore in a) the conflicting views of what should be the role of the state and what type of state power; and b) who should own what.³²²

On a behavioural level the practices of barter as a means of exchange of goods demonstrate both unwillingness and unfamiliarity with a monetary and credit economy, and a continuation of past practices regulating the flow of goods.³²³ Both examples demonstrate the conflict between the institutional legacy of the USSR and the institutions necessary for a market economy, and how the collective institutional deficit affects both the formal structure and individual behaviour.

³²² Barnes argues that the question of property represented the most fundamental political and economic issue during the 1990s. (Barnes, 'Property, Power, and the Presidency: Ownership Policy Reform and Russian Executive-Legislative Relations 1990-1999', *Communist and Post-Communist Studies*, 2001, vol. 34, p. 40).

³²³ Treisman argues that the barter, tax and payment arrears economy involving the energy sectors constitutes a hidden subsidising of remaining Russian industry and agriculture. As has been argued previously the energy industries were a means by which to achieve economic growth and industrialisation through access to cheap energy. (See Treisman, 'Inter-Enterprise Arrears and Barter in the Russian Economy', *Post-Soviet Affairs*, 2000, vol. 16, no. 3, pp. 225-256). Barter, tax and payment arrears can therefore be interpreted as a continuation – although on a more informal basis – of previous energy policies. On this issue see also

The idea of reforming organisations is often based on the perception that leaders, owners or constituencies of organisations can affect the development and nature of an organisation through free and rational choice. Even in such cases where the lack of the latter seems to be the cause of a need for reform. However, Brunnsen and Olsen argue that 'the origins, contents and effects of reform can be explained by other factors than leaders' rational choice'. In their study of reforms of public administration in the Scandinavian countries they identify institutional factors as affecting behaviour and the institutionalisation of organisations (when the behaviour of organisations is determined by 'culturally conditioned rules [] which give meaning to those actions').³²⁴ Further they argue that '[c]omprehensive reforms in public administration are likely to succeed only if there are significant inefficiencies in the historical development of those organizations; that is, if the authority and power exercised by policymakers deviate markedly from the levels they would have held in a state of equilibrium'.³²⁵

With regards to reform design and implementation this has considerable consequences. It reinforces the argument of this thesis in that evolution of transition will be a result of interplay between institutional and organisational factors. It also means that organisational developments can expose the motivation behind such changes that have occurred (or not occurred), by allowing an evaluation of the process of transition against the historic structure of the oil industry. The analysis of past organisations and institutions and the state power equilibrium they aimed to achieve will therefore enable the determination in which direction transition is heading. Will it create a new state power equilibrium or will it try to recreate the old state power equilibrium?

Yavlinsky, who argues that inter-industry debt represents 'an inclination to hold on to old structures [of transacting], and not a shift towards new ones'. (Yavlinsky, *op cit.*, p. 31).

³²⁴ Brunnsen & Olsen, *op cit.*, pp. vii -7.

³²⁵ *Ibid.*, p. 25.

In the following chapters this analysis will examine the designs envisaged for the Russian oil industry, and measure them against the developments of the 1990s and against the institutional and organisational legacy of the Soviet Union. To evaluate if the 1990s have been yet another round on the 'treadmill of reform' or if there has been a significant change towards a different path of evolution. The challenge of reform is therefore a challenge that permeates all levels of the institutional matrix. Unless adjustments are implemented at all levels the likelihood of an institutional reversal is at least plausible.

Part II

Post-Soviet Organisational and Institutional Transformation.

Chapter 6

Where Do We Go From Here?

- Strategies and advice for Russian Oil.

'Rapid stabilization of the overall economy is unlikely to occur unless macroeconomic reforms are paralleled by energy sector reform and recovery'.

'Within energy, the oil subsector is critical'.³²⁶
World Bank

'The Power and might of economic progress must be synchronized with the enormous political changes. Then we will be unstoppable'.³²⁷
Boris Yeltsin

The evolution and development of the Soviet oil industry, as has been shown in the preceding chapters, was constrained by the reliance of the Soviet regime on a despotic-patrimonial type of state power, and its failure to develop autonomous infrastructural capacity. As shown in Chapter 3 and 4 political considerations outweighed economic considerations during the development and expansion of the Soviet economic system. This created a very specific incentive structure that came to be the chief factor affecting formal and informal economic institutions. Several attempts at reforming the oil industry (along with the economy at large) did not manage to alter substantially the way in which the system worked.

The focus of these reforms shifted back and forth between a functional and territorial strategy, with a gradual convergence of the two in order to minimise transaction costs related to the implementation of state power. There was a discernible trend towards fragmentation of the system on one hand and partial vertical integration on the other. The former was represented through specialisation of the organisational structure in the form of separate ministries, while the latter was evident in the increasing administrative integration of the lower (operative) parts of the system – the creation of regional production associations.

³²⁶ WB (1994), *op cit.*, p. 1.

³²⁷ Yeltsin, *op cit.*, p. 146.

Constraints on the formation of Russian oil policy.

With the demise of the Soviet Union (1989-1991) the oil industry became entangled in the struggle for sovereignty between the political entities of the Soviet Union and the economic and organisational effects of the crumbling administrative system. Both these forces for change affected the subsequent development of the oil sector in that they introduced institutional elements that differed from the Soviet system. As such their presence represented the basis for institutional competition and evolution as opposed to Soviet inertia. In November 1991 the government of the RSFSR seized control over the export and transport of oil and oil products beyond the borders of the republic for the purpose of implementation of economic sovereignty.³²⁸ The control of energy supplies was regarded as a crucial element for the 'stabilisation of the economy of the RSFSR and protection of the internal market of the republic in the autumn-winter period of 1991/92'. The supply of oil products to the domestic market – petrol, diesel and *mazut* for heating – has been an important factor in obtaining social stability. Sovereignty in this respect implied a detachment from reliance on the all-union structure, a strategy that later was to be replicated by several of the constituent entities within the Russian Federation itself.

With the dissolution of the Soviet Union, Russia entered another round of political and economic reform. The task for the new regime was no small one. 'Survival meant coping with economic collapse and developing social support; coping with economic collapse and developing social support required building effective administration; building effective administration meant taking some of the resources under the control of former elites and using them to build up the Russian state into a machine that could support the market and cope with the diversity of a society stratified by the market and expressed through democracy'.³²⁹

³²⁸ RSFSR Government Decision № 7 (15.11.1991), '*O regulirovanii postavok nefi i produktov ee pererabotki za predely RSFSR*' [On the regulation of supplies of oil and refined oil products beyond the border of the RSFSR], <http://www.referent.ru>.

³²⁹ Robinson, *Russia: A State of Uncertainty*, Routledge, 2002, p. 64.

In short, where the USSR had failed, the new Russia had to succeed – to build a modern state, expressed through a higher degree of state autonomy and infrastructural power. In doing this, the new state had far less resources available than the preceding regime had had. Whereas the Soviet Union had at its disposal a vast reserve of manpower and the mobilising capacity of the Communist Party, the new Russia did not. In the long term this *can* still prove a blessing (the new Russia may still develop a more efficient economy due to the lack of the options that both the Tsarist and Soviet economy had), yet in the short term this dramatically reduced the development options of the state. In fact with industrial output and social living standards declining and bailout by the international community unlikely, Russia had few opportunities to raise the necessary resources to see the task through. Much hope was therefore pinned on the ability of a few raw-material sectors to deliver the vital means. One of these sectors was the oil industry.

However, the oil industry itself was in a difficult situation. The gradual disintegration of the All-Union structure further aggravated the poor technological and capital situation along with the constraints of geographically and geophysically complex conditions. Thus the industry was in dire need of investment and access to capital. As with the individual industries, the disintegration of the Union affected the role and position of the regions, which now increasingly became dependent on generating their own revenues.

The energy concept developed by the government of the Russian Federation in the fall of 1992 clearly reflects the magnitude of the reform task and its reliance on the energy industries to deliver.³³⁰ It tried to combine the demands of the three principal actors in the post-Soviet period: the state, the regions and industry.

³³⁰ RF Government Decision № 26 (10.09.1992), '*Kontseptsiya energeticheskoi politiki rossii v novykh ekonomicheskikh usloviyakh*' [Russian energy political concepts under new economic conditions], reprinted in RF Energy Ministry, *Energeticheskaya politika Rossii na rubezhe vekov* [Russian energy policy at the turn of the century], 2001, vol. 1 pp. 5-67. All references in the following section to the Energy Concept are to this document unless otherwise stated.

Exogenous factors and foreign advice.

An important factor in the understanding of economic development and path dependency in this thesis is dedicated to the ability of agents within an economic framework to internalise exogenously induced institutions. The understanding being that exogenously induced institutions have a greater propensity to fail than domestic or endogenously based institutions do.

The relevant exogenous factors with respect to the oil industry can be divided into two categories. Firstly the overall macro economic climate that the industry operated in. Secondly, specific industry related advice and assistance. Although somewhat different in form from the first category the advice given related to this second category nonetheless functioned to reinforce the former. Whereas the former category clearly broke with Soviet and Russian traditions, the latter advice was, from a Soviet institutional viewpoint, more familiar.

The first category of advice was the "Washington Consensus". Russia's economic crisis was seen chiefly as a fiscal crisis.³³¹ A strict monetary policy was to ensure low levels of inflation once the monetary overhang had been eliminated by a one-time jump in prices, so that price liberalisation would not lead to continuously high levels of inflation.³³² This course of reform was the mainstay of the International Monetary Fund (IMF) and World Bank's (WB) advice in the early 1990s.³³³ Financial assistance under the auspices of these organisations was tied to compliance with IFI developed programmes. In the period 1990-1992 Russia's negative balance-of-payments development was regarded as the greatest threat to reversing its falling production.³³⁴ The negative trend in balance-of-payments accounts was largely due to rapidly falling energy exports. Thus a programme was developed in order to prevent

³³¹ Sachs, 'Western financial assistance and Russia's reforms', in Islam & Mandelbaum, *Making Markets: Economic Transformation in Eastern Europe and the post-Soviet states*, Council on Foreign Relations Press, 1993, p. 160.

³³² Hernández-Catá, *Russia and the IMF: The Political Economy of Macro-Stabilization*, IMF Paper on Policy Analysis and Assessment, 1994, PPAA/94/20, pp. 3-4.

³³³ Collectively these organisations, along with other international financial organisations will be referred to as international financial institutions (IFIs).

³³⁴ Sachs (1993), *op cit.*, p. 164.

decline in production due to the absence of means to finance inputs and improve the foreign currency reserves.³³⁵

Macro economic stabilisation implied fiscal consolidation and a strict monetary policy. The two being complementary in that fiscal consolidation would reduce the government spending and subsidisation of the economy, this would impose "hard budget" constraints on enterprises and remove the need for inflation driving government borrowing or the printing of credits.³³⁶ Similarly, privatisation would reduce government spending and induce "hard budget" constraints.³³⁷ In a transition period a number of holding companies, at various levels of authority, were to hold state owned shares.³³⁸ Improvements in state revenues were furthermore necessary for fiscal adjustment to be successful.³³⁹

In 1990 'nothing [was] more important' than price liberalisation for a 'successful transition to a market economy' in order to 'guide the allocation of resources'.³⁴⁰ However, in a transition period the IFIs accepted a need for direct state intervention in the pricing of public utilities and housing, while border taxes (for 2-3 years) should be used to drive a wedge between domestic and international energy prices.³⁴¹ In terms of Soviet economic institutions the freeing of energy prices implied a massive break with the entire system of revenue and rent collection. While as the IFIs advocated higher energy prices to increase government revenues, low energy prices had been a backbone of Soviet rent collection.

³³⁵ In a scathing critique of this policy former Minister of the oil industry USSR, Mal'tsev, blamed the subsequent decline of oil support industries and unemployment in this sector on these policies. According to Mal'tsev 80% of credits set aside for equipment upgrade and purchase remained in the USA. (Mal'tsev *et al*, *op cit.*, pp. 299-300).

³³⁶ Sachs, 'Stabilization issues facing economies in transition', in Woo, Parker & Sachs (ed.), *Economies in transition: comparing Asia and Eastern Europe*, MIT Press, 1997, pp. 245-46 & 249.

³³⁷ Sachs (1997), *op cit.*, p. 247. The World Bank, *Russian economic reform: crossing the threshold of structural change*, WB, 1992, p. xv-xxv.

³³⁸ IWOE, *The economy of the USSR - summary and recommendation*, The World Bank, 1990, p. 27.

³³⁹ WB (1992), *op cit.*, p. xix.

³⁴⁰ IWOE (1990), *op cit.*, p. 24.

³⁴¹ IWOE (1990), *ibid.*, p. 25. WB (1992), *op cit.*, p. 180.

The second category of advice was closely tied to the first. Energy exports were seen as key to reverse trends in both the balance-of-payments accounts and currency reserves.³⁴² Once again immediate fiscal considerations replaced plans for reforms in the oil industry. The IFIs advocated the development of comprehensive petroleum legislation (by the end of 1992), the clarification of property relations, commercialisation and restructuring of enterprises, reform of petroleum taxation and the introduction of world prices for energy.³⁴³ The WB concluded that 'an acceptable macro-stabilization package for 1992-93 cannot be constructed without early implementation of the recommended energy policy reforms'.³⁴⁴ What was regarded as the result of the reform package was to stabilise oil production, make the economy more energy efficient thus freeing up energy resources for export, and effect a further replacement of oil by gas in domestic consumption which again would result in more exports.

Non implementation of the energy recommendations would have severe implications for balance-of-payments and currency reserves, both of which would jeopardise macro-economic stabilisation. The key word here was exports, or stated in a different way – government revenue. The IFI's advice was based on considerable foreign investment to alleviate the scarcity of domestic resources. To compensate for such investment, foreign companies were to be given access to prime fields and attractive resources on an equal footing with domestic companies.

In one of history's ironies the IFIs' advice perpetuated the dilemma that successive Soviet leaderships had confronted. How to reform the economy without forfeiting revenues? The Soviet answer was "temporarily" to forego energy reforms. The fundamental flaw in the IFIs' approach lay in its lack of appreciation for the institutions by which rent and revenues were collected in the Soviet economy and the relationship between income circulation and the structure of state power. Put bluntly, what the IFIs were saying was: 'You

³⁴² IWOE (1990), *op cit.*, p. 30.

³⁴³ WB (1992), *op cit.*, Chapter 11.

³⁴⁴ *Ibid.*, p. 186.

need to reform the economy and the relationships of economic interaction, in the mean time you also need revenues...where will these revenues come from? From the energy industries!' This perpetuated the Soviet dilemma of short-term versus long-term objectives. The WB stated that any improvement in the system of prices and taxes 'must provide an immediate increase in government tax revenue'.³⁴⁵

IFI financial assistance to the oil industry was tailored to promote the supply-side objectives of the reform package. Two 'Oil Rehabilitation Loans', under the auspice of the World Bank, have been implemented. The 'First Oil Rehabilitation Loan' (1993) was designed to contribute to improve drilling and production practices along with replacement of leaking oil pipelines³⁴⁶. The 'Second Oil Rehabilitation Loan' (1994) was to contribute to the rehabilitation of idle wells; reconstruction of field infrastructure; in-fill drilling; technical assistance and field optimisation; and equipment and services.³⁴⁷ The rationale for these projects was that by slowing the rate of production decline and the transfer of international technical and managerial expertise one could expect positive impacts on oil production, the fiscal deficit and foreign exchange earnings.³⁴⁸

This thesis does not disagree with the projects or the reform recommendations *per se*, but rather the idea that they would have been sufficient to alter the Russian economic development path. Out of a total project cost of \$587 million \$450 million were intended for well restoration and in-fill drilling.³⁴⁹ Revenue considerations were at the front, which did little to de-politicise the sector. Without such de-politicisation reforming property relationships and the structure of rent extraction would become difficult. Although the capital made available to the Russian oil industry from the IFIs was far less than the sectors needs it nonetheless sent the wrong signal.³⁵⁰ The importance attached

³⁴⁵ *Ibid.*, p. 188.

³⁴⁶ WB (1994), *op cit.*, p. 19.

³⁴⁷ *Ibid.*, pp. 29-30.

³⁴⁸ *Ibid.*, p. ii.

³⁴⁹ *Ibid.*, p. 32.

³⁵⁰ According to Konoplyanik, the oil industry's (production and refining) external financing needs (1992-1997) amounted to US\$ 30 billion. (Konoplyanik, 'Russia's Oil Industry and

to reversing the decline in oil production, even at the expense of sectoral reform, could only serve to strengthen the bargaining position of the oil industry managers.

At the heart of the IFI package lay the idea of an economy that had a strong infrastructural system of state power with a considerable degree of state autonomy. Russia on the other hand has over the centuries developed a structure of state power based on a despotic-patrimonial system, with a considerable degree of state capture. The IFI package assumed that this institutional gap could be bridged in a short period of time.

By contrast, a strategy developed for the Rosneftegaz Corporation in 1992 by two western advisors – Bankers Trust and Daiwa Europe – analysed necessary reform measures from an industry perspective. The analysis concentrated on two major areas.³⁵¹ Firstly, investment policy: legislation, taxation, contractual arrangements and pricing. Secondly, industry structure: private ownership, market structures, and demarcation of responsibilities. It deviated from the ‘Washington Consensus’ in important questions. The report concluded that state ownership can coexist with price liberalisation, and that the oil industry is not dependent on foreign investment.³⁵² The report tied the restructuring process of the industry in with the struggle for “sovereignty over hydrocarbons and the distribution of political and economic power among the claimants”.³⁵³ Two triangular struggles, politicians-bureaucrats-oilmen and centre-regions-local entities defined the claimants. The outcome of these struggles was regarded as having a profound affect on the commitment to reform.

Foreign Investments: Legal Aspects and the Problem of Business Risk’, *Journal of Energy and Natural Resources Law*, 1993, vol. 11, no. 4, p. 251).

³⁵¹ Bankers Trust & Daiwa Europe, ‘*Blueprint for Reform: New Policies and Structures for the Russian Oil Industry*’, *Petroleum Intelligence Weekly*, 1993, p. 7.

³⁵² *Ibid.*, p. 11.

³⁵³ *Ibid.*, p. 12.

In brief, the first area of advice commits the same error as the IFI's – assuming that the institutional gap between a despotic-patrimonial structure of state power and an infrastructural structure of state power could be bridged in a short time. With respect to legislation it was again assumed that a comprehensive legislative framework could be in place within 1-2 years. The key element in this area was ownership rights. The report makes little allusions to where ownership should reside, but concluded that 'Until the key issues of ownership, operating control and profit distribution are resolved, it will be difficult to rebuild the industry's severely damaged organizational structure'.³⁵⁴ This is implicitly a new institutional economics and TCE argument; organisations are seen as entities for goal maximisation and transaction costs have a non-negligible effect on organisation and operation.

With respect to organisational measures the report advised 'a diversity of structures, including integrated and independent firms and small exploration-oriented companies'.³⁵⁵ The emphasis in the report was put on competition at all levels involved in the oil business in order to realise efficiency gains. It therefore warned against a one-sided reliance on vertically integrated companies (VICs) that would dominate the industry. It advised that: combinations (of VICs) should be based on commercial or operational logic; benefits of specialisation should not be ignored; VICs might lead to oligopoly.³⁵⁶ Furthermore, it recommended that in order to overcome the rigidity of the Soviet oil industry and unpredictability of the early post-Soviet years operational authority should be devolved to the NGDUs.³⁵⁷ On governmental level it advised the participation of regional and local authorities in the shaping of policy, and the creation of a National Oil and Gas Agency to absorb some of the Ministry of Fuel and Energy and Ministry of Ecology and Natural Resource's authorities.³⁵⁸

³⁵⁴ *Ibid.*, p. 12.

³⁵⁵ *Ibid.*, p. 50.

³⁵⁶ *Ibid.* p. 50.

³⁵⁷ *Ibid.*, p. 80.

³⁵⁸ *Ibid.*, p. 30 & 10. The advice in this report to a large extent follows the general trends of globalisation in the energy industries during the 1990s. These trends are characterised by less state intervention, privatisation, deregulation, liberalisation and demonopolisation in order to strengthen competition. (Steeg, 'Energiesicherheit im Globalen Wettbewerb [Energy security and Global Competition]', *Internationale Politik*, 1996, no. 8, p. 53).

The report is different from IFI advice in that its objective is to give advice that might result in an "efficient" oil industry, the IFI advice on the other hand had to accommodate an "efficient" macro policy as well. However, both contain significant elements of institutional factors that were alien to Russian traditions. Both envisage a structure of rent appropriation akin to western traditions and a higher degree of infrastructural power than present at any time in Russian history. As such they represent the exogenous institutional factors that would have to compete with endogenous institutional factors.

A strategy for developing Russian oil.

The 1992 Energy Concept placed the need for reform in the fuel and energy complex (TEK) squarely within the need for general economic and structural reform. Based on a realistic assessment of the state of the energy industries and their future investment and technological requirements the Energy Concept recognised the need for denationalisation of the energy industries and the relationships between the separate components of the economy. The dynamic aspect of inter-branch reforms was recognised as a vital component of a successful transformation of the industry. The reliance on market forces to shape interaction, structural change (privatisation) as an instigator of more efficient utilisation of resources, and a convertible rouble and world market prices for energy in order to motivate the realisation of energy saving measures.

As with the 1984 Energy Programme energy saving was a crucial element in the realisation of a new and more efficient structure of energy consumption. The 1992 Energy Concept envisaged this to be the basis for improving the competitiveness of Russian industry on world markets through the reduction of energy related input intensity of Russian industrial production. Reduced industrial and social energy intensity was further to release resources for export and long-term growth.

Table 6. 1 – Oil production & export 1993-2010 (forecast).

	1993	1995	1997	2000	2010
Oil & condensate production, mill. t.	340..	317..	300..	330..	370..
	350	335	345	360	400
Oil and oil product export, mill. t.	125..	102..	95..	110..	155..
	132	110	110	125	190

Source: Kontsepsiya energeticheskoi...(ibid.)

These measures were seen as key elements to overcome the administrative, operational and corporate behavioural legacy set out in earlier chapters. In the transition period the Energy Concept forecast of Russian oil production was influenced by the need to rectify the field mismanagement of past generations and improve the technological level of oil extraction, therefore a period of continued decline in production was expected (see Table 6.1). It assumed that technological advances could only be sped up by access to foreign investment, capital and technology. Such investment would only be forthcoming under conditions where the foreign investor would be allowed to retain a sufficient profit to make its participation worthwhile and be allowed operational control. The Energy Concept therefore, anticipated a continued slump in extraction of oil until such time when the laws and legislative enactments had been accepted by the legislative and executive organs and become functional.

The Energy Concept envisaged this transition to be accomplished in three phases. The first period (1992-1993) was to provide financial stabilisation, reduce energy intensity and arrest the development of an energy crisis (i.e. insufficient domestic energy supply), while at the same time protecting the consumer from the adverse effects of any price changes. The objectives of the anti-crisis period was to 'develop and urgently realise a set of interconnected measures in production (extraction) and utilisation of fuel and energy, allowing in the course of 10-15 months to stop or at least radically slow down the development of an energy crisis'.³⁵⁹ Measures envisaged by the Energy Concept were:

³⁵⁹ RF Government Decision № 26 (10.09.1992), *ibid.*, p. 14.

- the creation of economic stimulation of the extractive industries through reduced state control over prices - commercialisation. (On the one hand allowing energy prices (in non-natural monopoly industries – oil and oil products) to approach world levels, yet on the other hand maintain state regulation of prices (but ensuring self-sufficiency and self-financing) until a fully convertible rouble could be established);
- the creation of a state budget fund for the development of inter-branch and interregional technological re-equipment and the development of the TEK to the amount of 20-30 per cent of total investment;
- introduction of payment for subsoil use (royalty charges) and (excessive/windfall – more than 30-35 per cent) profit tax, which would ensure state income;
- to compensate socially vulnerable groups, the agricultural sector, transport sector and different enterprises of the energy intensive sectors through budgetary allocation (compensation) or tax breaks (in other words, almost the entire society and economy);
- the creation of vertically integrated companies (VIC).

The second phase would be a transition period (1993-1997), securing energy supplies to domestic consumers. In this period an energy market was to be created, structural transformation through the introduction of market forces, the passing of basic legislation to support a market economy and the adaptation of the TEK to the global market. 'Important tasks for the transition period will be the formation of subjects of regulation for an energy market, for the necessary de-monopolisation of the fuel and energy branches and the creation within them of enterprises with different property forms through the privatisation of the state sector, and the encouragement of private enterprise and foreign investment'.³⁶⁰ Measures envisaged by the Energy Concept were:

- legislation that provided unambiguous regulation of the division of property between the subjects of the federation, economic activity and energy provision in the TEK, form and order of privatisation, labour protection, the state role in the sector and protection of energy consumers;

³⁶⁰ RF Government Decision № 26, *op cit.*, p. 20.

- increasing use of price policy as a regulating tool;
- increasing use of indirect means of regulation – tax and credit policy.

In the final period (1998 –) the creation of a stable socially oriented structure of the TEK was to provide an environmentally safe industry based on up to date technology.

According to the new-institutional approach the dynamic relationship between formal and informal institutions constitute the institutional matrix within which behaviour and expectation shape economic development. In previous chapters the politicisation of the oil industry has been shown to affect constraints under which the industry developed. The development of a new matrix of constraints was therefore crucial in order to effect an alteration of the existing institutional dynamic.³⁶¹ However, in order to generate a different development path, there would have to be a corresponding repositioning of the role of the state as an economic actor. There would have to be a shift away from direct mobilisation of resources and the use of the state's despotic power potential towards indirect mobilisation of resources. This in turn would necessitate the development of both state autonomy and infrastructural capabilities.

For this shift to be carried out successfully denationalisation was but one part of the puzzle. Equally important for denationalisation to bring results would be the altered behaviour of economic agents, which according to new-institutional and transaction cost economic theory is a function of the incentive structure. A characteristic of infrastructural systems of resource mobilisation is a higher degree of non-personalised trust relationships. The Soviet system on the other hand was in many respects developed as a substitute for a lack in non-personalised trust relationship.³⁶² Similarly the Soviet incentive structure was designed to complement the Soviet Union's despotic-patrimonial system of state power. The transition from a Soviet system to an infrastructural

³⁶¹ Kryukov (1998), *op cit.*, p. 25. Locatelli, 'The Reorganization of the Russian Hydrocarbons Industry', *Energy and Policy*, 1995, vol. 23, no. 9, p. 809.

³⁶² Gill (1990), *op cit.*, p. 6.

system would hence require significant changes in the way people behaved and were expected to behave.

The realistic assessment of the condition of the energy sectors notwithstanding, the 1992 Energy Concept nonetheless portrays the qualities that came to derail the denationalisation process. While envisaging a more moderate approach than the shock therapy approach, the Energy Concept failed to tackle the issue of the TEK's position within the larger issue of the state's *raison d'être*. Even though the Energy Concept makes indications as to what the industry should look like, it fails to consider how such a structure would affect the subsequent functioning of the industry and the state and to what extent the envisaged structure would enable the state to fulfil the functions attributed to it in the Energy Concept. According to Kryukov the period 1992-1996 was marked by a gradual shift of state attention from direct participation to indirect participation.³⁶³ However, throughout the 1990s the state's role and participation in the oil industry has also remained undetermined due to contradictory elements in both organisation and functions of the industry. Suffice here to say that this element of uncertainty had a marked effect on the development of both the organisational structure and the formal and informal institutional structure.

The state furthermore, failed to make realistic assumptions about the potential of the TEK's contribution to the maintenance of the state and the state's ability to secure the potential contribution. While on the one hand making frequent references to structural reform through privatisation/denationalisation, these are seen not as ends in themselves, but rather as means to overcoming the potential threat of a supply crisis. The underlying conflict of interest lies in the attached importance of the TEK for providing the necessary resources to implement the state's commitments and simultaneously relinquish control over the diminishing flow of rent and revenue generated by the sector. Importantly the very nature of rent and revenues extraction would have to change along

³⁶³ Kryukov (1998), *op cit.*, p. 128.

side a transition towards an infrastructural form of state power. The Energy Concept makes no allusions to this vital point.

If one views the Energy Concept as a statement of objectives the deficiency of the Energy Concept (and thus a constraint on the development of Russian oil (energy) policy) is its conflicting operational (short term) and strategic (long-term) objectives. On the one hand the operational objectives consisted in halting declining energy production and the maintenance of social and industrial stability through sufficient energy supplies and securing necessary foreign currency to finance both the budget and service foreign debts. On the other hand the strategic objectives consisted in energy conservation, structural change and the establishment of new economic relations. The latter objectives were also a means to provide long term stability and consistency of the former.

However, the objectives of the Energy Concept were in the short-term incompatible, thus making the choice of development strategy more a function of political efficiency rather than economic efficiency. The short-term goals set out in the Energy Concept are tied to the state's ability to carry out its functions and maintain a functioning state. The strategic objectives are tied to the industry needs *if* it was to function in a political and economic system different from the Soviet environment. If one views the state as an organisation whose objective it is to maximise state power then we know from organisational literature that, experiencing resource pressure, organisations are likely to focus on short-term operational objectives rather than long-term strategic objectives. Hierarchical bargaining in the Soviet Union demonstrates the state's lack of autonomy. Post-Soviet Russia, like its predecessor, was reliant on a bargaining structure of income generation. Maintaining the state (immediate revenue concerns) were from the point of verification more easily obtainable than long-term objectives. The deficiency of the Energy Concept, as a statement of objectives, is that it fails to find a realistic balance between securing short-term objectives and achieving long-term objectives. This again was a result of the legacy of the state's *raison d'être* in the Soviet structure of state power.

Speaking at a government conference in October 1992 then Minister of Fuel and Energy – Chernomyrdin – pointed out the particular importance of the fuel and energy sector for the Russian economy, and hence the need for continued state control over particular aspects of the sector.³⁶⁴ In relation to the oil industry this was to be achieved by means of state control over the pipeline system (a natural monopoly) and the creation of (state or partly state controlled) 4-5 vertically integrated companies (VIC). Several measures were being considered to maintain some form of control over prices.

Further reasons for continued state control are given in the Energy Concept. These stress the integrating importance of the TEK and particularly the need for a unified energy market to counteract the centrifugal forces of regionalism. These are state preserving (building) arguments, and while they made sense from Russian experience, they at the same time obfuscated the ability to carry through a proper de-politicization of the sector. The loss of government revenue and reduction in living standards as an extension of reduced industrial production during the transition period were to be compensated through redistribution of new funds available through royalty payments and customs duties. In effect the government was hoping to maintain its previous redistributional commitment through revenues generated by the TEK.

In a government project memorandum of November 1993 the goal of Russian energy policy was described as follows: 'The government of the Russian Federation [] strives for the most efficient realisation of existing [energy potential] and to provide the necessary additional Russian energy potential for the increase of citizens' living standards, taking into account the importance of

³⁶⁴ Chernomyrdin, *Osnovnye kontseptual'nye polozheniya energeticheskoi politiki rossii v novykh ekonomicheskikh usloviyakh* [Main conceptual position of Russian energy policy under new economic conditions], p. 71, reprinted in RF Energy Ministry, *Energeticheskaya politika rossii na rubezhe vekov* [Russian energy policy at the turn of the century], 2001, vol. 1 p. 67-72. This goal was later restated by the Russian Energy Strategy 1995-2010. 'Energeticheskaya strategiya rossii – osnovnye polozheniya [The Russian energy strategy – main provision]', p. 221, reprinted in Minenergo, *op cit.*, pp. 214-286.

the fuel and energy complex (TEK) for the [economic] integration and economic revival of Russia'.³⁶⁵

In order to regulate the functioning of the oil industry within the Russian economy as a whole and the relationship between separate parts and companies of the sector, the Energy Concept envisaged a rapid elaboration of a legislative framework that would serve as the basis of regulation and dispute settlement. The most pressing in the case of Russian oil were: a general law on energy policy; a law on safe and clean energy; a law on oil and gas; a law on the principles of energy saving; a licensing law, a law on the development of the continental shelf; and finally a law for the protection of energy consumers. Together these legislative acts were to regulate the relationship between Russia and the subjects of the federation, create the conditions for energy saving, a strategic energy reserve for the redistribution between the subjects of the federation, the financing of exploitation and modernisation, and environmental protection. The enactment and functioning of such legislative acts clearly rest on an assumption that the state would be able to develop its infrastructural power and willingly rescind its despotic system of power.

Two more strategies have been developed throughout the 1990s.³⁶⁶ These are the 'Energy Strategy 1995-2010' and the 'Energy Strategy 2000-2020'. Both clearly reflect the altered role of the Ministry of Fuel and Energy (or the Ministry) and the functions it was to perform. During the development of the Energy Concept the Ministry was still an active participant in the development of both organisation and strategy.

During the 1990s this role changed and the Ministry has gradually become a policy advisor and strategic planning organisation, rather than an operative organisation. As such both these strategies reflect the altered circumstances.

³⁶⁵ *Osnovnye priority i printsipy gosudarstvennoi energeticheskoi politiki – proekt memorandum pravitel'stva rossii* [Main priorities and principles of state's energy policy – Russian government project memoranda], reprinted in Minenergo, *op cit.*, pp. 90-102.

³⁶⁶ Government decision № 1006 (13.10.1995), '*Energeticheskaya strategiya Rossii – osnovnye polozheniya* [Russian energy strategy – main provisions], *op cit.* '*Osnovnye polozheniya energeticheskoi strategii Rossii na period do 2020 goda* [Main provisions of the

Both strategies, more so than the Energy Concept, are analytical in the sense that they are more descriptive than prescriptive. The euphoria of the Energy Concept is all but absent, and both strategies forecast prolonged periods of rebuilding. Although similar in content, the last strategy incorporates Putin's "strong state" rhetoric. This is perhaps most evident in the combination of legislative acts by parliament and separate normative enactment by the president and the government to develop the legislative framework, which has been a main feature of the Russian political system.

Both strategies envisage a proper division of powers and responsibilities between the federal and regional/local authorities. The need for such a division is appreciable, yet the strategies make little contribution to clarifying what this division should be like. As will be seen in later chapters, the division of rights and responsibilities has been intertwined with the circulation of rent and resources, and its undetermined character has had great impact on the development of the industry.

More so than the Energy Concept they reflect the need for integration of the Russian economy into the world economy in order to reverse the operative trends of the early 1990s. In this respect the separation of the Ministry from direct participation in the industry seems to have strengthened its strategic and co-ordinating role. As such the Ministry of Fuel and Energy is a participant to the discussion of how to develop the industry, but its scope for affecting the developments is far less than previous. One expert told the author that these strategies were: 'theoretical ideals of where they would like to be', however that 'the guys at the top [of the Ministry] have the right ideas, but they do not have enough staff beneath them and they don't have enough backup to either push through the ideas, or if the ideas get through, then implement them'³⁶⁷.

Russian energy strategy for the period until 2020], reprinted in Minenergo, *op cit*. Also <http://www.mte.gov.ru> [April 2001].

³⁶⁷ Interviewee # 8. According to a senior Ministry official, 'The main priority of this strategy is the improvement of energy efficiency. We have enormous potential in energy savings...some 400 million tons of coal equivalent per year. Of course this is a very capital-intensive field, so we need a lot of investment and new legislation. We should explain to the opposition why it is very important, because it is closely connected with the prices for energy resources – domestic prices. Because if we have very low prices there is no incentive to improve energy efficiency, if it is very cheap there are no reasons to improve. On the other

A parliamentary hearing at the Federation Council in October 2002 concluded that the two energy strategies developed during the 1990s had proved to be 'nonviable and inadequate to the contemporary development of energy-complex' and had failed to provide the 'levers and mechanisms, capable of carrying out stated tasks [*zadachi*]',³⁶⁸

On the other hand, both strategies continue to suggest policies that, if implemented, would make it hard to de-politicise the industry. Both indirect means (price and tax policy) and direct means (state ownership and natural monopoly control) are envisaged, but the strategies fail to find the right balance. This is also the case with industry goals and state goals. Protecting the population from adverse effects of energy reform, ensuring economic growth and ensuring state revenues are laudable responsibilities. However, these short-term objectives are at odds with the long-term objectives of capital re-equipment, technological advances, development of green-field projects, attracting foreign investment and establishing a competitive environment in that they overly politicise the industry and reduce the credibility of the state's *ex ante* position. In turn, this strongly affected the perceived levels of risk and incentive structures.

This criticism of the Ministry's strategic role is reflected in the development of the new energy strategy (due 2003). Again political objectives (protectionism) are important parts of the strategy, but to a greater extent the Ministry has relied on the creation of an energy spot market, a less discriminatory relationship between the state and the subjects of the federation, and regulation through state tax, price and investment policy. The strategy was promptly criticised by presidential advisor Andrey Illarionov as confusing the

side if we rise prices we should do it very gradually, because we can meet big social problems'. (Interviewee # 4). The latter part of the statement demonstrates the conflicting strategic and operative goals connected with elaborating an energy strategy for Russia.

³⁶⁸ Yegorov, '*Energostrategiya ne proshla* [The energy strategy did not pass]', *Rossiiskaya Gazeta*, (22.10.2002). At: <http://www.rg.ru>.

development of the fuel and energy complex with the energy development of the country.³⁶⁹

The listing of achievement in the energy strategy of 2000 clearly reflects how political objectives have dominated throughout the 1990s. Positive achievements in this period are:

- preserving energy independence of the country and domestic demand;
- the relative high level of rent extraction from the industry in terms of budget and currency earnings;
- preserving state levers of regulation;
- corporatisation and partial/full privatisation of enterprises;
- stabilising of output;
- the passing of a number of legislative acts.

The objectives that could not be achieved were:

- increase exploration activity and increasing the reserve base;
- creation of a favourable investment climate;
- reducing energy intensity of the economy;
- the creation of the necessary preconditions for full self-financing and higher levels of investment activities;
- overcoming the de-monetization of the economy;
- the establishment of an integral system of legislative acts in the form of an energy code for Russia;
- the implementation of a legislative framework through and infrastructural base of state power.

As can be seen from the two lists the positive achievements are connected with the factors highlighted in the discussion on the Energy Concept that would be non-conducive to a sound long-term development of the industry, i.e. the politicising of the strategy. The list that could not be implemented are connected with the failure to create a system of state power that would

³⁶⁹ Yegorov, *op cit.*

promote infrastructural power and thereby create a transparent and predictable economic climate.

At the time of writing (January 2003), the new energy strategy has not been passed. Nonetheless, the development of strategies throughout the 1990s demonstrates the Ministry's removal from its previous role to a more strategic role. This can only be good thing. The possible threat to the Ministry in this development is that unless the state develops a system of power akin to the infrastructural power base that the Ministry gradually is advocating, it might sideline itself.³⁷⁰

One of the arguments being advanced in this thesis is that institutional hangovers create path-dependency. The following chapter will therefore examine the strategy and foundation implemented in the Russian oil industry and how these were affected by the institutional matrix.

³⁷⁰ During the parliamentary hearing (above) the Federation Council called upon the president to create a new organisation that would be responsible for the strategic development of the TEK. (Yegorov, *op cit.*).

Chapter 7

A Path Forward?

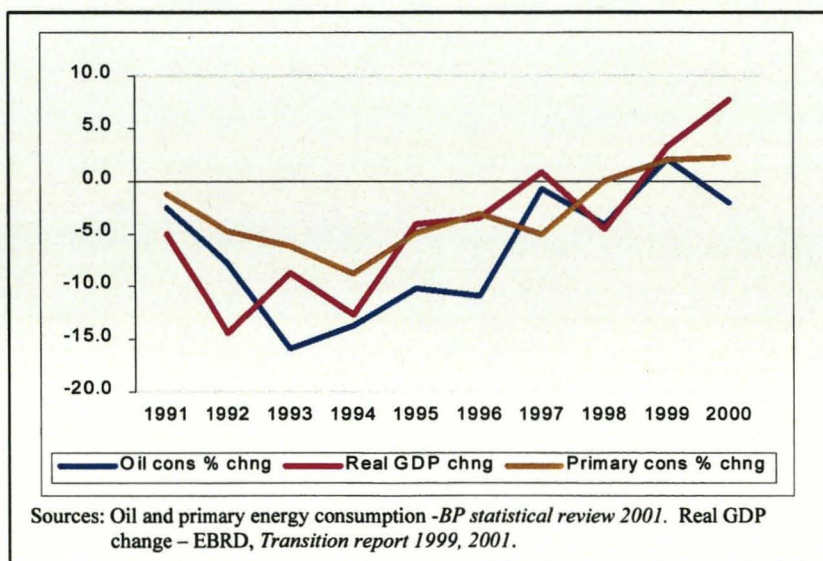
- The foundations of Russian oil policy.

'The state is a very complex phenomenon [...] As an economic executive, I have no doubt that the powerful mechanism we had developed was easy to control both strategically and operationally. It could change in any sense if we wanted it to. This means that we should have changed it, not broken it up. We really created a powerful mechanism in our country and are now looking sadly on as it falls apart'.³⁷¹

A. Kuzmin, Chief Engineer, Megionneft

The development of Russian oil policy clearly demonstrates the conflict between balancing short term and long term objectives. The Energy Concept states, and the general opinion at the time of launching the reforms was, that structural change was another attempt at providing a higher standard of living for Russian citizens and not the end in itself. With the precipitous development of Russian industry and its implications for social stability and leadership legitimacy the course of reforms was soon altered. In 1992 the fall in real gross domestic product (GDP) was 14.5 per cent, in the same period primary energy consumption only fell by 4.8 per cent.

Figure 7.1 – Consumption patterns and GDP change 1992-1999.



³⁷¹ In 1992 a roundtable discussion was held in Siberia to discuss the future of the Siberian oil industry. Proceedings along with commentaries are reported in a special issue of *International Affairs* (November 1992). This quote p. 16.

Indeed primary energy consumption continued to fall at a slower rate than GDP during the first half of the 1990s (see Figure 7.1).³⁷²

This clearly put at risk the aspiration of the Energy Concept in terms of energy saving and the related benefits stemming from freed-up resources. Relatively slower decline of energy consumption further implied that energy intensity of production was rising. Falling GDP meant that potential state revenues were declining, and discrediting the leadership's strong commitment to reforms.³⁷³

Table 7.1. – Primary energy production forecast until 2010.

	1990	1995	2000	2010
Oil and condensate, Mill. T.	515	317...335	330...360	370...400
Natural and associated gas, Mrd m ³	640	680...690	735...755	820...860
Coal, Mill. T.	396	340...350	355...375	400...440
Hydro, TWh	167	160...165	180...185	230...250
Nuclear, TWh	118	115...135	110...140	140...200

Source: Kontsepsiya...

The situation for oil was different. As was shown in Chapter 1, oil had already been declining in the Soviet energy balance. The 1992 Energy Concept, like the 1984 Energy Strategy, envisaged a continued shift to gas and an increase in nuclear and hydropower (Table 7.1). Energy saving measures were to reduce the energy intensity of production by 20-25 per cent over the long term. Such savings would then free up resources for increased production and for additional currency earnings through exports. Even though the role of oil has to some extent been replaced by gas the reliance on petroleum exports to provide much needed foreign currency and revenue

³⁷² An important element of primary energy consumption in Russia is the production of heat and hot water (in industry 40-45%; in residential consumption 2/3). (Martinot, 'Energy Efficiency and Renewable Energy in Russia: Transaction Barriers, Market Intermediation and Capacity Building', *Energy Policy*, 1998, vol. 26, no. 11, p. 906). These elements are less elastic and will contribute to decreasing energy efficiency.

³⁷³ For a more detailed discussion of post-Soviet production see Åslund, *Building Capitalism: The Transformation of the Former Soviet Bloc*, Cambridge University Press, 2002, pp. 113-153. Åslund argues that the dramatic decline in GDP coincided with a sharp increase in unregistered output as part of output shifted out of the "official" economy. Further, Russian statistical measurement sophistication and practice was not able to record changes in productive/output structure. As data on the unofficial economy remain speculative GDP as reported by the IFI's will be used throughout this thesis. The Norwegian journalist Steinfeld also argues that since industrial production was to serve as tool of evaluation of property in the privatisation process *de facto* owners had a vested interest in driving down production in order to reduce the cost of property. (Steinfeld, *Fremover mot Fortiden: Russland og det tapte*

increased. Simultaneously the drop in consumption had adverse effects on company behaviour and inter-branch dynamics.

From a state perspective access to oil resources became increasingly important. A reduction in GDP and increasing intensity implied that state subsidies *de facto* increased while its ability to do so decreased. In order to perform its role the state therefore needed a secure source of income. This source was found in the oil exports.

In terms of reform strategy, the energy industries and particularly the oil industry, differ from the initial shock therapy approach. In many respects the reform processes in the oil industry became a compromise between the Soviet style monopoly based approach, which was maintained in the natural monopolies (pipelines, gas and electricity), and the mass privatisation programme. The crucial issues to be dealt with at the start of the transition period were:

- what kind of organisational structure would be the most efficient?
- what role would the state play in the regulation of the industry?
- how would the state ensure access to the revenue flow generated by the industry?

The three issues are interconnected and are all part of the larger issue of what kind of state power the new Russian state would be built on, and how to achieve both operational and strategic objectives? Together these elements form the first and second order institutions in Russian oil policy that constitute the constraint of path dependency but also the basis for potential evolution through institutional competition. The response to these issues would furthermore be a demonstration of the government's ability to commit *ex ante* to a specific course of reform and its ability to commit *ex post* to the formulated course.³⁷⁴

århundre [Forwards towards the Past: Russia and the lost century], J.W Cappelen's Forlag a.s, 1993, p. 274).

³⁷⁴ This latter factor has been shown to have important practical implications with respect to privatisation and evaluation of state assets. A failure on behalf of the government to sufficiently demonstrated its precommitment to a policy increases uncertainty and the threat of moral hazard, both result in a discounting of value. Vickers, 'Privatization and the risk of expropriation', in Baldassarri, Paganetto & Phelps, *Privatization Processes in Eastern Europe*,

Commercialisation and corporatisation.

There are a variety of approaches to the organisation of the oil business throughout the world. Organisational structure is influenced by the degree of control that the state wishes (or is able) to exercise and the levers and means that it has to do so. The basic organisational component of the oil industry is the firm, and world practice can be divided into the following categories:³⁷⁵

- 1) completely state owned companies, to which the national oil companies (NOC) belong, integrating the company as an integral part of state administration and finances;
- 2) companies with controlling share packets managed by the state;
- 3) companies with state participation but without state majority control;
- 4) private companies in their various ownership forms.

The approach envisaged by Chernomyrdin in 1992 was in many respects a fall back to a more traditional path of development than the late Soviet strategy. In the uncertain and turbulent environment of the late 1980s a diversity of organisational units had emerged in response to the changing economic environment. The Russian approach to reforming the industry re-instituted greater central control over organisational development. The reason for this was the constraint imposed by the institutional matrix associated with the Soviet mode of state power. In the Russian situation constituency building, time and resource pressure and state survival meant that the former mode of state power became the dominant means of policy implementation.

The 1987 'Law on State Enterprise' increased the rights and independence of the production associations and state enterprises, while introducing total profit and loss accounting and self-financing for the enterprises. However, for the oil industry prices remained fixed (while input prices rose) and not until 1991 were companies allowed to trade a modest 5 per cent of production, which was later increased to 10 per cent. Over the same period the state, for all practical purposes, ceased to fulfil its previous functions in day to day management,

The Macmillan Press, 1993, pp. 115-150. See also footnote 5 on political institutions as *ex ante* agreements on "political rules".

³⁷⁵ Kryukov (1998), *op cit.*, p. 27.

long-term strategic operations and as a source of financial and investment resources.³⁷⁶

The result of these developments was a gradual decline in the state's ability to control its assets and exert its influence. The collapse of such control aggravated a conflict of a more fundamental nature – the rights and status of the constituent units of economic activity.³⁷⁷ '[O]ne of the problems was identifying the exact status of oil production management organisations (NGDUs). Coupled to this was the problem of establishing the optimal combination of centralised management and independence of structural units in a system of 'internal' profit and loss accounting. These two problems led to a third: identifying the functions of management in the association'.³⁷⁸

With the passing of the 1991 'RF Law on Enterprises and Entrepreneurial Activity' this situation was aggravated, by the omission of any reference to the PA, thus taking away its legal foundation. The leadership of the now "independent" entities failed to capitalise on the alteration in the legislative framework and the law was subsequently amended due to pressure from the better connected managers of the PAs and their more consolidated position as a group.³⁷⁹ However, several economic entities were established as a result of exploiting the undefined status and rights of state property and the opportunities arising from the 1987-1991 reforms. Both led to an accumulation of resources and rent outside the formal state channels.

The uncertainty of status and property rights, the decline of state control and functions, and finally the partial access to trade in oil resulted in the transfer of assets from the state sector to the developing private sector. According to Kryukov, two parallel trends were manifest during this time. Firstly, 'the defining and choice of direction of the restructuring and consequently the

³⁷⁶ Kryukov (1998), *op cit.* p. 95.

³⁷⁷ Kryukov & Moe (1996), *op cit.*, pp. 18-19. For a discussion on property rights and operational control see also Whitefield, *op cit.*

³⁷⁸ Yabukova, *Improving profit and loss accounting in oil and gas production enterprises (associations) in Western Siberia*, Cand. Econ. Sci. thesis, Moscow, VNIIOENG, cited in Kryukov & Moe (1996), *op cit.* p. 19.

³⁷⁹ Kryukov (1998), *op cit.* p. 100.

commercialisation of state oil-extracting, oil-refining and refined product-supply enterprises'. Secondly 'the formation of a wide network of small commercial structures and enterprises, connected with state enterprises and, as a rule, representing the interests of their founders (primarily from the number of enterprise managers, but also different service and subdivisions)'.³⁸⁰ For instance the NGDU Chernogorneftegaz (one of the more productive in the PA Nizhnevartovskneftegaz) established itself as a leased company.

The development of VICs illustrates the formal organisational response. LUKoil became the USSR's first vertically integrated oil company in December 1990.³⁸¹ On 1 February 1991, LUKoil was established as an USSR State *kontsern* – a voluntary economic complex formed by its constituent entities.³⁸² The RSFSR government later reconfirmed this entity.³⁸³ The Decision allowed the *kontsern* to realise several technologically related stages of the oil business under one structure, assuming the strategic and administrative functions previously performed by the respective ministries of each branch. Furthermore, the granting of the right of determining the price of in-house transactions strengthened its financial position *vis-à-vis* non-integrated producers. The establishment of Rosneftegaz, under the auspice of the RSFSR, was equally to be a voluntary association of its constituent parts (the remaining units within the RSFSR). Its objective was to realise extraction, transportation, machinery construction and scientific work within the RSFSR and on its continental shelf.³⁸⁴

³⁸⁰ *Ibid.*, p. 98.

³⁸¹ *Ibid.*, p. 97. Sagers, 'The Energy Industries of the Former USSR: A Mid-Year Survey', *Post-Soviet Geography*, 1993, vol. 34, no 6. p. 353.

³⁸² Alekperov, *Vertikal'no integrirovannye neftyanye kompanii rossii: metodologiya formirovaniya i realizatsiya* [Russian vertically integrated oil companies: methods of formation and realisation], AUTOPAN, 1996, p. 126. The entity consisted of 3 oil production associations (Langepasneftegaz, Uraineftegaz & Kogalymneftegaz) and 2 refineries (Permnefteorgsintez & Volgogradneftepererabotka, later were added Novoufimskii and Mazhekyaiickii).

³⁸³ RSFSR Government Decision № 18 (25.11.1991), *Ob obrazovanii neftyanovo kontserna 'Langepasuraikogalymneft' (LUKoil)* [On the formation of oil concern 'Langepasuraikogalymneft (LUKoil)'. <http://law.optima.ru>. LUKoil remained the only state concern in the oil sector during the existence of the USSR, its foundation was in many respect the work of Vagit Alekperov, Deputy USSR Minister for the oil and gas industry. Gasprom was established as a state *kontsern* for the gas industry in 1989, and an equipment and supply *kontsern* – Neftegazmash – was established in 1989.

³⁸⁴ Kryukov (1998), *op cit.*, p. 97. Rosneftegaz was established by RSFSR Government decision № 555 (18.10.1991). Despite its wide-ranging objectives it had very little powers

State *kontserns* were created in order to provide supply and operative (contractual) stability during the rapidly disintegrating economic relations of the administrative-command economy.³⁸⁵ Integrating services and functions that were important to the fulfilment of an organisation's goal was a common practice in the Soviet Union. As shown in Chapter 4, the establishment of in-house workshops to relieve supply and service constraints along with informal connections were widespread means of ensuring "predictability" in day to day managing of the industry. The creation of *kontserns* and VICs performed a similar function. They were administrative measures to maintain production potential. Such organisational developments are in line with TCE in that transactions that cannot be carried out cost effectively across markets (or in the case of the USSR via the administrative system) are often integrated. The disintegration of the Soviet economy increased transaction costs. Transaction costs could be thus be minimised by the integration of related production stages of an idiosyncratic nature. Surpassing the market by administratively regulating the flow of resources and information within VICs also more closely resembles Soviet management traditions.³⁸⁶ At the time though the *kontserns* did not (necessarily) provide a more efficient use of resources and technical integration it only served to preserve the previous level of these indicators. The retention of the administrative structure was dependent on the TEK's unique position as an accumulator of financial resources.³⁸⁷

The creation of independent commercial structures and the move towards creation of vertically integrated oil companies (*kontserns* and corporations) were responses to the dire situation that had arisen in the state oil sector. The creation of new organisational structures, both state (*kontserns*) and non-state

and influence. (Sagers (1993), *op cit.*, p. 352.) Rosneftgaz did not have the status of a state *kontsern*.

³⁸⁵ Alekperov, *op cit.*, p. 123.

³⁸⁶ In addition Simon argues that when 'markets must compete with organizations as means for securing the benefits of progressive change by rapid adaptation, the former are likely to succeed in this competition *only in highly stable environments*'. Italics not in original. (From paper presented by Simon to the American Political Science Association in 2000. Simon, *Public Administration in Today's World of Organizations and Markets*. At [accessed Feb. 2001]: <http://www.apsanet.org/ps/dec00/simon.cfm>.)

³⁸⁷ Kryukov (1998), *op cit.*, p. 94.

(independent commercial/regional structures), in order to maximise the interests of their creators due to alterations in the formal incentive structure is essentially in line with new-institutional theory. Under conditions of unclear property rights and status of state property agents possessing *de facto* control over assets moved to ascertain their claim to such property and the income generated by these through the creation of various forms of organisations maximising this end.

The passing of RSFSR Government Instruction № 182-r in December 1991 was an attempt to clarify the situation and consolidate state control over sector property.³⁸⁸ It established that the existing production associations would continue to function as industrial and economic complexes, the state would retain 100% ownership in the holding companies, and any further property transactions and organisational changes were forbidden until the holding companies were established. The state in this way not only tried to halt the "spontaneous" transfer of state property and asserted its ownership rights but also ascribed to itself the exclusive right of establishing the (legal) economic entities within the oil industry.

In June 1992 the president of the RF decreed that associations of the TEK remained special state enterprises fulfilling the role of administration and co-ordination of productive and investment activity of the enterprises in their respective compositions until their conversion into joint stock companies (JSC).³⁸⁹ This decree confirmed the status of the PAs *vis-à-vis* the NGDUs. It decreed that the relationship between the associations and the RF Committee for the administration of state property (GKI) and the RF Committee for antimonopoly policy and support of new economic structure (GKAP) was to be on a contractual basis.

³⁸⁸ RSFSR Government Instruction № 182-r (23.12.1991), *O preobrazovanii ob'edinenii i predpriyatii toplivno-energeticheskogo kompleksa v kholdingovye kompanii* [About the transformation of associations and enterprises of the fuel and energy complex into holding companies]. <http://law.optima.ru>.

³⁸⁹ RF Presidential Decree (RFPD) № 542 (1.6.1992), *O statuse proizvodstvennykh i naychno-proizvodstvennykh ob'edinenii toplivno-energeticheskogo kompleksa* [On the status of

In August 1992 the president of the RF decreed that entities of the TEK were exempted from the July 1992 decree converting state enterprises into JSCs, and that entities of the TEK were to be turned into JSCs and privatised by special presidential decrees.³⁹⁰ These decrees cemented the basis for the subsequent approach to transforming the TEK by maintaining the production associations as the main entities of administration (RFPD № 542) in order to preserve the rational use of the subsoil and the technological-productive unity during the transition period. The special characteristics of the TEK and its importance for the Russian economy and population were the reasons for exempting its transformation from the general approach (RFPD № 922). From the beginning of the transformation process the TEK again served as a precedent for the subsequent development of state power and channels of operation – maintaining a despotic-patrimonial structure of power in industries vital for revenue accumulation.

The initial structure of the oil industry was laid out in a presidential decree in November 1992.³⁹¹ This decree established that existing production associations, state enterprises, production and production-scientific associations (extracting, refining, transportation and marketing) would be turned into open joint stock companies. For the purpose of managing these entities four oil companies were created – Rosneft, LUKoil (which reconfirmed the earlier decision), Yukos and Surgutneftegaz. In accordance with RFPD № 721 workers in the JSC were allocated 25 per cent of shares

production and scientific-productive associations of the fuel and energy complex]. <http://www.referent.ru>.

³⁹⁰ RF Presidential Decree № 922 (14.8.1992), *Ob osobennostyakh preobrazovaniya gosydarstvennykh predpriyatii, ob'edinenii, organisatsii toplivno-energeticheskogo kompleksa v aktsionernye obshchestva* [About the special transformation of state enterprises, association and organisations of the fuel and energy complex into joint stock companies]. RF Presidential Decree № 721 (1.7.1992), *Ob organizatsionnykh merakh po preobrazovaniyu gosydarstvennykh predpriyatii, dobrovol'nykh ob'edinenii gosudarstvennykh predpriyatii v aktsionernye obshchestva* [About the organisational measures for transformation of state enterprises and voluntary associations of state enterprises into joint stock companies]. Both at: <http://www.referent.ru>.

³⁹¹ RF Presidential Decree № 1403 (17.11.1992), *Ob osobennostyakh privatisatsii i preobrazovaniya v aktsionernye obshchestva gosydarstvennykh predpriyatii, proizvodstvennykh i naycho-proizvodstvennykh ob'edinenii neftyanoi, neftepererabatyvayushchei promyshlennosti i nefteproduktoobespecheniya* [About the particular privatisation and transformation into joint stock companies of government enterprises and production and scientific-production associations of the oil, oil-refining and oil marketing industries]. <http://www.referent.ru>.

free of charge. These were preferred shares (non-voting), thus the 38 per cent share allocated to the holding companies (common shares) left the holding companies with a voting share of no less than 51 per cent.

The new oil companies were vertically integrated companies along the line extraction-refining-marketing.³⁹² However, the status of the companies was different. LUKoil, Yukos and Surgutneftegaz were established as "finished" commercial structures, while Rosneft (which supplanted the former state corporation Rosneftegaz) was envisaged as a transitory structure out of which other VICs would be carved in time, with the state retaining 100 per cent of its shares. Rosneft retained the status of a state enterprise and was to administer the state share of its constituent entities in trusteeship, and direct the commercial administration of its constituent parts.

The state retained 45 per cent of the shares in each of the three "finished" structures, whereas 40 per cent was to be sold through investment tenders over the next two years (out of which half (20%) was to be sold through 1993). In addition 15 per cent was to be sold for investment vouchers. The state share in these companies was to be retained for no less than 3 years, during which time the state had the right to appoint the managers. Shares held by foreign investors were not to exceed 15 per cent. The state was to be represented through the Ministry of Fuel and Energy, GKI and GKAP, each of which was charged with administering state property in the oil sector.

In addition to these production companies the decree established the two transport companies – Transneft' and Transnefteprodukt. These companies remained state controlled and controlled no less than 51 per cent of their constituent entities. Subsequently (1993-1996) several other VICs (and partially integrated companies) were carved out of Rosneft. The state retained shares in these varies to some extent compared to those initially created by RFPD № 1403. However, the structure of corporatisation is the same: the creation of oil companies by government decisions and presidential decree;

³⁹² The actual founding of these companies was done subsequently by government decisions. See Chapter 8 and Appendix B.

controlling stakes in a series of daughter companies; and the retention of a state share for a number of years.

Thus by the end of 1992 a strategy for developing the organisational framework had been developed. This was to retain the previous administrative structure (PAs) and supplant the former strategic functions of the branch ministerial structure by the creation of partly privatised oil holding majors. It retained the former state monopoly in transportation, which gave the state control over oil exports. The state remained represented in the newly formed oil companies through a number of ministries and commissions, and retained considerable authority to affect incentive structures.

Legislative development.

The development of a legislative base that was to provide a system of stable and predictable regulation was regarded in the 1992 Energy Concept to be one of the crucial elements of successful transition from the administrative-command economy. The development of and functioning of such a legislative base would constitute a break with the previous system of state power. Assuming that such legislation was binding on all parts to a transaction, the legislative base as envisaged by the Energy Concept, would represent a shift from the 'rule by law' to the 'rule of law', or a shift towards a constitutional-bureaucratic structure of infrastructural state power. Such a shift would not only be conducive to a more transparent and predictable investment climate, but also allow the state to develop a higher degree of state autonomy.

The 'Subsoil Law' was adopted by the Supreme Soviet of the Russian Federation in February 1992 (coming into effect in May 1992).³⁹³ The law aimed to regulate the exploration, use and protection of the subsoil within the territory and the continental shelf of the Russian Federation. The law governed the establishment of a State Subsoil Fund, regulation of federal and republican authorities in matters concerning the subsoil, types of use, granting

³⁹³ RF Federal Law *O nedrakh* [On the depths]. The 'Subsoil Law' (and subsequent amendments) can be found at <http://www.referent.ru..>

of licenses, duration, terms and conditions, rights and obligations of the user, revocation, payment of fees and dispute settlement.

However, the law made no clear definition of minerals, nor did it clearly establish a division of property rights – ownership of *in situ* and produced petroleum was not dealt with.³⁹⁴ The law distinguished between the status of the subsoil and any natural resources contained within the subsoil, continuing the practice of regarding the subsoil as a part of the natural environment and therefore exempted from transactions.³⁹⁵ The law stated that all mineral resources belonged to the state, but did not specify a level of authority division. Instead the law established the principle of joint decision making between agencies of state power of the RF and its constituent republics. Royalty payments were to be divided between the federal budget, republican budgets and local budgets (40%-30%-30%).³⁹⁶ Crucially, the law did not establish a set of normative rules for the utilisation of the subsoil. The allocation of rights to use the subsoil continued to be regulated by administrative procedures (granting of licenses). Representatives from both federal and regional authorities were partaking in the establishment of each license – the so-called ‘two key approach’.³⁹⁷

The law was intended to facilitate foreign investment in the natural resources industries and clarify the ‘rules of the game’. However, the absence of clear property definitions, the administrative approach and restrictions on the transfer of property and licences meant that the uncertainty surrounding the oil

³⁹⁴ Cameron, ‘Minerals – Subsoil Law and decree on the procedure for implementation – extensive licensing regime established’, *Journal of Energy and Natural Resources Law*, 1993, vol. 11, no. 1, p. 55.

³⁹⁵ Makhlina, ‘Russian legislation governing investor’s rights and the ownership of natural resources’, in *The Oil and Gas Guide to the Former Soviet Union*, CIS Technical Publishing Institute, 1995, p. 49.

³⁹⁶ A new tax code became effective on 1.1.2002. Under the new tax code the structure of royalty payment and distribution was altered. See below, pp. 208-209.

³⁹⁷ According to Interviewee # 12 the ‘two-key’ approach was a political concession to the regions that serves to impede the transparency of the regulative system and increased the scope for bureaucratic discretion. However, by accepting the regions’ right to participate in the regulation of the oil industry, some of the regions were able to significantly soften the negative impacts of ‘shock therapy’. (Shafranik & Kryukov, *Zapadno-Sibirskii Fenomen* [The West Siberian Phenomenon/Miracle], Polteks, 2000, p. 219).

business continued. The law was amended in 1994, but the new provisions if anything only confused matters further.³⁹⁸

Work on a comprehensive 'Oil and Gas Law' began in 1991. This law was to supplement the 'Subsoil Law'.³⁹⁹ It was to provide a comprehensive framework for petroleum licensing and operations; provide a level playing field for domestic and international investors alike; provide necessary conditions for the development of a market economy; and to clarify the division of responsibility between the federal and regional levels.

Three versions of this law were developed: the Tishchenko version; the Gas version proposing a separate law for the oil and gas industries; and Gazeev-Hardy version assisted by oil legislative experts from the University of Houston.⁴⁰⁰ In order to facilitate the passage of the law a uniform trade off version was developed under the auspices of Prof. Perchik (Gubkin Institute of Oil and Gas). This latter version was later presented to the Duma. The Perchik version differed from the more liberal Gazeev-Hardy version, by providing for greater administrative discretion in the development of individual licenses and ownership rights with respect to produce.⁴⁰¹ Nonetheless the draft law provided a measure of stability and predictability. One analyst described it as providing 'legislative rules in place of governmental regulations', when it was passed by the Lower House in July 1995.⁴⁰² However, the law failed to be endorsed by the Federation Council and the president. Subsequently, improvements of the Subsoil Law and development of a production-sharing regime (PSA) has been the preferred venue for improving the legislative and regulatory base in the oil industry,⁴⁰³ hence work on the Oil and Gas Law has never been completed.

³⁹⁸ Makhlina, *op cit.* p. 49.

³⁹⁹ A draft version of the 'Oil and Gas Law' can be found in IEA, *International energy conference on natural resource management: crude oil sector*. Moscow, 23-25 Nov. 1992, OECD/IEA, 1993.

⁴⁰⁰ Konoplyanik, 'Russia struggling to revive production, rebuild oil industry', *OGJ*, vol. 91, no. 31 (Aug. 2, 1993).

⁴⁰¹ Watson, 'Foreign investment in Russia: The case of the oil industry', *Europe-Asia Studies*, 1996, vol. 48, no. 3, p. 436.

⁴⁰² Heinsohn, 'Duma adapts draft oil and gas law', *MT*, 13.7.1995.

⁴⁰³ Sagers, 'Developments in Russian crude oil production in 2000', *Post-Soviet Geography and Economics*, 2001, vol. 42, no. 3, p. 171.

The development of a PSA legislation that is acceptable to hydrocarbon producers and the various levels of administration has been underway for most of the 1990s. Due to the absence of normative legislation that would govern extractive production, investors (especially foreign investors) have lobbied for the establishment of a PSA law.

A PSA agreement represents a contract between the owner of the resources (the State) and investors to share costs and revenues in the development of resources.⁴⁰⁴ It provides a tax framework for each agreement, division of rights of produce, and regulates export rights.⁴⁰⁵ According to a former Soviet Ministry of Oil official and specialist on the protection of property rights in Russia a PSA framework should 'protected four main rights. Firstly, to have stability – stable terms. Secondly, to have full control over operation, so that the state does not interfere with day to day operation. Thirdly, that the investor can do what he wants with his part of production – for instance to export 100% of oil production and not be limited to 30%. Fourthly, he must have the right to go to arbitrage, foreign arbitrage and court. If these four main rights are protected, then the investor has quite good possibility to work here, to have good economics, and to have good results'.⁴⁰⁶

Important in the Russian case was that it would also guarantee tax and operative stability *ex post* in that agreements (ideally) could be grandfathered in new legislation.⁴⁰⁷ Each agreement thus regulates the relationship between

⁴⁰⁴ Under a PSA regime the state gives up sovereign immunity. Contractual disputes become a matter for civil law rather than administrative law. (Kirillova, *Legal Aspects of Foreign Investment in the Region: Into the next Millennium Oil and Gas Opportunities in the Former Soviet Union*, Mitre House (McKenna & Co), 1998, p. 5).

⁴⁰⁵ A conference on natural resource management in the crude oil sector was held in Moscow in November 1992 under the auspices of the International Energy Agency (IEA). For a detailed description of the virtues of a PSA agreement see the conference proceedings. (IEA (1993), *op cit.*).

⁴⁰⁶ Interviewee # 1.

⁴⁰⁷ A grandfather clause means that previous agreements will not be affected by new legislation. Talking about PSA Interviewee # 1 referred to the need for stability with the following example. '[The] legal system can always change. I favoured [that] the agreement should be stable for the whole period of production...[F]or example, Shtokman project, should last not less than 50 years. If you count back 50 years from now, there was Stalin, Khrushov, Brezhnev, Andropov, Chernenko, Gorbachev, Yeltsin and now Putin – and three constitutions

the company and the authorities on a contractual basis. The PSA law was passed in December 1995.⁴⁰⁸ Throughout the legislative process several compromises had to be reached due to demands from the Duma and the Federation Council, thus the law that was passed in 1995 from the start drew heavy criticism – especially from Western investors. The legislative process had made the compromise law contain ‘more taxes, more politics and fewer guarantees’.⁴⁰⁹ Furthermore the law was incompatible with existing legislation and internally contradictory, which made the implementation of the law dependent on the passing of an enabling law.⁴¹⁰ Such legislation was not passed until 1999.

The PSA law enforced that all fields eligible for PSA development had to be approved by the Duma. The Duma was entrusted with the responsibility of establishing a list of fields that would be eligible for development under PSA terms. These lists themselves have the status of a federal law.⁴¹¹ From a foreign investor’s point of view issues related to tax responsibilities, cost recovery principles and calculations, transfer of licenses, and the absence of taking contract disputes to international arbitration made the 1995 PSA less attractive.⁴¹² The law enabled the Russian government to unilaterally renegotiate the terms of the contract in light of substantial changes in circumstances. However, such circumstances are not specified, leading

were active!’ According to Interviewee # 6, ‘PSA has two advantages. Firstly, the law guarantees stability. Secondly, it guarantees the accompanying tax regime’.

⁴⁰⁸ RF Federal Law *O soglasheniyakh o razdele produktsii* [On the agreements on the division of production]. The PSA Law can be found at <http://www.referent.ru>. Also the author has had access to Ger Vandenberg’s (of the Leiden University Institute of East European Law) database on Russian legislation (with comments).

⁴⁰⁹ Comerford & Lukianov, ‘Oil Law Clumsily Drafted’, *MT*, 1.5.1996.

⁴¹⁰ Sagers, 2001, *op cit.* p. 174. According to Interviewee # 6, ‘The constitution says that the subsoil can be in any form of possession. The law on the subsoil however says that it can only be state owned’.

⁴¹¹ According to one of the academics involved in the drafting of the Oil and Gas Law, ‘An agreement is a commercial document, how can it be approved by law? Then the deputies will discuss it. If we came to an agreement and the government signed it and there subsequently should be disagreement, you are in a poor position because you do not have the right to change a law. It is rubbish that a law should approve a commercial document’. (Interviewee # 6).

⁴¹² Prior to the 1995 PSA law three agreements had been concluded, which have been grandfathered. Since 1995 not a single agreement has been concluded. (Subbotin, ‘Time to make a decision’, *Oil of Russia*, 2002, No. 1, p. 37).

investors to wonder if fluctuations in oil prices would constitute such a change.⁴¹³

Criticism of the PSA law has not only been confined to foreign investors, it has drawn opposition from several other participants in the regulation of the oil industry. Domestic producers regard it as creating an uneven playing field, in terms of giving foreign investors preferential treatment, particularly with respect to access to export.⁴¹⁴ Another argument is that there are sufficient resources available at the present in order for the companies (and the government) to wait for technological advances to reduce the cost of developing new and hard-to-recover reserves, making Western investors and PSA of less long-term importance.⁴¹⁵ Finally Khodorkovsky claims that total Russian tax receipt will be less under PSA than under the present system.⁴¹⁶ While these are arguments that from a populist point of view no doubt go down well with Duma representatives and government officials, there are other, less politically attractive reasons for the Russian companies not to support PSA.⁴¹⁷

1. Receiving rights to subsurface usage under PSA requires more resources (financial and administrative) than compared with the licensing system;
2. Under a PSA the pricing mechanism is fixed under the agreement. Until the establishment of a severance tax (effective as of 1 January 2002) VICs could make extensive use of transfer prices that underestimated the remittance for subsurface usage rights for crude produced under the licensing system;
3. A PSA regime would require higher standards of transparency in the activities of both the companies and the state. Such transparency would reduce the companies ability to an aggressive tax policy, since much of the

⁴¹³ Comerford & Lukianov, *op cit*.

⁴¹⁴ This opinion was frequently expressed to the author while conducting interviews with Russian oil company executives (Moscow, March/April 2002). Interviewees # 7 & 11.

⁴¹⁵ Interview with Khodorkovsky (President of Yukos). Sivakov, 'The Power of Big Oil', *Ekspert*, no. 4, Feb. 2003. At: <http://www.ekspert.ru>.

⁴¹⁶ Cited in Fletcher, 'CERA: Yukos CEO claims BP deal proves PSAs not necessary for Russian investments', *OGJ Online*, 11.2.2003. At: <http://ogj.pennnet.com/home.cfm>.

⁴¹⁷ The following information is based on Konoplyanik, 'Would Russian oil companies really like to have a PSA regime in Russia?' *OGJ*, vol. 100, no. 52 (Dec. 23, 2002), pp. 20-26.

tax optimisation was achieved due to the lack of transparency in the system of taxation;

4. Finally, the overly bureaucratic and time-consuming nature of finalising a PSA along with the absence of judicial practice related to PSA dispute settlement, makes the system less desirable.

A frequent argument in favour of PSA is that it will generate higher levels of budgetary income, output and investment.⁴¹⁸ However, points 1,3 & 4 above point to the relationship between transaction costs and structure of state power. Increased transaction costs reduce potential profit. In the light of a continued patrimonial-despotic structure of state power, uncertainty with respect to the state's (at all levels) *ex-post* commitment and the absence of a credible (impartial) venue of conflict resolution, a PSA regime can increase transaction costs. Opposition to PSA amongst the Russian companies is not across the board. For instance Rosneft and LUKoil are both in favour of PSA, while Yukos, Sibneft and TNK are against.⁴¹⁹ PSA may rationally imply greater benefits. However, unless the incentive structure that the companies operate in is altered, and thereby the structure of state power, distrust of the state will lessen the attractiveness and investment willingness among several of the companies. While appropriation of rent and resources remains linked to a patrimonial-despotic (hierarchical bargaining) structure transaction cost outside a normative framework of regulation may turn out to be less (and more predictable).⁴²⁰

Western analysts have often interpreted Duma opposition in terms of anti-reform/anti-foreign investment sentiments.⁴²¹ While such sentiments cannot be denied among some Duma deputies,⁴²² the debate is more fundamental than pro or anti reform. It encapsulates the establishment of state power, and

⁴¹⁸ Ziener, 'The Russian Oil Sector: Finally Ready for Investors?', *Russian Economic Trends*, 2001, vol. 10, no. 3/4, p. 42.

⁴¹⁹ Interviewee # 11.

⁴²⁰ Diskin finds that well informed owners of big saving regard financial institutions and the state as the main obstacles to organised use of savings. (Diskin, *op cit.*, p. 32).

⁴²¹ *Executive Briefing: Russian Oil Industry Analysis*, Russian Petroleum Investor (RPI), 1999, p. 23.

⁴²² Gulyayev, 'Deputies: Oil Law Negotiations Stuck' *MT*, 28.11.1995. Further, there has been a gradual shift in the Duma's attitude towards legislation and PSA. (See below).

should therefore rather be seen as a means of exerting influence on the circulation of revenues and rent generated in the oil industry by the various participants that may legally claim a right of appropriation. Several regions for instance passed their own PSA legislation in an attempt to implement their own projects, laws that often contradicted Federal legislation.⁴²³ Tatarstan has passed its own Oil Law and operates its own oil taxation framework.⁴²⁴ Furthermore, one has to ask what role the legislative is supposed to play. With the opposition of some Russian companies to PSA, the Duma's composition, the question becomes more 'what kind of reform?' rather than 'yea or nay' to reform.

The development of PSA has been a re-active rather than pro-active process, enshrining in law obtained rights *ex post*. Foreign investors and proponents of PSA in Russia on the other hand want PSA to represent *ex ante* rules of the game that will create the necessary predictability and stability for investment in the Russian oil industry, particularly in light of the worsening reserve situation.⁴²⁵

In December 1998 a PSA amendment law was passed which dealt with some of the concerns expressed by foreign investors.⁴²⁶ Fields with reserves less than 25 million tons no longer required Duma approval. This constituted both a concession to the regions (they could implement their own projects only subjected to Federal government approval) and the re-establishment of Federal pre-eminence in PSA legislation. For foreign investors the amendments created further barriers by limiting the proportion of reserves eligible for PSA to 30 per cent, and establishing norms for the required utilisation of Russian equipment and workforce. The law maintained the 'two key' principle in

⁴²³ Sagers, 2001, *op cit.*, p. 174.

⁴²⁴ The Tatar Oil Law is available at: <http://www.nefte.ru/zakon/4.htm>. For Tatar taxation see Tokarev, 'Nalogovoe Regulirovanie Neftegazovogo Sektora: Regional'nye Aspekty [Tax regulation of the oil and gas sector: regional aspects], IEiOPP SO RAN, 2000, p. 140-151.

⁴²⁵ These sentiments were expressed to the author in talks with executives of non-Russian oil majors and an advisor to the Duma commission on PSA. According to one oil executive after some initially disappointing test drillings his company had 'like most of the other international companies sat on the fence and awaited the arrival of the PSA legislation'. (Interviewee # 10).

⁴²⁶ RF Federal Law *O vnesnii izmenenii i dopolnenii v federal'nyi zakon 'O soglasheniyakh o razdele produktsii* [On the introduction of changes and additions to federal law 'on the agreements on the division of production]. At: <http://www.referent.ru>.

issuing licenses for agreements, in concluding agreements, and participating in the controlling committee of an agreement. In 2002 a further two amendment to PSA were under elaboration. The Ministry of Finance was preparing a fiscally oriented version that would make PSA more akin to the present tax framework.⁴²⁷ A second version was being developed by the Duma that too a greater extent takes into account the wishes of industry.⁴²⁸ These pending amendments to PSA again demonstrate a fundamental dilemma in reforming the Russian economy and the legislative process. In Russia the structure of state power is based upon the state's position in the circulation of income and resources and its ability to *ex post* redefine the rules of the game. A (proper) PSA framework would challenge this position by imposing *ex post* accountability on the state. The opportunity cost of such a regime may therefore, be too great for the state. According to one specialist on PSA, the great benefit of PSA to the Russian economy was not its fiscal properties but its investment related multiplier effect that could serve as an engine for more diversified economic growth.⁴²⁹

The work on these three laws has represented the main legislative thrust towards establishing a normative framework for the regulation of oil production, ownership, and rights. In addition a number of laws regulating specific parts of the industry have been enacted/under development. The Law on the Continental Shelf was enacted at the end of 1995.⁴³⁰ This law establishes exclusive rights for the federal authorities to regulate and grant rights of exploration and development of the Russian continental shelf. The law establishes that both foreign and domestic investors may participate in the tenders and auctions for such rights.

⁴²⁷ Interviewee # 9.

⁴²⁸ According to Interviewee # 9, 'The main difference lies in the psychology. The government version is about a prisoner, who is freed before time, and is constantly under the surveillance of the police so that their behaviour should be absolutely correct. The version of the Duma is about the free person, which should behave normally in society. On the street these two persons are equal, but their position in society is very different'.

⁴²⁹ *Ibid.*

⁴³⁰ RF Federal Law *O kontinental'nom shel'fe rossiiskoi federatsii* [On the continental shelf of the Russian Federation]. At: <http://www.referent.ru>.

The Law on Natural Monopolies regulates the functioning of the two main transportation organisations – Transneft and Transnefteprodukt – defining them as natural monopolies.⁴³¹ The law established the creation of state organs of regulation – Federal Energy Commission (FEK) – to regulate the pipeline systems together with the GKAP. Furthermore, the laws specify the methods of regulation available to these organs, their responsibility and authority.⁴³²

Finally, a Law on Trunk Pipelines has been under development since 1994. As with the Oil and Gas Law several competing versions of this law have been discussed. Issues of contention have been the degree of state ownership and access regulation to various pipeline systems. No compromise version has so far been accepted by the Duma.

The legislation enacted so far diverges considerably from the intention of the Energy Concept. Whereas the Energy Concept envisaged the establishment of a normative framework that would provide a transparent, competitive and fair system of regulation, the enacted legislation has failed to create clear lines of rights and duties. The authority of federal and regional/local organs of power in several instances remain unclear. As with the development of the PSA law legislation has been predominately re-active rather than pro-active leading to frequent changes in legislation as the struggle for control has superseded previous positions. This is demonstrated, and implied in the above, by the chronic failure of the participants to the legislative process to agree on legislation *ex ante* that would be honoured *ex post*, a situation that bears more resemblance to a 'rule by law' rather than a 'rule of law'. Nonetheless progress in this respect has been achieved throughout the 1990s and early 2000s, with responsibilities and rights gradually crystallising as a result of the bargaining process that still is state power.

⁴³¹ RF Federal Law *O estestvennykh monopoliyakh* [On natural monopolies]. At: <http://www.referent.ru>.

⁴³² The specific authority of the FEK was later established by Government Decision № 560 (8.5.1996). *O reorganizatsii organov gosudarstvennogo energeticheskogo nadzora v rossiiskoi*

The legislative process has been a vehicle for attempting to redistribute authorities previously commanded by the USSR organisations to the various actors and organisations that developed in the aftermath of the 1987 'radical reforms' and subsequent dissolution of the USSR. The struggle for where these former authorities should rest has been intimately linked with the development of the state and state structure,⁴³³ i.e. the structure of state power.⁴³⁴ Competition between the various actors for the previous authorities has been one of the reasons for the protracted negotiations surrounding legislative development and the slow implementation of a coherent legislative framework. A major concession of the Subsoil Law is that it recognises the right of non-state entities to work the subsoil and legitimises the right of the regions of operation to parts of the potential rent. It thus opened the possibility of detaching the state as owner of resources from the role of operator.⁴³⁵ On the other hand neither this law nor subsequent laws have succeeded in establishing *ex post* stability that would be a pre-requisite for the emergence of bureaucratic infrastructural mode of state power. While the rights of different organisational entities to appropriate rent has been agreed in principle, the specific mandate that accrues to each organisation and how to achieve independent arbitration in case of conflict has remained undefined. Even where procedures for such matters have been established, there has been frequent *ex post* disagreement, followed by alterations, leading to uncertainty and instability.

Parallel to the above-mentioned struggle for control, there is an underlying conceptual dilemma. In the case of the Russian oil industry there is an

federatsii [on the reorganisation of state organs of energy supervision]. At: <http://www.referent.ru>.

⁴³³ Moe & Kryukov, 'Joint Management of oil and gas resources in Russia', *Post-Soviet Geography and Economics*, 1998, vol. 39, no. 7, p. 595.

⁴³⁴ Commenting on the development of the legislative framework one of the interviewees said: 'I have the opinion that mainly lawyers should be writing laws, but in our case it is dictated by the political and by different lobbying interests. That's why sometimes, if two or three groups are struggling for different wording of the article...sometimes they trade – trade their votes in exchange for something...other political privileges'. (Interviewee # 1).

⁴³⁵ Moe & Kryukov (1998), *op cit.*, p. 596. The authors of this article further state that: 'Control over the exploitation of mineral resources, an activity that tended to be concentrated in more peripheral areas within the Federation, became a test for the willingness of the central authorities to yield control over crucial spheres of governmental operations to the regions'. (*ibid.*).

inherent contradiction in the terms 'competitive environment' and retention of the benefits of a 'single production-technological complex'.⁴³⁶ The creation of VICs and their subsequent control over regional infrastructure was unlikely to be conducive to the development of a regional competitive environment and likely to raise barriers to entry for independent producers.⁴³⁷

On the other hand, the legislative "vacuum" that existed and the struggle between federal and regional authorities was instrumental in the growth of the oil industry's economic power, allowing the companies to become involved in the exercise of state power and circulation of rent and resources. This argument is not only true for the oil industry, but rather reflects how the development of the economy has remained closely linked to political legitimacy, and thus impeded the development of autonomous state power.

Throughout the 1990s the operative framework in Russia has remained one of despotic-patrimonial state structure with a high degree of state capture. The establishment of various administrative units to oversee and regulate the industry is one example of this, their overlapping authority, the licensing approach and the implementation of tenders and auctions are others.

Rent extraction and securing state revenues.⁴³⁸

As shown in Chapter 4, throughout the Soviet period the extraction of rent from the oil industry was closely intertwined with the state's redistributive role. The state's monopoly and monopsony position were fundamental means of controlling prices and the circulation of resources. Both mechanisms served as a means to extract rent from the economy. With the introduction of self-financing, reforms in the structure of interaction between economic units, and the gradual appropriation of authority by the regions the flows of circulation started to change. (See Figure 8.1).

⁴³⁶ Moe & Kryukov, 'Observations on the reorganization of the Russian oil industry', *Post-Soviet Geography*, 1994, vol. 35, no. 2, p. 92.

⁴³⁷ Kryukov (1998), *op cit.*, p. 119.

⁴³⁸ On the decrees and decisions in this section see also Sagers *et al.*, 'Resource rent from the oil and gas sector and the Russian economy', *Post-Soviet Geography*, 1995, vol. 36, no. 7, pp. 389-425. Hober, *A Game Called Russian Oil: Trading Oil in the FSU - Recent Developments*, Journal of Energy and Natural Resources Law, 1995, vol. 13, no. 2.

The Energy Concept envisaged a shift from direct state control over prices and the flow of resources to a market-based situation where the state would appropriate rent through indirect means – taxes, levies and charges. As with the development of a legislative framework however, disagreement between the fundamental actors of the oil industry (how much to whom) resulted in an unstable and unclear framework of operation. The subsoil law for instance enabled regions and local authorities to levy taxes on top of taxes established by the federal authorities, but there was no uniform system of how much such taxes should be or how they should be used, rendering the process of tax collection open to misappropriation. With respect to rent extraction the main achievement of the legislative framework in the 1990s has been the state's acceptance of sharing potential rent income however, the specific proportions of division were less clear.⁴³⁹

Prices. The pricing mechanism was one of the main institutions of rent extraction in the USSR, and the pros and cons of liberalising prices has been fiercely debated in Russia since 1992. Price liberalisation was one of the pillars of the reform initiatives that were advocated by the international financial institutions (IFI). The proponents of price liberalisation argued that this would: allow proper industrial self-financing; increase and simplify the collection of taxes; create a transparent system of rent extraction; and stimulate energy conservation. Opponents argued that price liberalisation would result in inflation and subsequent bankruptcy and unemployment due to industry's loss of competitive advantage (cheap energy).⁴⁴⁰ With respect to energy prices a compromise was instituted at the beginning of 1992.

Unlike the general price liberalisation that was enacted on 1 January 1992 the price of oil was one of the essential goods that remained controlled along with

⁴³⁹ An exemption here is royalty payment, which was regulated by the Subsoil law. However, even in this case the division of this rent has in recent years been altered in favour of the federal authorities.

⁴⁴⁰ Kryukov (1998), *op cit.*, p. 129.

approximately 20 per cent of industrial goods.⁴⁴¹ These prices were administratively hiked on 1 January as well. However, a two-tier price system was already in operation due to production associations having the right to dispose of 20 per cent of their production outside the state order system.⁴⁴² Such oil was sold at exchanges at prices considerably above the state order price. In February 1992 the share that could be realised at free prices was increased. In accordance with Presidential Decree № 151 the regions obtained the right to purchase 10 per cent of production on their territory at state prices and resell up to 40 per cent of this production at free prices.⁴⁴³ Production associations had the portion of their production that could be realised at free prices increased to 40 per cent in accordance with Government Decision № 93.⁴⁴⁴ Although the initial price hike at the beginning of 1992 had increased oil prices approximately 5 times,⁴⁴⁵ the rapid inflation at the beginning of the year soon worsened oil's relative price *vis-à-vis* other industrial inputs.

In an attempt to improve the situation in the industry a more flexible pricing structure was introduced in May 1992 with Government Decision № 318.⁴⁴⁶ The decision aimed to improve both the relative price of oil and curb the unjustified (in the view of the government) high price of "free" oil.

⁴⁴¹ President RSFSR Decree № 297 (3.12.1991), *O merakh po liberalizatsii tsen* [on measures for the liberalisation of prices]. At: <http://www.referent.ru>. Sagers *et al.*, 1995, *op cit.*, p. 401.

⁴⁴² This share had been increased from the previous 10% by Government Decision № 12 (4.1.1992), *Ob osobennostyakh regulirovaniya tsen na produkciiu toplivno-energeticheskovo kompleksa* [On the particularities of regulation of price on production of the fuel and energy complex]. At: <http://www.referent.ru>.

⁴⁴³ RFPD № 151 (17.2.1992), *O poryadke ispol'zovaniya nefi, gasa i produktov ikh pererabotki, postupayushchikh v rasporyazhenie organov ispolnitel'noi vlasti respublik v sostave rossiiskoi federatsii, kraev, oblastei i avtonomnykh obrazovaniy* [On the order of the use of oil, gas and refined products entering into the disposal of the organs of executive power of the republics of the Russian federation, krais, regions and autonomous formations]. At: <http://www.referent.ru>.

⁴⁴⁴ Government decision № 93 (17.2.1992), *O neotlozhnykh merakh po normalizatsii polozheniya v nefyanoi i gasovoi promyshlennosti respubliki* [On the urgent measures for normalising the situation in the oil and gas industry of the republics]. At: <http://www.referent.ru>. This decision allowed the scientific production associations Termneft, Nefteotdacha, Tyumenneftegaz and the PA Sakhalinmorneftegaz to realise their entire production at free prices for the stimulation of use of new methods of extraction. This right was also obtained by geological prospecting organisations.

⁴⁴⁵ Government Decision № 55 (19.12.1991), *O merakh po liberalizatsii tsen* [On measures for the liberalisation of prices]'. At: <http://law.optima.ru>.

⁴⁴⁶ Government Decision № 318 (18.5.1992), *O gosudarstvennom regulirovanii tsen na energoresursy, drugie vidy produkcii i yslugi* [On state regulation of prices on energy resources, and other forms of products and services]. At: <http://law.optima.ru>.

Therefore, oil prices were to lie in a corridor between 1800-2200 Roubles. However, for each 100 Rouble increment above the minimum 1800 a penalty would be deducted to the 'price regulation fund' under the auspices of the Ministry of Finance.⁴⁴⁷ A further 10 per cent of the realised wholesale price was to be deducted to a fund for financing geological prospecting. A price above the 2200 Rouble limit was by definition illegal.

The base price for oil was increased to 4000 Roubles in September 1992.⁴⁴⁸ Along with this increase a change in the structure of price formation was introduced. Crude oil producers had profitability capped at 50 per cent of their production cost (*sebestoimost*). Although a similar deduction system (to the above) for prices above the base price was in function, the price setting mechanism for the first time became a partly dynamic function, i.e. prices could be altered by the producers as a function of their own cost function, and had thereby reached a semi-liberalised stage. The base price was subsequently increased in February 1993.⁴⁴⁹

Table 7.2 – Growth of Russian domestic crude prices 1992-95 in Roubles (current prices).

Sep 1992	Dec 1992	Dec 1993	Jun 1994	Dec 1994	Feb 1995	Mid 1995
2000	7000	40.000	78.000	101.000	159.000	235.000

Source: Sagers et al. 1995 p. 403-404.

With the abolition of the 'price regulation fund' and the base price system on 1 July 1993 the deterrent to further price increases was again reduced.⁴⁵⁰ Table 7.2 shows the development of prices 1992-95. The price cap still remained in place and therefore no market price developed as production costs varied

⁴⁴⁷ Within each increment: 60, then 70...80...90 Roubles.

⁴⁴⁸ RFPD № 1089, *O gosudarstvennom regulirovanii tsen na otdel'nye vidy energoresursov* [on the state regulation of prices on different forms of energy resources]. *Sob. Zak.*, 1992, no. 12, st. 929. Penalties for above minimum price were set at 30 Roubles for each 100 Roubles within the next 500 roubles, then for the following 100 within next 500 40...and 50 above 5000 Roubles.

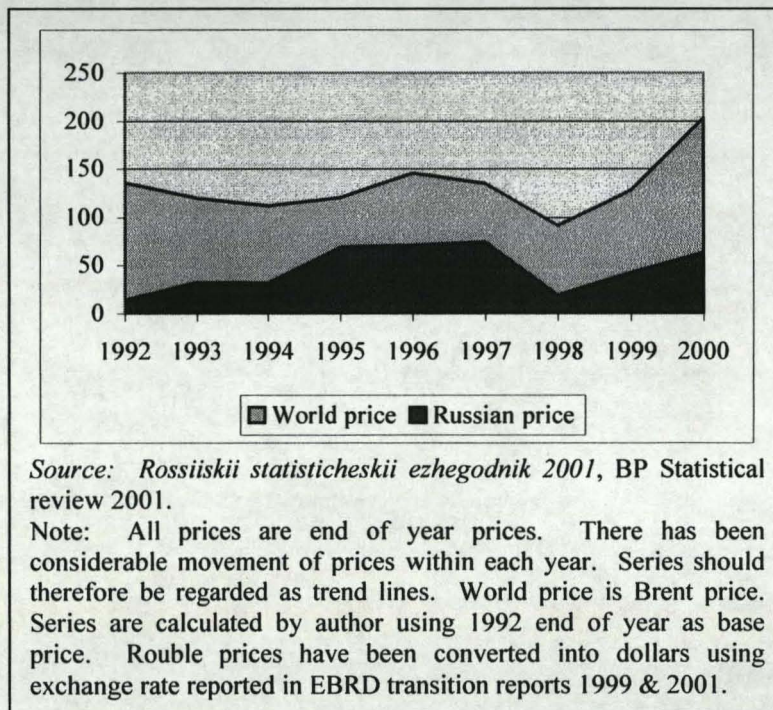
⁴⁴⁹ Sagers et al., 1995, *op cit.*, p. 403.

⁴⁵⁰ RFPD № 979 (1.7.1993), *O priznanii utrativshim silu punkta 1 ukaza prezidenta rossiiskoi federatsii ot 17 sentyabrya 1992 g. n 1089 "o gosudarstvennom regulirovanii tsen na otdel'nye vidy energoresursov"* [On the acknowledgement that point 1 of decree no. 1089 of

greatly. In the following period the state's direct control over price formation consisted of limiting the legal level of profitability.

According to Kryukov, the basic parameters that influenced increases in oil prices in this period were costs, profitability limitation, inflation expectation and government tax policy.⁴⁵¹ Compared to world prices downward pressure was exerted by limited export access and the export quota system.⁴⁵² Nonetheless, between 1992 and 1993 the price increase for oil exceeded the industrial wholesale index, with the inflation expectation in industrial goods being a major factor behind this development.⁴⁵³ In February 1995 prices on oil were liberalised fully with the abolition of the price cap.⁴⁵⁴

Figure 7.2 – Oil prices pr ton in current Dollars 1992-2000.



Despite these measures domestic crude oil prices continued to lag behind world prices (see Figure 7.2). This has been partly due to the natural export

the president of the Russian Federation on 17 September 1992 "on the state regulation of prices on different forms of energy resources" has lost its force]. At: <http://www.referent.ru>.

⁴⁵¹ Kryukov (1998), *op cit.*, pp. 132-133.

⁴⁵² Sagers, *et al.*, 1995. pp. 403-404.

⁴⁵³ Kryukov (1998), *op cit.*, p. 132.

⁴⁵⁴ RFPD № 221 (28.2.1995), *O merakh po uporyadocheniyu gosudarstvennovo regulirovaniya tsen (tarifov)* [On the measures for the regulation of state regulation of prices (tariffs)]. *Sob. Zak.* 1995, no. 10, st. 859, pp. 1656-1657.

constraints in the form of a lack of export infrastructure and the government's use of duties and excises to function as a wedge between domestic and international prices. A frequent argument in the west has been that the government has used its control over the pipeline system to artificially ensure an oversupply of oil on the domestic market. However, at least one Russian oil industry executive the author spoke to regards this proposition as a Western misconception that overestimates the power and interests of the Russian state.⁴⁵⁵ Along with the fall in domestic oil demand these measures resulted in an oversupply of crude oil on the domestic market. This oversupply not only resulted in downward pressure on domestic crude prices, but also compelled producers to shut-in production.⁴⁵⁶ Other factors, such as non-payment problems and transfer pricing added downward pressure in the form of reducing solvent demand. According to Sagers, only about 3 per cent of produced crude oil was traded domestically on commercial terms.⁴⁵⁷

Export. Appropriating the differential between "domestic prices" and world prices was one of the several means by which the USSR extracted rent from the oil industry. Besides the price differential export of oil and gas constituted the USSR's main source of foreign currency. The state had enjoyed virtually complete control over exports until the end of the Soviet period. Only with the introduction of producer's right to sell parts of their production was the state forced to share some of the income from more profitable export sales.⁴⁵⁸ This function was seized by Russia even before the demise of the Soviet Union through RSFSR Government Decision № 7 (Nov. 1991). This decision established the framework for export regulation that was dominant during the 1990s. Previous export licenses were subjected to re-registration and were cancelled unless successfully reconfirmed by the Ministry of Fuel and Energy and Commission of Foreign Economic Relations.

⁴⁵⁵ Interviewee # 7. According to Interviewee # 3, 'In principle Russian companies cannot export 100% of their production even if they were allowed to do so, because there are limitations on the export outlet capacity'.

⁴⁵⁶ Sagers *et al.* 1995, p. 404.

⁴⁵⁷ Sagers (2001), *op cit.*, p. 170.

⁴⁵⁸ Chadwick *et al* argues that Soviet exports were essentially functional rather than mercantilist. (Chadwick *et al*, *Soviet Oil Exports: Trade Adjustments, Refining Constraints and Market Behaviour*, Oxford University Press, 1987, pp. 68-69).

Furthermore, a system of export quotas was established and a system of deliveries of oil to the state – so called orders for state needs. A system of special exporters became operative on 1 September 1992 in order to monitor the flow of resources and foreign currency.⁴⁵⁹ The majority of such special exporters were the former foreign trade organisations (FTO). In addition several producers along with private trading companies were registered as special exporters.⁴⁶⁰ Until their abolition in 1995 the special exporters served as intermediaries between oil producers and foreign importers. In 1994 LUKoil was the only VIC that had a competitive trading firm, while the total share of Russian oil producers in Russian exports only amounted to roughly 25 per cent.⁴⁶¹

The abolition of the quota system was one of several demands on the Russian government made by the IFIs. Throughout 1994 attempts were made at changing the export framework. Through RFPD № 1007 the quota system and all export privileges were to be abolished in July 1994.⁴⁶² However, due to pressure from organisations and regional authorities profiting from the system it was extended until 1 January 1995.⁴⁶³ In the end the system was not abolished until March 1995 when a presidential decree abolished the system of special exporters and the quota system.⁴⁶⁴

With the liberalisation of exports the government's ability to influence exports has been through its use of regulating access to the pipeline system and by a continued policy of state orders. With the abolition of the special exporters a

⁴⁵⁹ RFPD № 628 (14.6.1992), *O poryadke eksporta strategicheskii vazhnykh syr'evykh tovarov* [On the procedure of export of strategically important raw materials]. At: <http://www.referent.ru>.

⁴⁶⁰ Sagers *et al.*, 1995, *op cit.*, p. 406.

⁴⁶¹ Kabalinsky, 'Russia's Vertically Integrated Oil Companies', *Russian Business Monitor*, 1995, no. 3, p. 24.

⁴⁶² RFPD № 1007 (23.5.1994), *Ob otmene kvotirovaniya i litsenzirovaniya postavok tovarov i uslug na eksport* [About the cancellation of quotas and licences of deliveries of goods and services for export]. At: <http://www.referent.ru>.

⁴⁶³ Sagers *et al.*, 1995, *op cit.*, p. 407-409. RFPD № 1385 (1.7.1994), *O postavkakh nefii i nefteproduktov na eksport v 1994 godu* [on the deliveries of oil and refined products for export in 1994]. At: <http://www.referent.ru>.

⁴⁶⁴ RFPD № 245 (6.3.1995), *Ob osnovnykh printsipakh osushchestvleniya breshnetorgovnoi deyatel'nosti v rossiiskoi federatsii* [on the main principles of implementation of foreign trade activity in the Russian Federation]. At: <http://www.referent.ru>.

system of mandatory registration of export contracts with the Ministry of Foreign Economic Relations and "transaction passports", certificates to verify that due export revenues (hard currency) were transferred to the state on time, was being introduced.⁴⁶⁵ However, these tools were less powerful than the state's previous hold over delegation of quotas and licences.

Access to the pipeline systems is regulated by two enactments – government decision № 209 (1995) and presidential decree № 220 (1995).⁴⁶⁶ The former established access to the pipeline system on an equal basis. Provided there was capacity, the producer would be allowed to ship the requested amount. In the case of higher scheduling requests than capacity, shipping volumes would be allocated proportional to production in the previous quarter. Priority access would be given to fulfilment of Russian international obligations and to joint ventures having received such assurances. In order to administer pipeline regulation an Interdepartmental Commission for pipeline regulation (shipping supervision – headed by a deputy minister of Fuel and Energy) and a Federal Energy Commission (FEK) for the regulation of tariffs were created.⁴⁶⁷

The system of export for special purpose state programmes was abolished in September 1997,⁴⁶⁸ freeing up additional export capacity for Russian

⁴⁶⁵ Kabalinsky, 'Oil Exports From Russia: Legal Regulations and Common Practices', *Russian Business Monitor*, 1995, no. 4, p. 24. The companies are still required to sell 50% of their hard currency revenues to the state. (Interviewee # 4).

⁴⁶⁶ Government Decision № 209 (28.2.1995), *O regulirovanii dostupa k sisteme magistral'nykh nefteprovodov, nefteproduktoprovodov i terminalov v morskikh portakh dlya vyvoza nefii, nefteproduktov za predely tamozhennoi territorii rossiiskoi federatsii* [On the regulation of access to the main pipeline system, refined products pipelines and terminals in ports for the export of oil, refined products beyond the borders of the customs territory of the Russian Federation]. RFPD № 220 (28.2.1995), *O nekotorykh merakh po gosudarstvennomu regulirovaniyu estestvennykh monopolii v rossiiskoi federatsii* [On measures for state regulation of natural monopolies in the Russian Federation]. Both at: <http://www.referent.ru>.

⁴⁶⁷ Government Decision № 94 (30.1.1995), *O mezhvedomstvennoi komissii po regulirovaniyu voprosov svyazannykh s ispol'zovaniem sistemy magistral'nykh nefteprovodov nefteproduktoprovodov i terminalov v morskikh portakh dlya vyvoza nefii, nefteproduktov za predely tamozhennoi territorii Rossiiskoi Federatsii* [On the Interdepartmental Commission for regulation questions connected with the utilisation of the pipeline systems for oil, oil products and oil terminals in sea ports for sending of oil and oil products beyond the custom territory of the Russian Federation], *Sob.Zak.*, 1995, no. 6, st. 492. RFPD № 1194 (29.11.1995), *O federal'noi energeticheskoi komissii Rossiiskoi Federatsii* [On the Russian Federation Energy Commission]. At: <http://law.optima.ru>.

⁴⁶⁸ Government Decision № 1130 (2.9.1997), *O raspredelenii dopolnitel'nykh ob'emov transportirovki nefii na eksport* [On the distribution of additional volumes of transport of oil for export]. At: <http://www.referent.ru>.

producers. By this time non-payment, both to oil producers and from oil producers to the state budget, had become almost chronic. Freeing up more export capacity was seen as a means of improving the cash-flow situation in the oil producing enterprises. The Primakov government again introduced exports for state needs.⁴⁶⁹

Taxes. In market economies, taxes (direct and indirect) constitute a main source of state income. One of the main challenges of the reform period in Russia has been to shift the structure of state income. This shift implied a switch from being “universal producer” to gradually appropriate tax on the revenue stream generated by state and private enterprise, while leaving enterprises with sufficient means to cover investment needs and profit/shareholder requirements.

This constituted a massive break, both ideologically and practically, with Soviet traditions where all revenue “belonged” to the state. In post-Soviet Russia this shift in tax structure has perhaps been one of the more telling signs of not only the Russian state’s dependency on the hydrocarbon industries, but also the challenge of reform, and the trappings of the past. In Chapters 2 it was argued that part of the reason for declining oil extraction in the late 1980s and early 1990s was low investment levels and declining return on investment. The development of a tax structure that would allow the industry to renew upstream investment balanced with the state’s need to cover budgetary means, required not only corporate responsibility (tax responsibility), but also concessions on the state’s side allowing the industry to retain parts of their profit. However, throughout the 1990s the question has been more related to allowing the industry to create any (legal) profits at all. For most of this period the industry has operated with a deficit, contributing to non-investment,⁴⁷⁰ payment arrears on part of the industry, and excessive administrative leverage in the form of granting dispensations from rules and norms. However, deficits were also the results of a) hiding/diverting revenues and b) extracting bargaining concessions from various levels of authority.

⁴⁶⁹ Sagers (2001), *op cit.*, p. 170.

⁴⁷⁰ Ziener, *op cit.*, p. 38.

Throughout the 1990s tax take on operating margins in many cases exceeded 100 per cent.⁴⁷¹ The oil and gas industries have been a main pillar of government revenues throughout this period contributing some 40 per cent of federal government revenues (of which half come from oil) and 40-50 per cent of foreign currency earnings.⁴⁷²

In addition to the regular tax burden – primarily VAT and corporate profit tax – the subsoil law stipulates a number of taxes that are particular to the oil and gas industries and were subsequently established by government decisions. These included payments for the use of the subsoil (royalty); reproduction of the mineral reserves; for the issuing of licences; excises; use of land; geologic information.⁴⁷³ Due to the excessive tax burden piled on the oil industry during the 1990s corporate profit tax, being the only one levied on profits rather than revenues, has (*de facto*) not been applicable to the oil industry for much of this period.

Regions and local authorities have had the right to issue their own taxes. These taxes numbered on average 30 in the first half of the 1990s.⁴⁷⁴ A number of the taxes have had a differentiated take depending on the cost situation of each particular field. For existing fields (and as part of the auction process for new fields) the determination of these rates was a result of negotiations between the operator and the respective authorities.

The excise tax constitutes the most important of the special taxes levied on the oil industry and was introduced by presidential decree after the enactment of

⁴⁷¹ Sagers *et al.*, *op cit.*, p. 414. 'Osnovnye kontseptual'nye polozheniya razvitiya neftegazogo kompleksa Rossii [main conceptual condition of development of the Russian oil and gas complex]', *Mintopenergo*, 2000. At: <http://www.enippf.ru> [Last consulted 13 February 2002]. Sagers, 2001, *op cit.*, pp. 178-180.

⁴⁷² *Mintopenergo* (2000), *op cit.* For reference, the oil and gas industry generate some 12% of industrial production and employ about 3% of the work force. (*Ibid.*).

⁴⁷³ Subsoil law, *op cit.* article 39. For elaboration on the individual points see Subsoil law articles 40-47. Also see Sagers *et al.*, 1995, *op cit.*, p. 412, table 2.

⁴⁷⁴ IEA (1995), *op cit.*, p. 134. See also Sagers *et al.* for an elaboration of the different regional and local taxes, p. 415.

the Subsoil law and became operative on 1 November 1991.⁴⁷⁵ The tax has a variable profit sensitive character that differentiates between different production conditions. Initially it was levied as a percentage on all production (including JV production) at Russian domestic prices. The manner of administering the tax was changed from a percentage *ad valorem* tax to a Rouble per ton (indexed to the Rouble-Dollar exchange rate) on 1 May 1994.⁴⁷⁶ Proceeds from the tax accrue to the federal budget. However, through agreements between some regional/local authorities and the federal authority parts of the proceeds from this tax have been redistributed.⁴⁷⁷

Royalty payment was first introduced by the Tyumen oblast Soviet in 1990 and was subsequently incorporated into the work on the Subsoil law.⁴⁷⁸ Government Decision № 318 (1992) elaborated on the specific rates of the tax, which was levied as a percentage of the wholesale price. This decision also established the rates to be deducted for exploration work carried out by the previous Ministry of Geology. The royalty income was divided between federal (40%), republican/krais (30%), and city/raions authorities (30%).⁴⁷⁹

Finally, the export tax served to maintain a disparity between domestic prices and world market prices. The export tax was introduced by Government Decisions № 90 and № 91(1991).⁴⁸⁰ The export tax was levied as a fixed

⁴⁷⁵ RFPD № 893 (14.8.1992), *O vvedenii aktsiznovo sbora s pol'zovatelei nedr territorii rossiiskoi federatsii* [On the introduction of excise collection from subsoil users on the territory of the Russian Federation]. At: <http://www.referent.ru>.

⁴⁷⁶ Government Decision № 320 (14.4.1994), *Ob aktsize na nefi', dobyvaemuyu na territorii rossiiskoi federatsii* [About the excise on oil extracted on the territory of the Russian Federation]. At: <http://www.referent.ru>. Differentiation (reflecting production situation specificity) was introduced by Government Decision № 534 (24.5.1994), *Ob ustanovlenii differentsirovannykh stavok aktsiza na nefi', dobyvaemuyu na territorii rossiiskoi federatsii* [About the establishment of differentiated excise rates on oil extracted on the territory of the Russian Federation]. At: <http://www.referent.ru>.

⁴⁷⁷ See Sagers *et al.*, 1995, *op cit.*, p. 417. MT, 'President Hails 'Federalism' In Bashkortostan Oil Deal', 4.8.1994.

⁴⁷⁸ Moe & Kryukov (1998), *op cit.*, p. 592.

⁴⁷⁹ The oil-extracting sector is by far the greatest "subsoil-payer" to the different budgets. In 1999 total payment for the use of the subsoil by industry was 30388,1 million Rubles. Of this the oil extractive industry paid 22686,4 million Rubles (74.7%). For comparison, the gas sector paid 4756.4 million Rubles (15.7%). (Babina, 'Rentnyi dokhod pri ispol'zovanii prirodnnykh resursov [Rent income from the utilisation of natural resources]', *Ekonomist*, No. 6, 2001, p. 18.

⁴⁸⁰ Government Decision № 90 (31.12.1991), *O litsenzirovanii i kvotirovanii eksporta i importa tovarov (rabot, uslug) na territorii Rossiskoi Federatsii* [On the licences and quotas

charge per ton of oil. Income from the tax accrued to the federal budget but could be redistributed to subjects of the federation. After a prolonged period of gradually reducing the rate of the tax, in accordance with commitments made to the IFIs, the tax was finally abolished in 1996.⁴⁸¹ The tax was again introduced under the Primakov government in January 1999 in order to boost state revenues in the wake of the 1998 financial collapse.⁴⁸²

One industry analyst described the oil industry's taxation system developed during the 1990s as being 'inflexible, basically revenue-based rather than profit motivated, over complicated and fiscally oriented'.⁴⁸³ A new tax structure became effective on 1 January 2002 containing three main components: a profit tax; a severance tax (NDPI); and an incremental revenue tax (windfall profits). The NDPI tax incorporates the former royalty payment and a number of other payments. The NDPI is divided 80:20 between the federal authorities and the corresponding subject of the federation. If the production takes place within an autonomous area within a subject of the federation the distribution is 74.5:20:5.5. From the continental shelf the entire NDPI accrues to the federal budget.⁴⁸⁴

However, this tax reform has continued the government's commitment to satisfying its fiscal needs, slightly increased the overall tax burden, favoured VICs over independent and non-integrated producers, and will lead to a

of export and import of goods (labour, service) on the territory of the Russian Federation]. Government Decision № 91 (31.12.1991), *O vvedenii eksportnogo tarifa na otdel'nye tovary, vyvoznnye s territorii rossiiskoi federatsii* [On the introduction of tariff on different goods exported from the territory of the Russian Federation]. Both at: <http://law.optima.ru>.

⁴⁸¹ Government Decision № 479 (1.4.1996), *Ob otmene vyvoznnykh tamozhennykh poshlin izmenenii stavok aktsiza na nefi' i dopolnitel'nykh merakh po obespecheniyu postypleniya dokhodov v federal'nyi byudzhel* [About the cancellation of export customs duties, change in the rates of excise on oil and additional measures for providing income into the federal budget]. At: <http://law.optima.ru>.

⁴⁸² Government Decision № 17 (4.1.1999), *ob utverzhdenii stavok vyvoznnykh tamozhennykh poshlin na tovary vyvoznnye s territorii Rossiiskoi Federatsii* [About the establishment of rates of export duties on goods exported from the territory of the Russian Federation]. At: <http://law.optima.ru>. The tax remained a fixed per ton charge until 1 January 2002, when a 35% charge was introduced on oil prices above US\$ 15 per barrel – rising to 40% for prices above US\$ 25 per barrel. Konoplyanik, 'S novymi nalogami, gospoda! [Happy new taxes gentlemen!]', *Neft' i kapital*, January 2002, no. 1, <http://www.enippf.ru> [13 February 2002].

⁴⁸³ Konoplyanik, 'What tax reform in Russian oil industry really means for investors', *OGJ*, vol. 100, no. 25 (June 24, 2002), p. 22-30.

⁴⁸⁴ Konoplyanik (Jan. 2002), *op cit.*

minimising of long-term investment activity. What is positive is its creation of a more dynamic relationship between world prices and export tariffs and the fixing of export tariffs by law.⁴⁸⁵

The development of Russian oil policy foundations has demonstrated a reactive rather than proactive policy. At the same time a trend towards greater flexibility is discernible and has become more pronounced as the industry has consolidated. Regulation and operation have increasingly been separated. The appearance of regional/local authorities and companies as legitimate centres of resource and rent accumulation has increasingly led to a refinement in the former structure of state power. However, this refinement has not necessarily brought about a substantial shift in the structure of state power, nor in the traditional role of the state.⁴⁸⁶ The process has been conditioned by a widening of the formal bargaining participants in order to retain continuity in the institutional matrix. The following chapters therefore turn to the consolidation of the industry, industry-state relations and industry-industry relations.

⁴⁸⁵ *Ibid.* Konoplyanik (Jan. 2002), *op cit.*

⁴⁸⁶ Jones Loung argues that the Russian government has adopted policies that amount to a 'wholesale shift away from the traditional state role of using its vast energy wealth to maintain a bloated social welfare system'. (Jones Loung, 'The "Use and Abuse" of Russia's Energy Resources', in Sperling, *Building the Russian State: Institutional Crisis and the Quest for Democratic Governance*, Westview Press, 2000, p. 31). The argument of this paper on the other hand is that the welfare state itself was but one element of the institutional matrix of the Soviet Union and that the use of the energy resources was linked to the maintenance of state power through the circulation of rent and resources.

Chapter 8

Privatising the Russian Oil Industry.

'I went to Moscow and spent two weeks there in the corridors of power...[f]inally a protocol was drawn up. It was signed by senior officials of the Fuel Ministry and says that the Ministry can't solve our problems because they belong to the government's domain. I contrived to see Vice-Premier Victor Chernomyrdin about that. He read the protocol and said "All that is written here is correct, and I can put my signature to it. But I cannot help either".⁴⁸⁷

V. Fumberg, Deputy General Director, Nizhnevartovskneftegaz

According to new-institutional theory organisations develop in response to incentive structures, created to realise specific ends. As has been argued in Chapter 4 of this thesis the organisational structure of the Soviet oil industry was developed in order to allow "efficient" control over the flow of resources and to achieve a set of goals. As such relative economic inefficiency was part of the price paid for greater political efficiency.

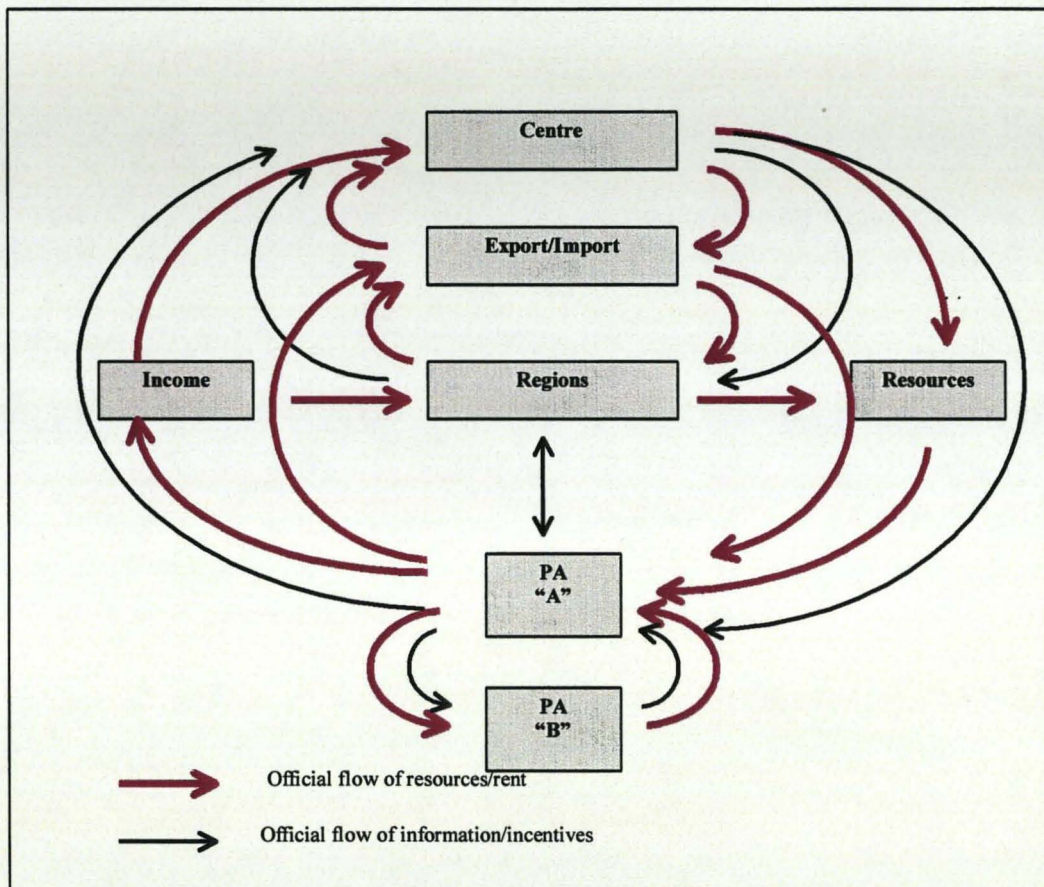
Beginning with the 'radical reform' period under Gorbachev, alterations were made to the structure of economic interaction, yet the basic mode of organisation remained largely unaltered, likewise the aims the leadership wished to achieve.⁴⁸⁸ However, altering the structure of economic interaction led to alterations in the structure of incentives, and without simultaneously altering the mode of organisation this resulted in organisational adaptations that in many respects were beyond the control of the political leadership. The introduction of self-financing, limited free sales, the political ascent of the regions and profit retention outside the former channels of income circulation altered the former incentive structure and led to organisational adaptations in order to advantage of the altered circumstances.

⁴⁸⁷ In 1992 a roundtable discussion was held in Siberia to discuss the future of the Siberian oil industry. Proceedings and comments are reported in a special issue of *International Affairs* (*op cit.*). This quote p. 17.

⁴⁸⁸ Gorbachev, *'Memoirs'*, Bantam Books, 1997, Chp. 11.

Whereas the previous structure had been geared towards channelling revenues to the centre for redistribution, the new organisations aimed at redirecting revenues towards other ends. (Figure 8.1). As analysed in Chapter 7, the formal recognition of the organisational alterations in the period 1987-1992, were largely reactive in outlook and did therefore not provide guidance for how the industry was to develop. Nonetheless, the centre eventually came to accept the "two-key" principle and rent/income retention at several levels.

Figure 8.1 – The flow of income (rent)/resources & information/incentives in the oil industry 1987-1992.



The chart illustrates the altered flow of resource, income, information, and incentives that developed post 1987. Compared to the flow of these factors in the Soviet Union (see Figure 3.1) the centre no longer maintained a monopoly in the distribution or retention of resource and income. The unofficial diversions of flows in the Soviet Union now took on a legal character. Both intra industry and regional/local-industry relations became a part of the circulation process. These flows in many instances built on and further developed previously existing informal relations, often constituting a very

considerable contra-weight to the ambitions of the federal authorities. The gradual acceptance by Moscow to allow the regions and the industry to participate in the division of income made these additional players into centres of legitimate self-interest (as opposed to previous centres of illegal self-interest).

This gave rise to organisations that were adept at taking advantage of the new circumstances. The legislative and taxation powers obtained by the regions made them a crucial factor in the development of the oil industry. Similarly, the beginning of free trade, inter industry communication, self-financing and profit retention significantly altered the industry's relationship with both the federal and regional authorities. Although income in the Soviet Union often was redirected from its original intent through self-interest, the legitimacy that such self-interest now took on was a crucial difference. The dissipation of income in the USSR was partly the consequence of a conflict between *de jure* and *de facto* property rights. The conflict that arose, as a result of the radical reform process, became a struggle over to whom *de jure* rights actually fell.

As shown in Chapter 3, from its origin as a vertically integrated monopoly the Soviet oil industry was organisationally fragmented as the industry's spatial distribution increased. In line with Soviet tradition the administration of the oil industry became increasingly "taylorised" and administratively fragmented as pressure to fulfil industry output was cranked up. In the logic of the Soviet economy the creation of territorially based production associations further increased the fragmented nature of the industry.

With the beginning of formal reorganisation of the industry in late 1992 the aspects of spatial distribution, territorially based operative units and disruption of former supply links were factors that had to be incorporated into the new organisational structure. The infrastructure on which the industry was based was already there, so was the location of reserves and supporting industry. Vertically integrated companies represented a solution to allow the new companies to tackle these issues along with the challenges of operating in a shifting and unstable economic situation.

Sunken up-front up-stream investments, the capital-intensive nature of the industry and the risks linked to reserve addition are all factors that make investment in up-stream oil ventures very costly. In addition the uncertainty of investment returns due to the instability and political nature of oil prices has made vertical integration a favoured approach by both private oil companies and NOCs. The approach allows up-stream ventures to participate in the more secure down-stream side of the oil business, where profits/expenditures are more predictable. Furthermore, vertical integration serves as a safeguard against seasonal and conjunctural fluctuation of oil prices. Vertical integration represents a form of risk dispersion in addition to the transaction cost/efficiency benefits of vertical industrial integration. On the other hand vertical integration can have anti-competitive effects by restricting competition at the various production stages and reduce the number of suppliers (market foreclosure).⁴⁸⁹

The first approach to vertical integration – LUKoil – only incorporated some of these factors. Its business was to encompass production and refining. Exploration and marketing on the other hand were to remain outside the sphere of the VICs. Along with the state's monopoly in transportation and price setting authority this would have significantly reduced the new company's ability to carry out independent strategic operations. Moreover, it would have rendered the industry vulnerable to both price instability and possible monopsony power. In short such a reorganisation would have constituted little more than another round of pseudo-reorganisation.

An attempt at a clear strategy for the organisational development of the oil industry did not develop until late 1992. The first Russian Minister of Fuel and Energy, Lopukhin, was in favour of VICs, yet he also favoured greater independence for the oil enterprises and price liberalisation. Lopukhin had been a former deputy economy minister. Under his leadership operative

⁴⁸⁹ Foreclosure 'is to deny buyers access to one's goods or prevent your rivals from supplying goods to your buyers'. (Lipczynski & Wilson, *Industrial Organisation: An Analysis of*

control was to rest with the enterprises. The initial constitution of Rosneftgaz envisaged a voluntary association of the oil industry enterprises. However, its role and authorities remained unclear and the oil generals quickly made themselves independent of this structure. During this period the industry functioned mostly through inertia.⁴⁹⁰ The role of the Ministry of Fuel and Energy was to create an indirect system of administration. This system was to maintain state interests by creating the necessary economic and regulative incentives. Chernomyrdin, who replaced Lopukhin at the end of May 1992, on the other hand favoured a more centralised structure and greater state influence on price formation.⁴⁹¹ RFPD № 1403 (1992) formalised the organisational strategy endorsed by Chernomyrdin in September 1992, which was to create a number of state controlled vertically integrated companies.

Even so the relative independence of the VICs planned in 1992/93 must be questioned. In January 1993 the government decided to appoint the president of LUKoil as head of Rosneft.⁴⁹² Putilov replaced Alekperov later in the spring of 1993.⁴⁹³ Unlike the idea of voluntary amalgamation of PAs into VICs – the late Soviet strategy – the Russian leadership favoured a more centrally directed process. In opposition the Russian leadership had endorsed enterprise independence, but when they came to power towards the end of 1991 the new Russian leadership was forced to address the need for a system of revenue collection that could maintain the state. While Yeltsin previously had advised the republics to take all the independence they could get, independence now meant independence from Russia, a prospect threatening Russian integration in the same way independence prior to 1992 had threatened Soviet integration. The same applied to the economy, and the shift in outlook was signalled by the replacement of Lopukhin by Viktor Chernomyrdin.

Competitive Markets, Financial Times Prentice Hall, 2001, p. 296). Foreclosure effects were behind some of the advice given regarding the oil industry. See Chapter 6.

⁴⁹⁰ Arild Moe, Private correspondence.

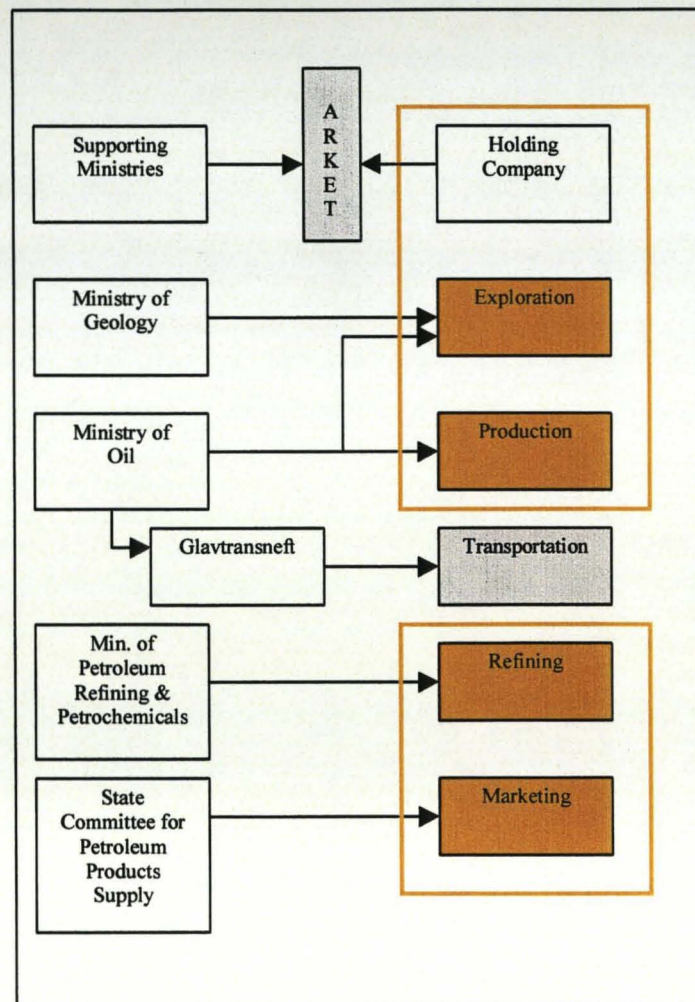
⁴⁹¹ The two ministers also disagreed significantly on the future structure of the gas industry.

⁴⁹² Government Instruction № 137-r (29.1.1993). At: <http://law.optima.ru>.

⁴⁹³ Sagers (1993), *op cit.*, p. 352.

Corporatisation to some extent altered the formal relationship between state and industry, however it did not significantly alter property relationships or “enterprise behaviour”. Formally the VICs now had greater independence, but they remained state property and their management was appointed by the state. Under the functioning regulatory framework the state had divested itself of its investment burden, but did not create the pre-requisites for an independent industry. Continued price control, export control, and tax and regulatory interference implied that principal-agent problems and characteristics associated with the Soviet economy remained dominant, i.e. patrimonial and bargaining based structure of income circulation.

Figure 8.2 – Reorganisation into VICs.



The organisational structure and logic behind the reorganisation of the oil industry into vertically integrated companies is illustrated in Figure 8.2. The figure shows the operations eventually assumed by the VICs and the

organisations historically responsible for the specific tasks. The state has maintained some responsibility for exploration by operating exploration companies.

As mentioned in Chapter 7, RFPD № 1403 (1992) created the basis for the first vertically integrated companies LUKoil, Surgutneftegas and Yukos, while establishing Rosneft as the governing body for the remaining oil PAs. These 3 VICs were subsequently established through government decisions in 1993, the government in a separate decision in April 1993 elaborated upon the role of Rosneft.⁴⁹⁴ The role of Rosneft has remained indeterminate and its constitution as a VIC in 1995 has not completely settled its future. This however, only occurred after a series of assets had been removed to newly established entities in the course of 1994-95. Throughout this period Shafranik, who replaced Chernomyrdin as Ministry of Fuel and Energy, when the latter became Prime Minister in late 1992, tried to establish Rosneft as a NOC.⁴⁹⁵ The status of Rosneft and discussions around the creation of a Russian national oil company has been closely linked throughout the 1990s.⁴⁹⁶

In 1994 the establishment of 4 new vertically integrated companies reduced the composition of Rosneft. These were Siberian Far East Oil Company (Sidanko), Slavneft, Eastern Oil Company (VНК), Orenburg Oil Company (ONAKO). The remaining composition of Rosneft was again reduced in 1995 through the creation of Tyumen Oil Company (TNK) and Siberian Oil Company (Sibneft). Finally, two non-integrated structures based on refineries and marketing organisations were established, Norsi Oil Company (1995) and Moscow/Central Fuel Company (1997) which further reduced the asset base of Rosneft. The ownership structure of these entities followed the structure set out under RFPD № 1403 (1992).

⁴⁹⁴ For the full list of establishing presidential decrees and government decisions and the initial composition of the VICs see Appendix B.

⁴⁹⁵ In 1999 the Ministry of Fuel and Energy's name was changed to the Ministry of Energy.

⁴⁹⁶ For this discussion see Kryukov, '*Zachem nuzhna Rossii natsional'naya neftyanaya kompaniya?* [For what does Russia need a national oil company?]', *EKO*, 1999, vol. 4, pp. 2-10.

In addition to these state-based entities several regionally based initiatives were formed during 1994-95. The regions had taken an active role in organising and establishing organisations that would serve as instruments for regional policy since the radical reform period under Gorbachev. However, several of these entities were too small and too economically vulnerable to compete for income and investment capital after the federal authorities committed to a development strategy based on vertically integrated companies. The major such regionally based holding companies were Tatneft, Bashneft and KomiTEK. Apart from Bashneft the federal authorities have retained an equity stake in these companies, however, representatives of the regional authorities have dominated them. In addition to these regional companies, several of the state-initiated companies initially had a regional character, i.e. Onako, TNK and VNK. From a regional point of view the main motivation behind the establishment of these companies was to secure a stable source of financial resources (taxation) and to provide the regional markets with fuel and energy resources.⁴⁹⁷ These organisations were therefore created in order for the regional actors to participate in the circulation of income and resources as depicted in Figure 8.1.

As with reorganisation, privatisation was of a more gradual nature as well. One of the reasons for this was the gradual nature by which maximising actors respond to alterations in the incentive structure. Economic behaviour is a function of rewards and penalties afforded by the institutional incentive structure. Federal and regional authorities initially tried to assume a position in the circulation of income and resources similar to that of the Soviet central authorities. However, alterations in the official incentive structure made this position less "efficient" than previously, i.e. rising cost and widening of the constituency of legal participants in the circulation of income and resources reduced the potential income. A gradual shift in the position of each actor occurred as each came to learn from the altered circumstances and accommodated their position accordingly. For instance, the entities carved out

⁴⁹⁷ Kryukov (1998), *op cit.*, pp. 194-197. The lack of sufficient/available regional financial resources to develop these companies eventually led to the transfer of ownership from the regions to national investors and/or foreign investors.

of the previous state monopoly were to be kept in state hands for a limited period. This was to ensure that in a transition period the government would be able to exercise sufficient influence over the industry to fulfil its social commitments and retain access to revenues. The break-up of the former MNP, its corporatisation and commercialisation were seen as necessary elements in order to establish the right conditions for ensuring a more efficient industry.⁴⁹⁸

Privatisation of the oil industry.

Privatisation implies the transfer of ownership from the public sector to the private sector. While such a proposition seems simple enough, the process really encompasses two interrelated processes, which affect the result of the process. Firstly, privatisation transfers the entitlements to residual profit generated by assets from the public sector to the private sector.⁴⁹⁹ Secondly, 'When a firm is privatized, the power to make decisions affecting its well-being is transferred *more or less* from agents working for the government to agents working for the private sector'.⁵⁰⁰ In the case of Russia a complicating factor was the nature of state property in the Soviet Union. The oil industry, as the economy in general, was not only state owned and managed – it was the state, or rather one part of the state. The previous enterprises and PAs had been an integral part of the ministerial structure. Thus the reorganisation, corporatisation and privatisation of the oil industry were not only questions of transferring assets to private ownership, but it was also a questions of what was the state? Furthermore, how was the state was to function and exercise power?

In the literature reasons for privatisation are often linked to a presumed inefficiency of public administration when compared to private ownership.⁵⁰¹ However, the term efficiency is troublesome when evaluating the performance

⁴⁹⁸ 'The reason behind this restructuring [privatisation] of course, was claimed to be the reduction of the bureaucratic staff, but in reality it was a struggle between the new oil companies appearing and the authorities for the power'. (Interviewee # 1).

⁴⁹⁹ Vickers & Yarrow, *Privatization: An Economic Analysis*, MIT Press, 1988, p. 7.

⁵⁰⁰ Vickers, *op cit.*, p. 115.

⁵⁰¹ For this argument in relation to the Russian oil industry see Dorian. (Dorian, *Oil and Gas in Russia and the Former Soviet Union*, Financial Times Energy Publishing, 1997, pp. 13-15).

of public and private administration.⁵⁰² Efficient administration is by its very nature that which reaches a stated objective with less consumption of resources and/or generating greater income. However, the objectives of public and private administration will differ. In this respect a rough division can be made between economic efficiency and allocative efficiency. While private administration is more concerned with the former, public administration needs to take into consideration the latter as well. This implies that for public administration the means to an end can be as important as the end in itself – employment and welfare provision are two examples.

Traditional arguments in favour of private administration (ownership) often ignore this dilemma. Thus finding that public administration leads to 'displacement of social objectives by political objectives; a preference for direct political intervention in managerial decisions over an "arm's length" relationship that would restrict government departments to the task of setting appropriate managerial incentive structures; internal inefficiencies in bureaucracies; and inefficient levels of bureaucratic activity'.⁵⁰³ These are the arguments having been advanced with respect to the Soviet oil industry in this thesis. For the architects behind Russia's privatisation programme depoliticization was a major factor.⁵⁰⁴

In the Energy Concept the efficiency argument is central to the reasoning behind privatisation. The Energy Concept envisaged that under private ownership competition – market forces – would increase the economic efficiency of the industry. On a more ideological level it was argued that privatisation (throughout the Russian economy) would create a layer within the population that would have "a stake" in the transformation and

⁵⁰² Bromley, *op cit.*, Chp. 10.

⁵⁰³ Vickers & Yarrow, *op cit.*, p. 34.

⁵⁰⁴ Boycko *et al.*, *Privatizing Russia*, MIT Press, 1995, pp. 10-11. Other factors were: 1) Russians were economic men and reacted to incentives, i.e. wealth maximisation; and 2) the government did not 'really own the assets' that were to be privatised (p. 13), hence dispersing property would create public support for privatisation and reform. In effect though, giving people an economic stake does not lead to depoliticization. It widens the constituency that can be expected to take an interest in the distribution of political power by giving them an economic incentive to participate in the political regulation and functioning of the polity. In this way a significant shift in the structure of income and resource circulation *can* occur. In effect this policy is not a depoliticization but a widening of economic politicization.

democratisation process.⁵⁰⁵ Thus, although not a central argument in the Energy Concept, privatisation was seen as a means of constituency building.⁵⁰⁶

With respect to the second element of privatisation it should be noted that privatisation and liberalisation are two distinct processes, and that privatisation in itself does not necessarily imply competitive markets.⁵⁰⁷ In fact a major finding by Vickers and Yarrow when analysing the British privatisation process (1979-87) was that 'when market power is significant, and particularly when company behavior is subjected to detailed regulation, there is little empirical justification for a general presumption in favor of either type of ownership'. And 'unless effective competition and/or regulation are introduced, the privatization of firms with market power brings about private ownership in precisely the circumstances where it has least to offer'.⁵⁰⁸ If income appropriation is desirable then replacing a public monopoly with a private monopoly will reduce the state's access to income.

In the immediate post-Soviet period market power would remain a characteristic trait of the newly created oil holding companies. Spatial distribution and the maintenance of the regionally based PA structure would ensure that there would be little immediate competitive gains.⁵⁰⁹ The social commitment made by the new government, its realistic means of revenue access and dominant equity position in the new companies meant that the industry would remain heavily regulated. This latter issue is referred to as the *ex post* risk of expropriation.⁵¹⁰ From this theoretical perspective one might

⁵⁰⁵ *Ibid.*

⁵⁰⁶ In the subsequent development of the political landscape in Russia this argument became more central during the "loans-for-shares" privatisation of the oil industry. When commenting on the "loans-for-shares" deals one oil industry executive said: 'It was a political deal and not an economic deal. The Russian democracy survived, and stopped the Communists from getting into power and Zyganov to win the election. That was the deal!' (Interviewee # 7). According to Interviewee # 3, 'Yes, we probably sold the state assets to cheap, but we had to do it as quick as possible to prevent any revert or come-back of the communist system, central planning and state ownership'.

⁵⁰⁷ Vickers & Yarrow, *op cit.*, p. 45.

⁵⁰⁸ Vickers & Yarrow, *op cit.*, p.40 &427.

⁵⁰⁹ In addition the restraining forces of international competition were likely to be absent until a sufficiently transparent and "standardised" regulatory regime had been enacted.

⁵¹⁰ Vickers, *op cit.* pp. 115-116.

question the fundamentals of the idea of privatisation of the oil industry, the strategy and organisational mode eventually selected.

On the other hand, one also needs to question to what extent the privatisation process that began in the oil industry in 1992 actually conforms to the theoretical idea of privatisation. If privatisation entailed the transfer of decision making power then privatisation was not a process that began in late 1992. In this respect, privatisation had officially been underway since the radical reform period begun under Gorbachev. Yet, as shown in previous chapters, even before 1985 formal and informal practices had to some extent decentralised decision-making power. Continued state ownership of the holding companies, albeit be it as passive owners,⁵¹¹ did not significantly alter the principal-agent problems associated with the previous economic system.

Regarding the first element of privatisation, the argument in the preceding chapters has been precisely that even in the Soviet economy the state's claim to income was challenged at every level of the industrial hierarchy. One has here to imagine the following: firstly, the organisation of the oil industry was not primarily geared towards economic efficiency, but rather towards allocative efficiency creating "political income"; secondly, this "political income" had a twofold character (Figure 4.1). By its very nature "political income" as opposed to economic income (i.e. calculated in profit and losses) is more difficult to quantify and verify. This allowed both parts of the "political income" to be challenged by the participants in the circulation of rent and resources (see Figures 3.1 and 8.1). With corporatisation of the industry and economic reforms these participants also increasingly tried to appropriate the economic income (rent) generated by the industry. In this respect the distinction between *de jure* and *de facto* owners had great importance both in Soviet times and in the present Russian economic climate.

⁵¹¹ Gustafson, *Capitalism Russian-Style*, Cambridge university Press, 1999, p. 47. Kryukov & Moe, 'The changing role of banks in the Russian oil sector', The Royal Institute of International Affairs, 1998, pp. 42-43.

Income extracted by the *de facto* owners was channelled back into both the official and unofficial economy, with the onset of radical reforms in the late 1980s these informal channels of income circulation became legitimate allowing economic rent to be transformed into political capital. This division of income into two forms of income maximisation is reminiscent of Tokarev's identification of objectives of the different participants in the circulation of taxes.⁵¹² Broadly speaking the regions now increasingly tried to appropriate what in the Soviet Union had been the political income through regulation and economic rent through taxation, while the industry increasingly appropriated (defended/hid) economic rent and value.

With this view of privatisation in mind it becomes clear that privatisation was not a process beginning in 1992. The privatisation process was part of a longer process in which *de facto* owners increasingly had absorbed the ability of the *de jure* owners to extract income, thus being a continuation of a longer process of property rights contestation.⁵¹³ Although the term privatisation fitted well with IFI terminology one cannot differentiate the process from the previous historic contestation. This will be examined in more detail below, suffice here to make the point that although the terminology was new in 1992 this does not mean that the processes it described were.⁵¹⁴

From this it follows that for privatisation to have achieved the desired efficiency gains the transfer of property would have to result not only in an acceptance on behalf of the state to share generated income, but exactly how this division of income was to be implemented. This in effect meant that the state would have to give up its historic claim to direct appropriation of either

⁵¹² Tokarev, *op cit.*, pp. 10-14.

⁵¹³ Asked about continuity in managers' *de facto* rights and their attitude surrendering income interviewee # 3 answered: 'Of course they have learned a very good lesson when they were in charge of these production units in Soviet times, and when this reform period came they were fit for fight so to say – they were in a very strong position in their dialog with the state. Then also the financial situation of the government was also very weak, their revenues were very low and the government was very much dependent on the revenues from oil companies'.

⁵¹⁴ Thus there is nothing inherently contradictory between new terminology and that great tradition of Soviet reform – pseudo reorganisation.

form of income, and settle for an indirect method of income appropriation. It would imply a shift from a despotic-patrimonial to an infrastructural-bureaucratic structure of state power.

In 1991/92 the state was in no position both to appropriate all income and to ensure continued investment in the industry.⁵¹⁵ The latter is important in that potential income in future periods would be a function of the investment level, but also that the right to income appropriation is linked to investment responsibility. As has been shown in previous chapters, the cost of running the oil industry had increasingly become a burden on Soviet expenses. With the demise of the Soviet economy and political system the government's problem was twofold. On the one hand declining production meant overall reduction in the potential income. The cost of sharing this income would additionally reduce it. On the other hand, the very nature of the "political income" was changing as the Soviet system collapsed.

Whereas previously control and redistribution in itself had been a major source of political power and legitimacy, this now became coupled with developing an economy that could deliver sustained growth. Thus elements of generating "political income" were at a danger of being inherently contradictory to the development of an economic framework that would improve industry development and secure long-term development stability. In addition, with the onset of radical reform under Gorbachev, the possibilities of converting economic rent and *de facto* ownership into political capital increasingly modified the form of rent and income circulation (though not necessarily its substance).

The first phase of privatisation 1992-1995.

The first phase of privatisation must be seen as an attempt to bridge this dilemma. Corporatisation and commercialisation clearly fitted well with IFI rhetoric. However, the framework of regulation that was developed was

⁵¹⁵ 'Being in a very weak financial situation the government was not in a position to control the oil industry or to continue to control the oil industry'. (Interviewee # 3).

prohibitive to the development of competitive markets. On the other hand the framework catered well to attempts by the government to appropriate both forms of income.

This first phase of privatisation is often been characterised as “insider privatisation”,⁵¹⁶ and the *nomenklatura*’s ability to appropriate state property for their own.⁵¹⁷ While these are both valid points, the processes and mechanisms at work during this period do not necessarily distinguish themselves from previous Soviet economic process and mechanisms. In the first phase of so-called privatisation, to what extent was property actually transferred? A major conclusion of the “insider privatisation” story is precisely that managers with previous *de facto* control in the course of 1992-1996 retained such control.⁵¹⁸ The separation of *de jure* property rights from *de facto* property rights leads to the logical questioning of the Soviet state’s actual ownership of its resources and assets. The principal-agent implications that such a conceptual division of property rights had have been shown to fit well with the Soviet economy.

What did this mean for the privatisation of the Russian oil industry? Again, one has to take a longer-term view on this issue. The first phase of privatisation was a continuation of forces that had been latent within the Stalinist economy and that progressively weighed more heavily as the economy became more complex. The response during these years was likewise a continuation of previous economic management. The state tried to continue its practice of appropriating both political income and economic rent, while the reorganisation of productive units into joint stock companies under state controlled holding companies catered to the needs of “private” rent extraction, i.e. maintaining the *de jure* – *de facto* split.

⁵¹⁶ See for instance Gustafson (1999), *op cit.*, pp. 39-43.

⁵¹⁷ See for instance Kryshnanovskaya & White, ‘From Soviet *nomenklatura* to Russian élite’, *Europe-Asia Studies*, vol. 48, no 5, 1996, pp. 711-731. Also Dienes, *Corporate Russia: Privatization and prospects in the oil and gas sector*, Donald W. Treadgold Papers, University of Washington, Paper No 5, 1996, p. 16.

The oil generals obtained shares in the newly established joint stock companies at preferential terms. Additionally they exercised considerable control over employee stocks by means of restricting stock transfers.⁵¹⁹ One former Duma representative from Tatarstan told the author that rumour has it that several of the better yielding oil pumps in the republic are considered to be the private property of president Shaimiev's son. Another specialist in Siberia told the author that Soviet managers liked to be in control of their own enterprises. After corporatisation and privatisation it therefore was not uncommon that pumps and service units were the private enterprise of a manager while being partly financed and treated at preferential terms by the company in which the manager/enterprise owner worked.⁵²⁰

The operative trends in this period are quite clear. This first phase of privatisation did not ensure access to investment capital since the insiders had little financial means. Such means they had were cleverly hidden or sent abroad since the state did not relinquish its right to appropriate potential political income and economic rent, and failed to establish an acceptable system of division.

Thus production fell and with it the state's ability to extract either form of income from the sector. On the other hand the industry did continue to provide the state with income, which made it possible for the state to maintain some of its social and industrial commitments. These trends will be examined in further detail in Chapter 9, suffice here to say that the regulatory framework and privatisation of the oil industry in this period provided either side with access to the forms of income that it had enjoyed during the Soviet era. However, the size and nature of this income was changing.

⁵¹⁸ Gustafson (1999), *op cit.*, p. 46. This was also the case for the oil industry: 'in the initial years after the Soviet collapse, the oil sector seemed the ultimate example of state-managed insider privatization'. *Ibid*, p. 52.

⁵¹⁹ Gustafson (1999), *op cit.*, p. 47.

⁵²⁰ Both these stories were related to the author during informal talks while doing research in Russia (March-April 2002). Similar accounts can be found in Gustafson (1999), *op cit.*, p. 50.

As in the remainder of Russia industry, the first phase of privatisation resulted in a lack of investment capital, unstable ownership, and a flourishing of non-payment and non-monetized forms of transactions.⁵²¹ It allowed for the continuation of the previous structure of income circulation. The major achievement of this period is therefore not so much the transfer of property or property rights, but the mechanisms, by which property is owned, distributed and potentially controlled.⁵²² The re-allocation of the property of the former MNP into several holding companies altered the lines along which property and rent was contested. The holding companies remained state controlled, but the re-allocation shifted the contestation of property from a centre-ministry-PA-enterprise line to a centre-holding company-enterprise line.

The first phase of privatisation represents a continuation of the previous contestation of resource flow, albeit with two important differences: the emergence of the holding companies and the regional authorities as legitimate participants in the redistributive circle and thus centres of property consolidation, and the absence of a pivotal role for the Russian Ministry of Fuel and Energy in the process of redistribution. While as previously the flow of resources had been contested in an illegal form – falsification, *blat*, and hoarding – the character of this contest changed as a consequence of the radical reform period and the first privatisation period. In these latter periods the size and separation of political rent and surplus from economic rent became the focus of attention.

One can only hypothesise what would have happened to privatisation in the oil industry if the changes introduced in 1992 had resulted in a turn around of production within 18 months? What seems unlikely though, is that the state would have sold its controlling stake in the holding companies should this scenario have materialised.

⁵²¹ Gustafson (1999), *op cit.*, p. 49.

⁵²² This assertion is supported by recent studies on the development of the securities market in Russia. Radygin argues that the main function of the corporate securities market in the 1990s was to serve as a mechanism for the redistribution of ownership leaving the monitoring and restraining functions of the market ineffectual – such as financial markets control, raising capital, take-overs and bankruptcies. (Radygin, 'The corporate securities market: Bridgehead

Second phase of privatisation 1995-1997.

It was precisely the dire financial position of the government that was the impetus behind the much-maligned "loans-for-shares" deals that emerged in the course of 1995. The previous re-organisation of the oil industry had had little positive impact on state finances, nor on investment levels in the industry, both in terms of capital investment or exploration. It had divested its responsibility to finance the sector but much of the state's profit from controlling the sector consisted in providing consumers with cheap energy, which often was not paid for. In other words the state's appropriation of rent consisted in the extraction of political income, while that extracted as economic rent was quickly sent out of Russia. Production continued to decline as a result of insufficient investment, and finally the nominal transformation of state enterprises into joint stock companies had done little to alter management behaviour.⁵²³

There are two distinctive arguments (though not necessarily contradictory) that characterise the "loans-for-shares" deals as either a necessity for the continuation of the reform and democratisation process in Russia,⁵²⁴ or a scheme devised by politically well connected individuals to appropriate major

or barrier for globalization?' in Segbers, *Explaining post-Soviet patchworks vol. 2: Pathways from the past to the global*, Ashgate, 2001, pp. 219-220).

⁵²³ Gumpel, 'Energiepolitische Zwänge und Perspektiven in Rußland [Energy political constraints and perspectives in Russia]', *Osteuropa-Wirtschaft*, 1997, vol. 42, no. 2, p. 156. Koen & Marrese, *Stabilization and Structural Change in Russia 1992-1994*, IMF Working Paper, WP/95/13, 1995, p. 20. Commenting on the functioning of TNK prior to consolidation Interviewee # 2 said; 'The main assets were Nizhnevartovskneftgas, Tyumenneftgas and the Ryzan refinery. They all continued to operate pretty much independently of each other, and not necessarily for the benefit of the owner who was the Russian government at the time'.

⁵²⁴ By this time opposition to privatisation was growing and liberals in the government were searching for ways to soften opposition to outright privatisation. Kryukov & Moe (1998), *op cit.*, p. 22. Chubais, who was present at the March meeting (see below) commented '[l]et them steal and take their property. They will then become owners and decent administrators of this property'. Freeland, 'Get-rich-quick is now the Big Idea shaping Russia', *Financial Times*, weekend issue 27/28 May 2000, p. 9.

state assets for "a song".⁵²⁵ Vladimir Potanin, presented the scheme to the cabinet on behalf of a group of commercial banks, on 30 March 1995.⁵²⁶

The government was offered loans to cover the budget deficit with collateral in major state assets. These assets, which would be held in trust by the respective banks, would become lender's property if the state was unable to repay the loan within a specified period. The shares were supposed to be tendered on a competitive basis with additional share packets placed under trust in return for investment guarantees, however, the winning banks in the individual cases were banks that were previously connected to the oil enterprises.⁵²⁷ Both arguments can be explained by a desire to maintain the patrimonial structure of state power.

According to Pleines three factors contributed to the manipulation of the process. Firstly, all offers were received by one bank that was allowed to participate in the tender itself, giving the organising bank the ability to assess all offers prior to giving its own. Secondly, only a limited number of Russian banks had the financial capacity to participate and foreigners were excluded. Finally, the low threshold bids made it possible for the banks to obtain share packets at a substantial discount compared to their worth.⁵²⁸

Table 8.1 shows the change in the state's share in the major Russian oil companies for the period 1994-2003. The reduction of state ownership eventually led to a shift and clarification of control of the oil industry. While the first phase had altered the lines of income and property contestation along with the means by which property was claimed, the second phase altered the principal-agent relationships pertaining to the industry. In the cases where the state gave up its majority control the new owners started to re-organise and

⁵²⁵ Freeland, *op cit.* 'Auctions were loans for buddies', *Moscow Times*, 30 December 1995. Ledeneva, 'The subversion of democracy in Russia: an informal practice perspective', in Harter & Easter, *Shaping the economic space in Russia: decision making processes, institutions and adjustment to change in the El'tsin era*, Ashgate, 2000, p. 325.

⁵²⁶ Freeland *op cit.*

⁵²⁷ For a detailed account and analysis of the interpenetration of oil assets and the financial sector see Kryukov & Moe, *op cit.* pp. 11-46.

⁵²⁸ Pleines, *Der politische Einfluß von Wirtschaftseliten in Rußland: die Öl- und Gasindustrie in der Ära Jeltzin* [The political influence of economic elites in Russia: the oil and gas industry in the Yeltsin era], Forschungsstelle Osteuropa Bremen Arbeitspapiere und Materialien, nr. 41, November 2002, p. 21.

consolidate their property. Throughout this period four different groups of oil majors emerged: privately controlled; combined (i.e. both private and state); state controlled; and regionally controlled. The first group can again be subdivided between manager controlled and bank controlled companies.⁵²⁹

The “loans-for-shares” deals represented the start of the actual transfer of property to new owners. After the initial period of trust management expired the state was unable (or unwilling) to buy back the shares and the banks quickly resold their share packets through tenders to third party organisation. The price of the assets was roughly the same as that the banks had paid for them,⁵³⁰ and the new owners were organisations in turn controlled by the banks again.

Table 8.1 – Government stake on 1 January (respective year) in per cent.

Company	Formed ¹	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Surgutneftegaz	Mar-93	100	40.1	40.1	40.1	0.8	0.8	0.8	0	0	0
LUKoil	Apr-93	90.8	80	54.9	33.1	26.9	26.6	23.7	14.1	7.6	1.7
Yukos	Apr-93	100	86	53	0.1	0.1	0.1	0.1	0.1	0.1	0.1
Tatneft	Jan-94		46.6	46.6	30.3	30.3	30.3	30.3	30.3	30.3	30.3
VSNK ²	Apr-94		100	85	38	1	1	1	1	1	1
VNK ³	May-94		100	85	85	36.8	36.8	36.8	36.8	36.8	0
Sidanko ⁴	May-94		100	85	51	0	0	0	0	0	0
Slavneft ⁵	Jun-94		93.5	92	90	85.8	85.8	85.8	85.8	85.8	0
Onako ⁶	Jun-94		100	85	85	85	85	85	0	0	0
KomiTEK ⁷	Jun-94		100	100	92	1.1	1.1	1.1	1.1	1.1	1.1
TNK	Aug-95			100	91	51	49.8	0	0	0	0
Sibneft	Sep-95			100	51.1	0	0	0	0	0	0
Rosneft	Sep-95			100	100	100	100	100	100	100	100

¹ In its present legal status. ² Controlled by Sibneft (March 1997-November 1999), by Yukos since February 2001. ³ Controlled by Yukos since December 1997. ⁴ *De facto* controlled by TNK since mid 2001. ⁵ 10.85% owned by the government of Belarus until December 2002, then controlled by Sibneft? ⁶ Controlled by TNK since September 2000. ⁷ Controlled by LUKoil since mid-1999.

Note: In addition stakes in Sidanko, Sibneft, Surgutneftegaz, LUKoil & Yukos were held partly or wholly by pledge-holders in 1996/97.

Source: Khartukov, ‘Russian oil privatization proved an unprecedented clearance sale’, *OGJ*, Week of May 27, 2002, p. 22. For 2003; *MT*, various issues.

⁵²⁹ This division is a result of the strategy taken by the respective banks towards their assets. Kryukov & Moe divide these strategies into either “passive” or “active”. The choice of strategy was a function of the relationship between the founder of the respective bank and the oil enterprise. For details see Kryukov & Moe (1998), pp. 5-41.

⁵³⁰ Moser & Oppenheimer, ‘The Oil Industry: Structural Transformation and Corporate Governance’, in Granville & Oppenheimer, *Russia's Post-Communist Economy*, Oxford University Press, 2001, Figure 10.2, p. 310.

A major criticism of the “loans-for-shares” deals has been the lack of state revenue that it generated.⁵³¹ Aside from accusations of “sweetheart-deals” (which no doubt were part of the landscape) there are economic and political explanatory variables in operation as well.

- The tenders that were held at the end of 1995 were explicitly closed to foreigners.⁵³² In the economic situation of Russia at the time no bank or individual had the means to pay their potential worth. Shares were therefore, discounted due to a lack of Russian capital.
- At the time of the tenders there was strong and growing opposition to the entire privatisation process. Therefore the threat of *ex post* expropriation – i.e. subsequent re-nationalisation or changes in the regulatory system – further discounted the value of the assets. (The resale of these assets after the initial trust period should be seen as a means of hedging against possible expropriation). The privatisation processes in this period have remained controversial.⁵³³
- The actual control of the holding companies over their subsidiaries was still contested, which would require subsequent re-structuring costs. While a holding company type organisation reflects ownership integration there is no co-ordination integration and it allows subsidiaries to behave in an independent manner. With property rights being poorly developed, implemented and contested, obtaining access to the revenue stream that share ownership technically should ensure would be fraught with uncertainty.⁵³⁴ A further element at this stage was the composition of the companies.

⁵³¹ Moser & Oppenheimer, *op cit.*, p. 312.

⁵³² Kryukov & Moe (1998), *op cit.*, p. 23.

⁵³³ For instance, in December 1998 the Duma unanimously voted to ask the government to reverse the “loans-for shares” deals. *Moscow Times*, ‘Duma Asks for Sell-Off Reversal’, 5.12.1998. In July 2003 the Prosecutor-General’s office started investigation into several charges of economic fraud (connected to the investment tenders of the ‘loans-for shares’ period) and criminal actions against persons affiliated with Yukos. While the outcome of these proceedings are as yet unforeseeable, it is noteworthy that the state commenced action against the largest company in the country just a short period before the “litigation delay” – the 10-year period for challenging the outcome of the privatization tender – expires. What is clear though that by opening proceedings against “Yukos” the state is signalling that the state-oligarch truce agreed between president Putin and the oligarchs in 2000 might be coming to an end. One of the foundations for the “stability” that has been part of Putin’s first term might be disappearing. This situation will be analysed more extensively in the postscript.

⁵³⁴ See for instance Hedlund (2001) for an exposition of rights in Russia.

Having been created on the basis of political efficiency rather than economic efficiency, the transfer of state control to private control could be expected to lead to changes in organisational composition.⁵³⁵ The value of the assets was therefore discounted by the potential costs of *ex post* monitoring costs and establishing *de facto* property rights in addition to *de jure* rights.⁵³⁶

These factors fit well with the transaction costs framework explored in this thesis, in that *ex post* monitoring and enforcement costs are transaction costs. In the regulatory system established in the first half of the 1990s and the general economic environment, such costs could be expected to remain significant. Furthermore, the threat of moral hazard (in connection with information asymmetry with respect to the establishment of *de facto* rights and outright corruption) and uncertainty linked with the threat of expropriation were positive transaction costs as well. In many respects the "loans-for-shares" investors extracted a sizeable quasi-rent from the government through these deals. While the assets in their first-best-use were worth substantially more than what was paid, specific circumstances surrounding both political and economic aspects of the early transition years meant that these assets were not put to their first-best-use, and probably would not be.

While as the first phase of privatisation in most cases reaffirmed the split property rights of the Soviet period, the second phase of privatisation represents the beginning of actual transfer of property. State ownership of the holding companies remained an obstacle to further restructuring in that the state preserving objectives set out in the Energy Concept dominated the organisational development of the industry. The initial organisational structure reflected the state's intention to maintain a structure of income and resource circulation reminiscent of the equivalent Soviet structure. With the

⁵³⁵ Tatneft for instance does not have its own refining capacity. KomiTEK's refinery is not well suited to process the quality of oil being produced in the Komi republic. Sidanko lacked a natural entity that could serve as the base unit around which to establish an efficient integrated structure.

⁵³⁶ Jensen & Meckling argue that share prices will be discounted as a reflection of the expected monitoring costs arising from a divergence between managers' and owners' interests. (Jensen & Meckling, *op cit.*, pp. 312-313).

transfer of *de jure* property rights the composition of the holding companies started to change as the new *de jure* owners had other objectives. Increasingly the companies started to remedy the operational, economic and political deficiencies of the original companies.⁵³⁷

From a state point of view the 'loans-for-share' deals made long-term sense. The immediate revenue generated by the sale of the state's oil assets was negligible, however, the Russian state was in no position to finance the sector. Output fell continuously in all enterprises until a change in ownership. (See Chapter 10). According to former Minister of Fuel and Energy, Pyotr Rodionov (1996-1997), the financial situation of the sector was the main obstacle to its stabilisation. 'The absence of financial resources disturbs production and investment activity of the complex's enterprises, and increases the arrears of tax payments and payment of wages'.⁵³⁸ As long as the industry remained state property there existed no incentive for *de facto* owners to generate income for the state or invest (see Chapter 5). Therefore, before the transfer of *de jure* rights in addition to *de facto* rights the industry functioned mostly through inertia and by exhausting those resources that were already available. At the same time the strategic role of the industry allowed for a continuation of soft-budget constraints in the form of arrears. The sale of state assets transferred the financial burden from the public sector to the private sector. In doing so the government created for itself a new position from where to negotiate and bargain for access to the flows of revenue and resources created by the sector. This was already evident in the 'loans-for-shares' themselves and the subsequent further transfer of state property – first into "trust ownership" and then re-sales. The deals were conditional upon settlement of tax arrears.⁵³⁹

⁵³⁷ 'Political, regional and personal interests played a more important role than commercial and economic considerations when elements of the old state oil industry were regrouped as vertically integrated oil companies and internal cohesion in the new companies varied significantly'. Kryukov & Moe, 1998, *op cit.* p. 13.

⁵³⁸ Rodionov, 'Rol' *toplivno-energeticheskogo kompleksa v stabilizatsii i pod'eme ekonomiki strany* [The role of the fuel and energy complex in stabilising and raising the economy of the country], *Energeticheskaya Politika*, 1997, no. 3, reprinted in Minenergo (2001), *op cit.*, p. 404.

⁵³⁹ Khartukov, 'Bankers Becoming New Masters of Oil Companies', *Petroleum Economist*, Feb. 1997, p. 6.

The fall in output and the accumulation of arrears implied that the industry would gradually disintegrate unless the state altered the incentive structure at work in the industry. For instance, the 1996 federal budget incorporated investment means equivalent to 2 per cent of expenditure. However, due to the lack of revenue only roughly 1/3 of these means were actually available.⁵⁴⁰ The 'loans-for-shares' deals therefore, represented the proper beginning of property transfer and created a basis for possible reforms in that they allowed a greater part of potential rent to be retained at industry level. Simultaneously, industry accumulation began to shift from enterprise level to holding company level thereby additionally altering the relative weight of participants to the circulation of rent and resources.

The third phase of privatisation 1997-2002.

With the process of transfer of *de jure* property rights having been initiated, the companies and the new owners began to embark on a process of consolidating their *de facto* rights as well. This process was less uniform in appearance than the previous two processes of privatisation.

Firstly, as the companies were privatised at different times, this left some of the companies with first move advantages. Secondly, the aspirations of the new owners differed, which had a significant impact on the corporate strategy of the companies. For instance, LUKoil and Surgutneftegaz were both dominated by Soviet type managers. Both Alekperov and Bogdanov quickly seized the opportunities that the privatisation process provided to establish *de facto* control over the subsidiaries within their companies. They swiftly established a unified corporate strategy and took control over cash flow and resource flow within the company. Both companies took a proactive role in relation to their respective financial partners retaining control over issues related to the management and restructuring of the companies. Thus the oil holding dominated the bank and not the other way around.⁵⁴¹

⁵⁴⁰ Rodionov, *op cit.*, p. 405.

⁵⁴¹ Kryukov & Moe (1998), *op cit.*, pp. 22-23.

Although not uniform in development Yukos and Sidanko represent the opposite development. In these cases the banks and financial-industrial groups (FIG) that purchased the state's share and/or held it in trust took the proactive role in the management and restructuring of the companies.⁵⁴² The consolidation of these enterprises has been a protracted process, often resulting in disputes with other minority shareholders. In the cases of Sibneft and TNK both companies were privatised with the assistance of banks. However, the banks in these cases did not take an active part in the management and restructuring of the companies, although they clearly stood to benefit from the closeness of their financial allies within government circles.⁵⁴³

A major delaying factor in the consolidation of the bank related companies, has been the establishment of *de facto* control over their subsidiaries. Thus Yukos, Sidanko, and TNK have all gone through protracted struggles with their main production units in order to establish a unified corporate strategy and gain control over cash flows and resource flows.⁵⁴⁴ The favoured strategy for consolidating subsidiaries was to swap shares in the holding company for shares in the subsidiary creating a single share structure. Shares in the subsidiary companies had been available since the corporatisation, and voucher privatisation, of these entities in the early 1990s. For the shareholders in the subsidiaries such swaps diluted their relative equity stake and influence in the operations of the respective companies.⁵⁴⁵

⁵⁴² Kryukov & Moe (1998), *op cit.*, pp. 23-24. For the relationship of FIGs and the oil companies see Kryukov & Moe, 1998, *op cit.*, pp. 16-39. For a general analysis on the development of FIGs see Johnson, 'Russia's Emerging Financial-Industrial Groups', *Post-Soviet Affairs*, 1997, vol. 13, no. 4, pp. 333-365.

⁵⁴³ Gismatullin, 'New Minister Hands Sibneft Tasty Oil Deal', *Moscow Times*, 28.5.1999.

⁵⁴⁴ In the case of Yukos: Kryukov & Moe, 1998, *op cit.*, p. 28. In the case of TNK: Gary Peach, 'Paly Plays Defense, Offense In Battle for Nizhnevartovsk', *Moscow Times*, 2.12.1997. Sidanko never really managed to gain control over its subsidiaries leading to the loss of two of its production associations (Gismatullin, 'BP Reconsiders as Prime Asset Sold', *Moscow Times*, 27.11.1999).

⁵⁴⁵ Peach, 'In Push for Consolidation, Oil Shareholders Forgotten', *Moscow Times*, 23.9.1997. For a general study on the corporate securities market and the abuse of minority share holder's rights see Radygin *op cit.*

It is interesting to note in this respect that companies with a clear development strategy, from the time of their creation, struggled less to consolidate their grip on their company's assets. For instance, both Alekperov and Bogdanov had clear plans for the development of their companies even before these were slated for privatisation.⁵⁴⁶ Alekperov had been one of the developers of the entire vertically integrated oil company strategy in the period 1990/91. Both men were former oil generals with a detailed knowledge of the oil business, and both men saw control as the crucial factor in utilising their assets. However, conditions behind the creation of LUKoil and Surgutneftegaz differ from some of the other companies. LUKoil was initially an amalgamation of PAs formed on a "comradely" basis at the initiative of Alekperov, thus reducing the probability of antagonism between the constituent parts and the holding company. Surgutneftegaz on the other hand is geographically concentrated in and around the city of Surgut. Nonetheless, even with such a "preferable start" both leaders quickly tried to ensure *de facto* control over the subsidiaries in addition to *de jure* rights.

Yukos and Sidanko on the other hand were both companies with less internal cohesion and dispersed assets, making the consolidation process more protracted. A significant role in their eventual development was played by their relationship with financial institutions that carried the political clout that they themselves lacked. This latter factor was important in the creation and consolidation of TNK and Sibneft as well. In all these cases the dominant players in each company were involved in disputes with minority shareholders.

Kryukov distinguishes between an "advanced group" of insiders and a "backward group" of insiders. The former was characterised by the transfer of company assets to 'organizations fully under their control, in order to attain complete autonomy from the state and develop their own assets' (e.g. LUKoil and Surgutneftegaz). The latter group was characterised by 'a group of insiders [that] could not (or would not) direct the financial resources [] toward

⁵⁴⁶ Interviewee # 12, on Alekperov.

generating and developing the oil business' (e.g. Yukos and Sidanko).⁵⁴⁷ The crucial factor in his analysis is the establishment of control over financial flows in the company – in other words, the control over rent and resource flows. In the former group this control falls to the company management itself. In the latter group however, this control, in the first place, falls to outside financial allies. Eventual consolidation of these companies was effected on the instigation of these external organisations, often through the replacement of incumbent management by bank or FIG related management.⁵⁴⁸

In the cases of Yukos, Sibneft and TNK a different "breed" of oil companies has emerged that (at least momentarily) give the impression of operating along corporate philosophies more akin to those found in developed market economies.⁵⁴⁹ These are companies that aim at improving share value, through more efficient management and utilisation of assets, in order to satisfy investor's expectations. The distinction between a "western styled company" (WSC) and a more traditional Soviet styled company (SSC) should not be taken too far at the present stage. Although operating under different corporate philosophies the investors that stand to benefit in either case are still limited. Importantly Kryukov argues that the Russian oil companies still differ from "ordinary" companies in that they exhibit characteristics that are more akin to productive-financial concerns. Market and contractual co-ordination has been supplanted by an administrative approach. Head office performs not only strategic and administration but also financial and productive management.⁵⁵⁰ Furthermore direct relation/communication with the executive is an important element for the functioning of the companies and

⁵⁴⁷ Kryukov, 'Ownership rights, hierarchical bargaining and globalization in the oil sector', in Segbers, *Explaining post-Soviet patchworks vol. 2: Pathways from the past to the global*, Ashgate, 2001, p. 178.

⁵⁴⁸ For details on this development is Kryukov (2001), *ibid.*, p. 175-183.

⁵⁴⁹ 'There are some companies which already almost have a foreign style of management and there are Russian ones which still follow former bureaucratic style – Gasprom, Surgutneftegas, Rosneft. Companies like Sibneft, TNK, Yukos, are more western, while LUKoil is more on the bureaucratic side, they still have this pyramid'. (Interviewee # 1).

⁵⁵⁰ Kryukov (2000), *op cit.*, p. 65.

voicing interests.⁵⁵¹ The structure of such communication again serves to strengthen patrimonial ties of state power and income circulation.⁵⁵²

Ownership of the WSC is highly concentrated and shares are still relatively illiquid. Thus share manipulation is a very real possibility,⁵⁵³ making it more difficult to use share market indicators as a yardstick. Since the freefloat share of WSC shares is limited demand for these shares *can* drive the shareprice higher than would have been the case if supply had been less restricted. In other words there remains a possibility for shareholders (management) to trade up the share value. Nonetheless the two styles differ enough to allow for an element of institutional competition, which would be a first in the history of the Russian oil industry. As one industry executive replied when asked about the corporate philosophy of the two company styles: '[T]hey have different ways of measuring efficiency. You may say that transparency, US GAAP, market capitalisation is the key system of operation – share dividend etc. – but perhaps the placing of \$50 million in your own pocket without anyone noticing in the budget is just as rational, if your system of values is different'.⁵⁵⁴

Neither group is entirely uniform. LUKoil and Surgutneftgaz are very efficient Soviet styled organisations. Particularly the management of LUKoil has shown a highly adaptable and innovative approach. These companies should therefore, not be seen as caricatures of the former Soviet business model. For the state (and regionally) controlled companies that fall into this group the story is different. This will be examined in further detail in Chapter 10. Suffice here to say that the privatisation process of the 1990s has given rise to different organisational and institutional responses to the changing

⁵⁵¹ Interviewee # 7.

⁵⁵² Bagirov argues that without state support the VICs cannot successfully compete on world markets. (Bagirov, 'Russian Oil and Gas Companies: International Cooperation', *International Affairs*, 1999, vol. 45, no. 6, p. 186). Though no doubt a valid point, the interests of the companies to expand outside Russia differs.

⁵⁵³ Interview # 8.

⁵⁵⁴ Interview # 7. It should be kept in mind that the proposed division of corporate styles is still very short term. It remains to be seen how viable either model is in the long term (institutional competition) and in the absence of needed reforms (path dependency).

environment, and different forms of establishing control over both political and economic income generated by the industry.⁵⁵⁵

Acquisition and expansion – protecting investments.

Parallel to the consolidation processes of the holding companies, the companies have sought to expand their operational and reserve basis by participating in the subsequent privatisation of state assets and obtaining/poaching assets of other companies. Thus in 1997 Yukos acquired a stake in VNK and finally took complete control over the company in the late spring of 2002.⁵⁵⁶ LUKoil acquired KomiTEK through a share swap in 1999.⁵⁵⁷ TNK purchased Onako in 2000.⁵⁵⁸ In a protracted struggle (1998-2001) for several Sidanko assets TNK has obtained *de facto* control over Sidanko itself.⁵⁵⁹ Sibneft and TNK jointly won the government privatisation auction for Slavneft in December 2002.

The acquisition of smaller oil holdings by larger oil holdings must be seen as a natural process of expansion and rationalisation of the industry within the framework of vertically integrated companies. Such expansions have allowed the companies to overcome the operative restrictions placed on them during the initial formation of VICs and it will allow the companies to take advantage of economies of scale in already existing fields.

For instance, this was the case with TNK's purchase of Chernogorneft. Chernogorneft had been part of TNK's main production association – Nizhnevartovskneftegaz – during Soviet times but had separated itself from the PA as a leased company after Gorbachev's initial reforms. TNK claimed that bringing Chernogorneft back to Nizhnevartovskneftegaz would reduce the

⁵⁵⁵ This consolidation process is by no means over. All the companies are still involved with expanding control – and efficiency – over their business. The redistribution and accumulation of property is still ongoing, as owners attempt to shape the companies according to their own visions and overcome the deficiencies created by the initial structure set up in 1992.

⁵⁵⁶ Raff, 'Anatomy of an Oil Company Sell-Off', *Moscow Times*, 30.5.2002.

⁵⁵⁷ Semenenko, 'KomiTEK Approval For LUKoil Share Swap', *Moscow Times*, 16.9.1999.

⁵⁵⁸ Startseva, 'Onako Tender Won by Yevrotek', *Moscow Times*, 20.9.2000.

⁵⁵⁹ See table 7.1.

cost of production at the Samotlor field by 60 per cent.⁵⁶⁰ The company that controlled Chernogorneft, Sidanko, had been operating Chernogorneft as a pure cost unit. A small creditor brought a bankruptcy suit against the oil firm. Part of Chernogorneft's debt was to Nizhnevartovskneftegaz (\$1.9 mn.), and TNK managed to purchase voting rights in the bankruptcy proceeding by purchasing parts of Chernogorneft's remaining debt on the market.⁵⁶¹ After a protracted struggle with Sidanko and BP TNK assumed control over the unit. However, the struggle had repercussions for TNK's international reputation,⁵⁶² and an agreement between the Alfa group (which controls TNK) and the Interros group (which controls Sidanko) promised to return Chernogorneft to Sidanko in exchange for giving TNK a 25 per cent stake in Sidanko.⁵⁶³ Unhappy with the exchange terms and for fear of their stake eventually being watered down by share expansions and contested by Sidanko shareholders' action,⁵⁶⁴ TNK stalled the process and instead opted to buy Interros' and Kantupan's stake in Sidanko (46.1 and 40.3 per cent respectively).⁵⁶⁵

This case illustrates some of the reasoning behind the drive by Russian oil majors to consolidate their assets into a single share structure. Complete control is crucial for the company if it is to develop its assets and to ensure post-investment security. Not only did share unification give the companies control over cash flows and corporate strategies but it also protected their assets from possible hostile take-overs.⁵⁶⁶

According to Moser and Oppenheimer growing regional intervention beginning in the wake of the 1998 financial collapse served as a further

⁵⁶⁰ Gismatullin, 'News Analysis: TNK Boss Set to Torpedo Amicable Sidanko Deal', *Moscow Times*, 25.8.1999.

⁵⁶¹ Whalen & Korchagina, '2 Investors Snubbed as Oil Firm Sinks', *Moscow Times*, 17.12.1998.

⁵⁶² It is widely believed that BP Amoco pressure resulted in a freezing of a \$500 million loan guarantee from the US Export-Import Bank. (Gismatullin, 'TNK Blames BP Amoco for Delaying \$500M Loan', *Moscow Times*, 13.10.1999).

⁵⁶³ Gismatullin, 'BP, TNK End Feud And Split Sidanko', *Moscow Times*, 23.12.1999.

⁵⁶⁴ Pronina, 'TNK 'Dumbfounded' by Chernogorneft Suit', *Moscow Times*, 28.11.2000.

⁵⁶⁵ 'Chernogorneft deal', *Moscow Times*, 27.11.2001. Kantupan is a Cyprus based offshore group. In the agreement Sidanko would be governed by BP.

⁵⁶⁶ Asserting control over cash-flow allowed the companies to follow a more aggressive – minimising – tax policy.

impetus for consolidation and share unification.⁵⁶⁷ In November 1998 regional authorities commenced bankruptcy proceedings against two Sidanko subsidiaries (Angarsk refinery and Kondpetroleum) as a result of which the latter was taken over by TNK. Tax arrears were behind the regional authorities' motivation.

Control is at issue in the acquisition cases as well. After its purchase of Onako, TNK has been through protracted negotiations with Sibneft and Onako minority shareholders to ensure consolidation of the assets by effecting a share swap. While agreement with Sibneft was reached over the summer 2002, minority shareholders are still waiting to be satisfied.⁵⁶⁸ Both Yukos and TNK have sought to eliminate the companies they bought as legal entities, by effecting a share swap.⁵⁶⁹ As with the consolidation of original subsidiaries, the consolidation of acquisitions is important from the point of view of control over the assets. Control enhances the company's ability to carry out its corporate strategy, optimise tax payments and improves their standing in the financial and securities market.

De facto control over assets shields the assets from possible take over threats or competing calls for control and rent. This strategy was used in both the oil privatisations during 2002. In the first case Yukos had effected a share swap and consolidated the assets of VNK into its own structure before the privatisation early in 2002. In the second, Sibneft had moved throughout 2002 to buy up shares in Slavneft's subsidiaries before the December 2002 privatisation.

In either case, the nominal value of the assets being privatised was reduced by uncertainty about "what was being bought". Worst case scenario, the holding

⁵⁶⁷ Moser & Oppenheimer, *op cit.*, pp. 318-319.

⁵⁶⁸ 'Threat to disgrace TNK on world stock markets', *Oil & Capital*, No. 12, 2002. Sibneft held a 40 per cent stake in Onako's producing unit Orenburgneft. The deal was not finalised until early 2003 though.

⁵⁶⁹ Bushueva, 'VNK likvidiruyut [VNK is liquidated]', *Vedomosti*, 19.7.2002. Bushueva, 'TNK poluchit upravlyayushuyu kompaniyu [TNK gets a managing company]', *Vedomosti*, 24.10.2002.

companies would be no more than empty administrative shells, best case scenario “alternative” winners would have to expend considerable financial and administrative resources on ensuring *de facto* control over their assets. In either case, the policy of the Russian oil major contributed to discourage competition for the remaining state assets.

On the other hand, struggles with minority investors in the course of consolidation can become an obstacle to the company’s attractiveness in corporate securities markets and hamper their ability to access international capital. It should be noted that there does not have to be anything implicitly illegal in the strategy followed by the oil major to ensure control over subsidiaries in these privatisations. In the case of Yukos for instance, the equity transactions had been conducted in line with decisions made by the subsidiaries’ shareholders meetings and boards of directors.⁵⁷⁰ Nonetheless, Yukos had to return assets to VNK before the privatisation of the state’s share finally could go ahead.⁵⁷¹

Other companies have used lack of control to poach desired assets – as in the case between Sidanko and TNK. Part control of another company’s assets has further been used by companies as a means to reduce the investment attractiveness of the company in question to other companies. This has particularly been the case during the purchase of state assets. During 2002 both the stakes in VNK and Slavneft went to oil companies that already had considerable stakes in subsidiaries of the companies. In the case of Slavneft, Sibneft and TNK had a joint stake and Sibneft controlled another 10.85 per cent independently.⁵⁷² In addition Sibneft had a large stake in Slavneft’s main oil producing subsidiary Megionneftegaz. Analysts estimated that the cost of obtaining the necessary control over Slavneft would add an additional \$1 billion to the purchase price, if the winner of the tender would be a company

⁵⁷⁰ ‘Last minute cancellation of Vostochnaya shares’ sale’, *O&C*, no. 1, 2000.

⁵⁷¹ Bushueva, ‘Yukos vernul aktivy VNK [Yukos returned VNK’s assets]’, *Vedomosti*, 20.5.2002.

⁵⁷² Sibneft purchased the Belarussian government’s 10.85% stake in Slavneft in early December 2002. ‘Sibneft Buys Belarus’ Stake in Slavneft’, *Moscow Times*, 9.12.2002.

other than Sibneft.⁵⁷³ In the case of VNK, Yukos had *de facto* control prior to the final privatisation.

The privatisation of Slavneft was to be a break with the past pattern of murky privatisation procedures but although different in form to previous privatisations it showed many of the characteristics associated with the past sell-offs. Over the summer Sibneft had managed to install its own management team at the company.⁵⁷⁴ This gave Sibneft an insider advantage. In the run up to the auction on 18 December 2002 competition for the assets was effectively eliminated. Due diligence during the proceedings raised concerns about disappearing assets,⁵⁷⁵ Duma interference discouraged the only foreign contender for the assets – the Chinese National Oil Corporation,⁵⁷⁶ and court orders disqualified a list of contenders the evening before.

Together with Sibneft's already considerable stake in Slavneft and its subsidiaries, competitors for the stake faced an uncertain future with respect to achieving control over the assets and putting an adequate price this risk. In the end the bidding, which started at \$ 1.7 billion, was conducted between two contenders, Sibneft CEO Shvidler (on behalf of Invest-oil) and two women representing Optifor.⁵⁷⁷ TNK the only other Russian oil major to voice an active interest never made an offer. The government's 75 per cent stake went to Invest-oil for \$1.86 billion.⁵⁷⁸ After the auction it became clear that Sibneft and TNK jointly control Invest-oil. In colluding in this manner the two oil majors avoided increasing the price substantially beyond the reserve price (some estimates had put the selling price as high as \$2.5-3 billion) and are

⁵⁷³ Bushueva, 'Konkurentsiya slabeet [Competition weakens]', *Vedomosti*, 16.12.2002.

⁵⁷⁴ Bushueva, Osetinskaya, & Chertkov, 'Sukhanov vernulsya v Slavneft' [Sukhanov returns to Slavneft]', *Vedomosti*, 3.7.2002.

⁵⁷⁵ Jack, 'Sale of Russian oil group leaves question over fairness', *Financial Times*, 19.12.2002.

⁵⁷⁶ Bushueva, 16.12.2002., *op cit*.

⁵⁷⁷ When asked afterwards who they represented one of the women answered 'Invest-oil', then quickly changed her story when realising the blunder. Belton, 'Sibneft, TNK Snap Up Slavneft for \$1.8Bln', *Moscow Times*, 19.12.2002. According to Russian legislation an auction is only valid if there is more than one bidder. In the past several assets were sold in auctions where only two bidders participated representing the same interests.

⁵⁷⁸ 'Sibneft' i TNK ob'edinilis' v bor'bu za Slavneft' [Sibneft and TNK unite themselves in the fight for Slavneft]', RIA Novosti, 18.12.2002. At: <http://www.rian.ru>.

now left to split the spoils.⁵⁷⁹ For comparison, a 5.9 per cent government stake in LUKoil was sold in early December 2002 for \$775 million.⁵⁸⁰

Related to the issue of consolidation of assets is the question of organisational form. As long as property remained state owned there remained little incentive to alter the organisational form of the companies. With the transfer to private ownership changes in organisational form have begun to take place. In TCE the holding company form (H-form) of organisation remains an intermediate structure of control. It is an organisational form that is ill suited to economise on bounded rationality and moral hazard.⁵⁸¹ Within this type of organisation the relationship between units is such that principal-agent problems connected with incomplete contracting may lead to departmentalisation and intra-company goal conflicts.⁵⁸² From an investor's

⁵⁷⁹ How this will be done is unclear, as both parties have expressed an interest in consolidating Slavneft's assets into their own structure. (Reznik & Overchenko, 'Teper' ostalos' podeliť [Now it remains to divide [Slavneft]]', *Vedomosti*, 20.12.2002). Although Sibneft and TNK now jointly control Slavneft, Sibneft still holds a large stake in Megionneftegaz. In terms of expansion possibilities this is one of the last possible brown-field investments open to Sibneft. TNK already has increased its reserve and production potential through previous acquisitions. The two companies were in a similar situation after TNK purchased Onako. Sibneft at that time agreed to exchanged its stake in Orenburgneft for an 8.6 per cent stake in TNK International (an offshore group that controls TNK's assets). (Bushueva, 'Aksionery Onako khotyat spravedlivosti [Onako's shareholders want fairness]', *Vedomosti*, 5.11.2002). A similar arrangement is possible with the exchange of TNK's shares in Slavneft in return for a stake in Sibneft. Industry analysts' speculate whether such a deal could lead the way to an eventual merger between Sibneft and TNK. (Reznik & Overchenko, 20.12.2002, *op cit.*). On a more speculative note it was rumoured that TNK would give up its claim in the privatisation of Slavneft in return for a deal with Sibneft over Orenburgneft. (Pronina, 'TNK Installs Its Team on Onako Board', *Moscow Times*, 18.11.2000). At that time though the privatisation of Slavneft was postponed. However, with the need still to finalise the Orenburgneft-TNK international deal a combined solution to both Onako and Slavneft is not out of the question. (Reznik & Overchenko, 20.12.2002, *ibid.*).

⁵⁸⁰ Belton, '6% Stake in LUKoil Sold for \$775M', *Moscow Times*, 5.12.2002. The privatisation of 5.9% of the state's share in LUKoil again demonstrates the reactive nature of Russian legislation. The floatation of this package took the form of American Depositary Receipts (ADR) on international financial markets. However, the law on privatisation did not provide for such circumstances. In order therefore to proceed with the floatation, the shares in LUKoil were transferred from GKI to a newly created agency – KPP (*Kompaniya proektnoi privatizatsii*). KPP cannot transfer any proceeds directly into the budget. Under current rules KPP is allowed to deduct 10% of the sale price in an administrative fee and is obliged to pay profit tax on the proceeds. By the time the proceeds from the sale of LUKoil finally reaches the budget (possibly early spring 2003) the size of the sum will have shrunk considerably. Legislation has since been amended to avoid similar future situations. (Bushueva, 'Den'gi za LUKOIL zavisli [Money for LUKoil depended]', *Vedomosti*, 16.1.2003).

⁵⁸¹ Williamson (1985), *op cit.*, pp. 273-298.

⁵⁸² In 1997/98 a Rosneft subsidiary – Purneftegaz – supplied Omsk refinery (part of Sibneft) with oil at preferential terms, in effect transferring profit from its own organisation and the state to Sibneft. (Moser & Oppenheimer, *op cit.*, p. 318).

point of view such organisational structures present a higher risk group which again leads to higher cost of capital for the company in question. For the Russian companies access to foreign capital is an important part of their long-term strategies, since the capital required for financing the long-term operation and expansion of the company is in short supply in Russia.

Alongside the consolidation of assets therefore, the leading oil companies have begun to restructure their organisational structure. LUKoil for instance has restructured their operative units into regional divisions, while Yukos has developed a structure more akin to the western oil major with a separate exploration and production division and a refining and marketing division. Such reorganisations, akin to the development of the M-form (Multidivisional organisational structure) in the West, have allowed these companies to develop strategic planning and resource allocation capabilities that surpass the previous H-form. (In the case of LUKoil it still maintains a strategic planning unit independently of the regional divisions).

Additionally, these reorganisations facilitate the development of monitoring and control apparatuses to economise on bounded rationality and moral hazard. Yukos today enjoys the highest long-term credit rating of any Russian company.⁵⁸³ One industry executive, when asked about the benefits of consolidation answered: "The consolidation has primarily resulted in making operations more efficient. It has made it possible to identify what expenses you have, what your strengths and weaknesses are, it has increased control and decreased corruption and outright theft – which were problems in the Soviet Union. It has resulted in control with the capital flow and you know what your investments are resulting in. On an operational level, the best companies are able to control what is happening and make adjustments on a daily basis. This obviously creates clear comparative advantages contra companies that have less sophisticated systems of control".⁵⁸⁴

⁵⁸³ Company news (24.12.2002) at: <http://www.yukos.com/main.asp> [12.1.2003]

⁵⁸⁴ Interviewee #7.

Russian companies not undertaking such consolidation and reorganisation have the potential for principal-agent problems associated with the H-form, which would result in higher cost of capital on international capital markets and greater risk of value dissipation. Until its privatisation Slavneft's main producer Megionneftegaz was listed independently from its holding parent. Ownership of Megionneftegaz partly belonged to Sibneft, who had virtually assumed control over the unit.⁵⁸⁵ From an investment point of view this reduced Slavneft's attractiveness in that its main productive and income-generating asset possibly could have a corporate strategy that was at odds with the holding company's strategy.⁵⁸⁶ Both Yukos and TNK for instance went through prolonged battles of ensuring control over their operative units, giving them the added benefit of higher investment attractiveness.

At the end of 2002 Rosneft remains the state's final (domestic) oil producing holding company. What will become of Rosneft is still unclear. It has been slated for privatisation several times but has also figured in plans to create a national oil company. This latter strategy tended to incorporate other state oil assets making it difficult to see how it would become large enough to compete with the private oil majors now that these have been sold off. One possibility remains the amalgamation of Rosneft with the pipeline monopolies creating a single state oil-management entity. Plans remain highly speculative though, and are likely to be met with strong opposition from the private companies.

A frequent argument against the privatisation procedure in the Russian oil industry has been to blame its present governance problems on the nature of the industry's privatisation.⁵⁸⁷ This thesis disagrees with such a proposition. The governance problems in the Russian oil industry (past and present) are closely linked to principal-agent problems and the perception of property in the Soviet economy. As such the governance problems were present before

⁵⁸⁵ Pletnev, 'Mnenie analitikov: "Sibneft"' sumela sdelat' "Slavneft"' neprivlekatel'noi dlya konkurentov [The opinion of the analysts: Sibneft knew how to make Slavneft unattractive for competitors]. At: <http://www.strana.ru>.

⁵⁸⁶ As seen above, this was used by Sibneft to curtail possible competition for the unit's privatisation.

⁵⁸⁷ EBRD, *Transition Report 2001: Energy in Transition*, EBRD, 2001, p. 84.

privatisation. The nature of privatisation reflected these institutional factors in that they became fundamental issues in its progress. The EBRD attributes lack of investment and good corporate governance to insider privatisation and management control. The argument of this thesis however, is that these shortcomings reflect that Russian state power remains inadequate to create and enforce incentive structures that would be conducive to the industry's long-term development and residual institutional problems related to the Soviet economy. The latter is particularly related to the Soviet conflict between *de jure* and *de facto* property rights and the relationship between the industry and the state.

It is *de facto* rights that matter, and this is only ensured by complete control. Such control reduces *ex post* transaction costs and increases *ex ante* political capital, either factor is necessary for company survival and profit. Principal-agent cost in the Soviet Union had partly been the result of the economy's organisational structure. The separation of *de jure* and *de facto* rights resulted in increased transaction costs as strategic units bureaucratically became increasingly removed from the value creating units. The holding type structure that was set out at the beginning of the 1990s inherited this antagonistic organisational nature.

The holding companies themselves could only create value if they controlled the revenue stream of their subsidiaries. Although the corporatisation of the industry could, in a functioning market economy, have created a basis for revenue through share dividends and share voting power, these venues of corporate control and rent appropriation remained ineffective in post-Soviet Russia. It is the extraction of oil that creates value (at the up-stream end) in the industry. As long as the holding company could control the flow of revenue to such an extent that it satisfied the owners of the holding companies (1993-1998) share unification was a less pressing issue for some of the companies (see Chapter 10).

Moser and Oppenheimer argue that minority shareholder abuse in the late 1990s was partly a result of the antagonistic relationship between subsidiary

and holding company and the change in circumstances after privatisation.⁵⁸⁸ As long as the producing units remained "independent" companies their share value in many cases surpassed that of the holding company. In order to arrange better consolidation terms the holding companies systematically pursued a strategy that reduced the value of their subsidiaries. Transfer pricing, share dilution and asset stripping, all contributed to reduce the share value of the value generating units. (Similar accusations tainted the Slavneft auction and reduced its attractiveness). While these practices have been going on all throughout the 1990s after privatisation the threat of losing control over the wealth generating units prompted the necessity of share unification. As the holding company controlled at least 51 per cent of the voting stock of its subsidiaries these in turn complied with the value reducing strategy.

With privatisation the ability of *de facto* owners to retain control over the value creating units began to be threatened. Both regional and intra industry pressure increasingly made it necessary to alter the organisational structure of the companies in order to protect the revenue generating ability and thus rent appropriation ability of the owners. As long as the industry was state owned (then partly state owned) economic and political inertia implicitly protected *de facto* owners' ability to generate income. In the course of the 1990s this situation has changed. Appropriable political income shrank as production declined, prices began to be liberalised, costs increased and the industry was reorganised. Increasingly all participants to the revenue circulation process have come to rely on economic rent as the income generating element.

This structural shift has brought to the fore an important element of the modern state. While still under state ownership the industry was expected to serve the goals of the state. In a modern state with a market economy however, it is not the responsibility of private owners to pursue a polity welfare enhancing strategy. Rather, the responsibility that rests on private owners is to comply with such laws and regulations that exists in the polity. It is the responsibility of the state to structure laws and regulations in such a way that

⁵⁸⁸ Moser & Oppenheimer, *op cit.*, pp. 314-317.

they are welfare enhancing and they create a platform for sustainable development. These elements of post-Soviet development will be examined in the following two chapters.

Chapter 9

Institutional competition at macro level?

'I am coming to a country where four years ago a revolution finally took place. Alas, this was a revolution without revolutionaries – and this again is giving rise to a democracy without democrats'.⁵⁸⁹

Wolf Biermann

'Although it's very hard to create anything in Russia, it's even harder to destroy it'.⁵⁹⁰

A new framework of management for the industry.

With liberalisation, corporatisation and privatisation of the industry its operative level has been transformed. The major operative and strategic decisions are now a function of individual corporate strategies with the companies employing different strategies to adapt to economic circumstances. Such micro level organisational alterations have been accompanied by reorganisation at the macro level. Although the companies today are more independent than during previous years, the state still has considerable rights and powers to affect and form the incentive structure. Also, residual Soviet institutions, bureaucratic and economic behaviour constitutes important elements of path dependency. In order to realise a shift in the development path market type institutions will have to successfully compete with these elements of path dependency.

At macro level the reorganisation has implied a repositioning of the role of the two major institutions of the previous Soviet system. These are the state, as represented by the political leadership, and the state apparatus, represented by the ministerial bureaucracies. Both of these institutions have seen their previous rights and duties challenged during the years of reforms.

Specifically, the state has transferred its *de jure* ownership rights to micro level organisations and regional authorities, and has gradually accepted a "wider" distribution of rent income. The state apparatus had been obliged to transfer its *de facto* ownership rights and much of its strategic and operative

⁵⁸⁹ From a talk Biermann held at the Friedrich-Schiller University, Jena, 16.2.1994. A copy of the talk was given to the author by Biermann March 1994.

⁵⁹⁰ Yeltsin, *op cit.*, p. 158.

functions to the oil companies. If one views the historic development of oil industry organisation in the USSR neither of these trends relating to the state apparatus drastically break with previous trends. Throughout its history the organisational framework of the industry has undergone several changes and adaptations as the spatial distribution and geophysical characteristics of the industry widened.

However, throughout the Soviet period the formal and theoretical position of the state remained largely unchanged.⁵⁹¹ The changes that have appeared at this level represent the major changes brought about by the demise of the Soviet Union. On the other hand, the evolution that has taken place since 1987 has mainly contributed to formalise previously existing informal practices and as such has not had the desired "revolutionising" effects on economic behaviour that many had hoped for.

Furthermore, these reorganisations have not passed uncontested. Both the state and the state apparatus have tried to defend the interests of their constituency (i.e. their members) by lobbying and pressuring other actors and trying to preserve their previous fields of influence.⁵⁹² Such results from organisational reform are not uncommon occurrences in organisational literature. The response in Soviet practice was to create a specialised entity with the responsibility of attaining the specified goal. The assumption being that newly created entities would not be hampered by the departmentalism of the previous entity and thus display a more "progressive" outlook.⁵⁹³

⁵⁹¹ In Leninist philosophy private property in a society trying to develop communism would serve as a counter-revolutionary force.

⁵⁹² This situation has led to competition and conflict between several of the agencies and ministries involved in the regulation of the industry. For instance, in October 2002 the FEK, in a letter to the president, complained that the creation of the Khristenko Commission (see below) and the Ministry of Economic Development and Trade had eroded its responsibilities. (Startseva, 'FEC Complains About Lack of Power', *Moscow Times*, 22.10.2002). While the FEK had pursued a policy of increasing tariffs in order to better the economic foundation of the power producers the MEDT has pursued a policy of low inflation. Since the former (in the view of the MEDT) is at odds with the latter and the latter being an important goal of the Putin administration, tariff setting power has been shifted to the Khristenko Commission and the MEDT. According to one analyst 'the FEC totally discredited itself as an analytical body last year when it proposed unrealistic tariff increases, so it is not surprising that no one is listening to it'. (Moiseyev, Renaissance Capital, *ibid.*)

⁵⁹³ Progressive is here used in a very subjective form and meant to imply the creation of new organisations with goals tied to the new policy (perceived greater loyalty). This approach, as

MNP and Mingeo were the two ministerial hierarchies that primarily controlled Soviet oil development, operations and exploration. In the post-Soviet era these two organisations have been supplemented by several new entities (see Figure 9.1). In terms of access and control over information and resource flows the Ministry of Fuel and Energy (compared to the former MNP) has been the largest loser of the reform period.⁵⁹⁴ The Ministry of Fuel and Energy was created on the basis of the Soviet Ministry of Power and Electrification.⁵⁹⁵ It has branch departments for all the previous branch ministries.⁵⁹⁶ *Mingeo* became the Russian Committee on Geology under the Ministry of Natural Resources. The structures and organisations of the former MNP became Rosneftegaz and subsequently Rosneft. These latter organisations inherited both the offices and much of the scientific responsibilities of MNP. While the Ministry of Fuel and Energy was to retain a strategic role Rosneftegaz assumed the technical and operative control of the country's oil assets – prior to the industry's restructuring.

With the demise of the Soviet economy and the following period of reform, the number of governmental organisations with an influence on the collection of rent and resources in the oil industry has increased. Before a substantial number of ministries and committees influenced the Soviet oil industry, yet the major point of bureaucratic interaction took place at ministerial level. At this level the MNP represented the “interest” of the oil industry. With the

has been shown in part one, was not uncommon in the Soviet Union. However, as with experiences in the Soviet Union the residual organisations will in many instances be entrenched in the system and continue to exercise their previous functions, resulting in a non-transparent organisational structure with overlapping areas of responsibility. See also footnote above, on FEK and MEDT. This case illustrates two important elements of the state's power base. Firstly, the importance of reorganisation to further policy specific ends. Secondly, the patrimonial nature of organisational development. Organisations that do not remain loyal to their “creator” will see their responsibilities reduced.

⁵⁹⁴ The Russian Ministry of Fuel and Energy was created in February 1991. Council of Ministers RSFSR (28.2.1991), ‘*Ob obrazovanii Ministerstva topliva i energetiki RSFSR* [On the formation on the RSFSR Ministry of Fuel and Energy]’, *Sob. Akt.* no. 13, st. 163. According to a former Soviet Ministry of Oil official ‘Now I would say that they [Ministry of Fuel and Energy] do not have any power over the oil and gas companies’. (Interviewee # 1). During Soviet times the MNP's ability to control its constituent parts was closely related to its control over the incentive and reward structure. Physical and financial resources were controlled by Gosplan and the Ministry of Finance.

⁵⁹⁵ Interviewee # 5.

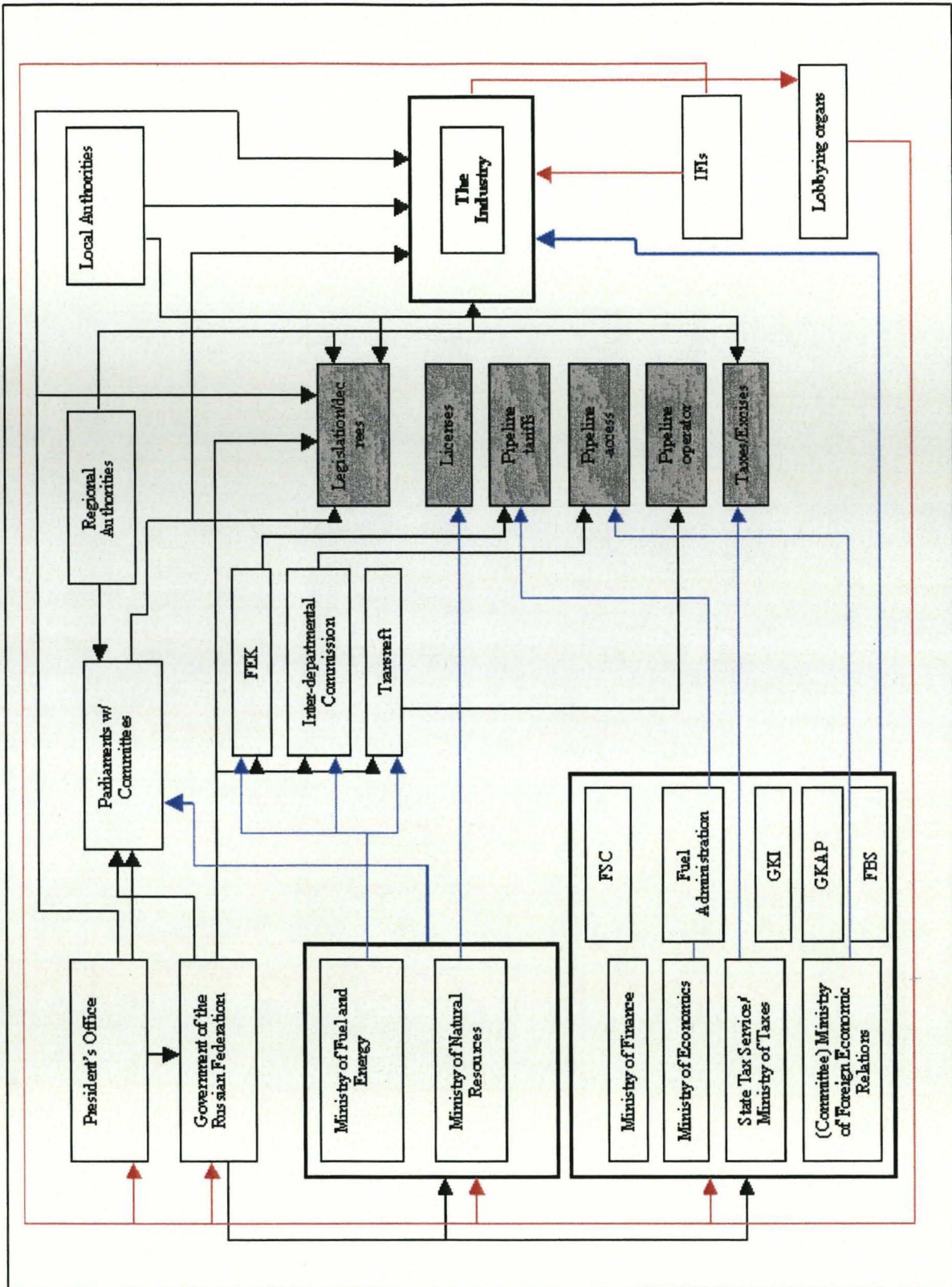
⁵⁹⁶ Interviewee # 4.

demise of the former system the *loci* of bureaucratic interactions has increased, with the companies interacting separately and collectively with a greater number of agencies.

With respect to the Ministry of Fuel and Energy its role and position has been curtailed and altered. With the creation of VICs its operative responsibilities has been transferred to the companies. 'The interrelationship between the ministry and these companies is only co-ordination – more political co-ordination than technical and commercial. The ministry has no right to instruct the companies...this is not the responsibility of the ministry'.⁵⁹⁷ Similarly, the increased reliance on self-financing and eventual cessation of government funding removed one of its chief instruments of administration – resource redistribution. Even so, its responsibilities at the start of the Russian period were important, and its bureaucratic and branch expertise was invaluable. However, throughout the 1990s the Ministry of Fuel and Energy has seen several of its responsibilities reduced and transferred to other "more progressive" government agencies. There has been a sustained draining of the best personnel from this ministry to the newly created oil companies, which has severely reduced the Ministry's intangible capital.⁵⁹⁸ Figure 9.1 shows the organisational/administrative framework that the oil industry operated in at the end of the 1990s.

⁵⁹⁷ Interviewee # 4.

⁵⁹⁸ Interviewee #1. According to Interviewee # 3, 'I think that the government's influence on the companies was always limited since the early 1990s, I think it was just weak staff who were working in the state bodies who were controlling the companies. They do not have enough influence, they do not have enough authority to rule these oil companies'.

Figure 9.1 – Organisational framework Russian oil industry end 1990s.⁵⁹⁹

⁵⁹⁹ In the course of the Putin administration some changes have occurred. The Ministry of Economic Development and Trade has been created. The Interdepartmental Commission has been replaced by the Khristenko Commission, and the Ministry of Fuel and Energy has changed its name to Ministry of Energy.

Along with the Ministry of Fuel and Energy's basic task of creating the necessary organisational and economic conditions for a more efficient fuel and energy sector the role of the Ministry of Fuel and Energy, starting in 1992, comprised.⁶⁰⁰

- the formation and delegation of export quotas in conjunction with the Ministry of Finance and Economy;⁶⁰¹
- the regulation of exports and the registration and export licenses in conjunction with the Committee of Foreign Economic Relations;⁶⁰²
- the regulation of industry imports;
- the development of state programmes for the development of the industry, calculation of energy balances, and the development of long term strategic forecasts. (These include the 1992 Energy Concept and the Energy Strategies of 1995, 2000, and 2003);
- the realisation of measures to facilitate the de-monopolisation and privatisation of the industry;
- to guarantee reliable and safe operations, the observance of norms and rules and the developing mechanism for social protection;
- the creation of funds for the financing of investments, purchase of equipment, and compensation of enterprises' income loss;
- the organisation of a secondary, industry related, equity and securities market.

These responsibilities were soon superseded by later reorganisation, particularly the creation of vertically integrated companies. The increased reliance on industry self-financing of investment even before the creation of

⁶⁰⁰ Unless otherwise stated the source of the following information is RF Government Decision № 6 (4.1.1992), '*Voprosy Ministerstva topliva i energetiki Rossiiskoi Federatsii* [Concerning the Ministry of Fuel and Energy of the Russian Federation]'. At: <http://law.optima.ru>.

⁶⁰¹ RSFSR Government Decision № 7 (15.11.1991).

⁶⁰² *Ibid.* The Committee on Foreign Economic Relations later became the Ministry of Foreign Economic Relations and had the added responsibility of appointing "special exporters" ('Institutions and companies authorized by the state to conduct export operations'. Kabalinsky (1995a), *op cit.*, p. 22).

VICs clearly reduced the Ministry's ability to affect the industry.⁶⁰³ The Ministry has retained a department for the governance of state property, a responsibility that it has shared with the government property fund (GKI).

Importantly, the MNP's structure of incentives had been closely linked to its control over information and incentive flows throughout the industry. With the establishment of contractual relations – business to business and business to ministries – another of the Ministry's administrative tools was weakened.

The Ministry's influence was weakened by a gradual monetization of industry relations. Before income generated by the industry had been measured in physical terms and the Ministry could more easily control the information pertaining to such a form of measurement. Monetization of the economy also implied that the bureaucratic centre of income related flows shifted from the Ministry to the Ministry of Finance, Ministry of Economy, Ministry of Foreign Economic Relations and the State Tax Service (later the Ministry of Taxes).⁶⁰⁴

The Ministry continued to influence the companies as long as these remained state owned. For instance the Ministry (and GKI) appointed a state representative to be present at the board meetings of each of the companies and manage the state's share in the companies. However, as pointed out above, their influence in matters operational remained weak. On the other hand, their political connections might have played a considerable role. Yurii Shafranik, former Minister for Fuel and Energy (1993-1996), was the state's representative on the board of TNK.⁶⁰⁵ He remained closely connected to TNK

⁶⁰³ RF Government Decision № 28 (29.1.1992), '*O vnebyudzhetykh fondakh finansovogo regulirovaniya Ministerstva topliva i energetiki Rossiiskoi* [On the extra-budgetary funds of financial regulation of the Russian Ministry of Fuel and Energy]'. At: <http://law.optima.ru>.

⁶⁰⁴ Monetization is here used in an idealised sense. The fact that large parts of the economic relations in post 1992 remained non-monetized will be dealt with below. However, even given the non-monetization of the economy, the structure and quality of resources and rent flow changed after 1992. Since 2000 this applies to the Ministry of Economic Development and Trade as well.

⁶⁰⁵ RF Government Decision № 777 (1.7.1996), '*O naznachenii predstavitelei Rossiiskoi Federatsii po upravleniyu zakreplennymi v federal'noi sobstvennosti paketami aktsii aktsionernykh obshchestv toplivno-energeticheskovo kompleksa* [On the appointment of representatives of the Russian Federation for the administration of concentrated in federal

after his period as minister, before becoming head of newly created Central Fuel Company in 1997.⁶⁰⁶

After the creation of the vertically integrated companies, the state's primary means of influencing the industry has been through the regulation of pipelines, taxes and legislation. In all these fields the Ministry of Fuel and Energy has gradually lost its influence. The creation of Transneft and Transnefteprodukt reduced its control over pipeline operation. With the creation of the Interdepartmental Commission in January 1995 the role of the Ministry of Finance, Ministry of Economy, Ministry of Foreign Economic Relations and the State Customs Committee were increased regarding matters of pipeline access and export.⁶⁰⁷

The Interdepartmental Commission was charged with the responsibility of regulating access to the pipeline systems and supervise the Ministry's shipping schedules, and co-ordination of exports.⁶⁰⁸ This commission, which was led by a representative of the Ministry, was abolished in November 2000 and replaced by a government commission charged with the same

property shares in joint stock companies of the fuel and energy complex]'. *Sob. Zak.*, 1996, no. 28, st. 3393.

⁶⁰⁶ 'Shafranik Lands Top Job With Tyumen Oil', *Moscow Times*, 27.8.1996.

⁶⁰⁷ RF Government Decision № 1446 (31.12.1994), 'O vyvoze nefii i nefteproduktov za predely tamozhennoi territorii Rossiiskoi Federatsii s 1 yanvarya 1995 goda [About the export of oil and oil products beyond the customs territory of the Russian Federation from 1 January 1995]'. At: <http://law.optima.ru>.

⁶⁰⁸ RF Government Decision № 94 (30.1.1995), 'O mezhvedomstvennoi komissii po regulirovaniyu voprosov svyazannykh s ispol'zovaniem sistemy magistral'nykh nefteprovodov nefteproduktoprovodov i terminalov v morskikh portakh dlya vyvoza nefii, nefteproduktov za predely tamoshennoi territorii Rossiiskoi Federatsii [On the Interdepartmental Commission for regulation questions connected with the utilisation of the pipeline systems for oil, oil products and oil terminals in sea ports for sending of oil and oil products beyond the custom territory of the Russian Federation], *Sob. Zak.*, 1995, no. 6, st. 492. Government Decision № 248 (6.3.1996), 'O vnesenii dopolnenii v Polozhenie o mezhvedomstvennoi komissii po regulirovaniyu voprosov, svyazannykh s ispol'zovaniem sistemy magistral'nykh nefteprovodov nefteproduktoprovodov i terminalov v morskikh portakh dlya vyvoza nefii, nefteproduktov za predely tamoshennoi territorii Rossiiskoi Federatsii, utverzhdennoe postanovleniem Pravitel'stva Rossiiskoi Federatsii ot 30 yanvarya 1995 g. № 94, i izmenenii ee sostava [On the introduction of additions to the statute on the Interdepartmental Commission for the regulation of questions connected with the utilisation of the pipeline systems for oil, oil products and oil terminals in sea ports for sending of oil and oil products beyond the custom territory of the Russian Federation, ratified by the Government of the Russian Federation on 30 January 1995 № 94, and alterations in its composition], *Sob. Zak.* 1996, no. 12, st. 1128.

responsibilities.⁶⁰⁹ A government representative and not a representative of the Ministry leads this new commission (sometimes referred to as the 'Khristenko Commission' after its chairman).

With respect to the oil industry these commissions primarily influenced the transportation of crude oil where Transneft enjoys a near monopoly. However, with growing investment in Russia's downstream sector and the prospect for greater demand of the Transnefteprodukt's pipeline system, the Ministry of Energy has expressed a desire for greater influence on product transportation and export, and submitted shipping schedules for oil products to the Khristenko Commission.⁶¹⁰ Although this commission, like the Interdepartmental Commission before it, has the authority to regulate oil product transportation such shipping has remained an issue between Transnefteprodukt and the oil companies. One industry analyst characterised the Ministry's proposal as an attempt to create a reason for its own existence.⁶¹¹

In accordance with the 'Law on Natural Monopolies' a Federal Energy Commission was created in order to regulate pipeline tariffs.⁶¹² This commission, which is housed in the same building as the Ministry of Fuel and Energy, is a more independent body that sets tariffs for all the natural monopolies. However, the Ministry of Fuel and Energy is still involved in the preparation of shipping schedules. The FEK also has regional departments.

⁶⁰⁹ Government Decision № 843 (2.11.2000), *O komissii Pravitel'stva Rossiiskoi Federatsii po voprosam ispol'zovaniya sistem magistral'nykh neftegazoprovodov i nefteproduktoprovodov* [On the commission of the government of the Russian Federation for questions of regulation of the main oil and gas pipelines and oil product pipelines]. At: <http://law.optima.ru>.

⁶¹⁰ Khrennikov, 'Minenergo vspomnilo o Transnefteprodukte' [Ministry of Energy remembers about Transnefteprodukt], *Vedomosti*, 7.4.2003.

⁶¹¹ Khrennikov citing Valery Nesterov, *op cit.* Representatives of Transnefteprodukt fear that the proposal will make it uncompetitive. About 80% of oil products are transported by railroad and Transnefteprodukt representatives worry that increased government regulation will increase the share of railroad transportation. Industry representatives on the other hand worry about increased costs and administrative expenses.

⁶¹² RFPD № 1194 (29.11.1995), 'O federal'noi energeticheskoi komissii' [On the Federal Energy Commission]. At: <http://law.optima.ru>.

Legislative power rests with the state Duma and the president, while regional and local authorities have some powers in this respect. In accordance with the 'Subsoil Law' the Ministry of Natural Resources regulates the licenses for the working of the subsoil. This agency also supervises and develops standards for environmental protection.

Throughout the privatisation of the industry three agencies affecting market relations have been important. These are the anti-monopoly agency (GKAP) which regulates mergers and acquisitions; the Federal Securities Commission (FSC) which has to approve share expansions and consolidations; and the Federal Bankruptcy Commission (FBC), which, in conjugation with the judiciary, regulates bankruptcy proceedings and appoints external management.

In 2001 the Ministry of Energy's department on PSA was transferred to the newly created "super" Ministry of Economic Development and Trade.⁶¹³ However, the state's appointed negotiator remains, as before, Rosneft and Zarubezneft,⁶¹⁴ while the state Duma and local authorities decide which fields are eligible for PSA.

Finally, although some oil industry-interest organisations (like the Moscow International Petroleum Club, the Union of Oil Industrialists and the Energy of Russia faction under Medvedev in the Duma) have been established, these are not formal lobbying organs similar to the ones one would find in most western economies. The reason for this has been attributed to the relative

⁶¹³ RF Government Decision № 86 (2.2.2001), '*O merakh po sovershenstvovannuyu deyatel'nosti federal'nykh organov ispolnitel'noi vlasti po podgotovke, zaklocheniyu i realizatsii soglashenii o razdele produktsii, a takzhe po kontrolyu za ikh realizatsiei* [On measures to improve the Federal executives agencies responsible for the drawing up, conclusion and implementation of production sharing agreements, as well as for the monitoring of their implementation]'. *Sob.Zak.* no. 7 (2001), st. 653. The decision sought to make PSA more effective by combining some of the functions previously held by the Ministry of Energy and the Ministry of Natural Resources. In 1998 the PSA portfolio in the Duma had been moved from the reform-minded Natural Resources Committee to committees of a more conservative nature – the Economic Policy Committee and the Committee on Industry, Transportation, Energy and Construction. (*AMCHAM/USRBC Issue Brief*, American Chamber of Commerce in Russia, September 1998. Prepared for the Clinton-Yeltsin Presidential Summit Moscow, Russia, September 1-2, 1998).

⁶¹⁴ Interviewee # 9.

insignificance of the legislative, the oil industry's divergence of interest from the conservative majority of the Duma, and the lack of common interests between the VICs.⁶¹⁵ However, the oil industry, like the remainder of big business in Russia, work through the influential Russian Union of Industrialist and Entrepreneurs (RSPP).⁶¹⁶

The role of the Ministry as a vehicle for purveying industry interest has been reduced by the companies' more direct contact with the government, parliament and presidential administration. Such contact is both individualistic and in groups.⁶¹⁷ The Russian oil companies are also represented on an advisory forum to the Ministry of Fuel and Energy. For the international companies the Petroleum Advisory Forum (PAF) acts as a co-ordinating organ (though with very low influence). The IFIs in many respects also advance the interests of the international oil companies, by advocating economic and political reforms akin to those in which these companies are used to operate.

Thus at the end of the 1990s the Ministry's chief role is:⁶¹⁸

- the development of strategic programmes and advising the government;
- preparing legislation on investment policy, an advisory role in taxation development, and co-ordinating the interests of the industry;
- to develop short and long-term energy balances;
- finally the Ministry has limited operative influence through the approval of field development plans,⁶¹⁹ and participation in transport regulation.

According to former Minister of Fuel and Energy (1997-1998) Kiriienko: 'The Ministry of Fuel and Energy of the Russian Federation has to tackle two

⁶¹⁵ Pleines, *op cit.*, p. 24. According to Interviewee # 12, 'there is [only] the interest of oil companies concerning more easy access to export pipe [and concerning] [...] lower export tariffs or some other tax advantage, but otherwise the interest of the oil companies divert because they are competitors'.

⁶¹⁶ Interviewee # 3. 'They [Russian oil companies under the leadership of the RSPP] have regular meetings with the leadership of the country and the president where they are expressing their views. It seems that very often they are heard by the leadership'. (*Ibid.*)

⁶¹⁷ Interviewee # 7.

⁶¹⁸ Unless otherwise stated the following information is based on interviewee # 4.

⁶¹⁹ Interviewee #1.

tasks at a time – to provide the national economy with fuel and energy and carry out reforms'.⁶²⁰ Herein also lies the Ministry's dilemma. While the former is an operative goal the latter is a strategic goal. Given the importance of energy to political legitimacy the operative goal is likely to dominate the strategic goal. The former Minister admitted that 'the fuel and energy sector is of too great political and social importance for Russia' to let market relations be the sole guiding principle.⁶²¹ If the Ministry is seen as pursuing its operative goal rather than its strategic goal it will be seen as an obstacle to reform by parts of the industry. Conversely, if the Ministry is seen as pursuing reforms too vigorously it might lose its political significance to other state organisations.⁶²²

The Ministry is now a far cry from its former dominant position, however the question remains whether these reorganisations have truly altered the functioning of the economy to such an extent that one really can speak of new economic relations.

The Soviet economy was co-ordinated by use of a rigid ministerial framework of governance that served as the executive institution in terms of conveying

⁶²⁰ Kiriienko in Ministry pamphlet '*Ministerstvo Topliva i Energetiki Rossiiskoi Federatsii* [Ministry of Fuel and Energy of the Russian Federation]', Ministry of Fuel and Energy, no printing details. Given to the author at a meeting in the Ministry in March 2002.

⁶²¹ *Ibid.* An example of the importance of oil is the Ministry of Economic Development and Trade's latest estimate for GDP growth in 2004. It estimates that given an oil price of \$18.5 per barrel the economy will grow 3.8%, while a price of \$22 per barrel will fuel a growth of 4.7%. ('GDP Growth Scenarios', *Moscow Times*, 20.3.2003).

⁶²² According to one report this might already be a very near possibility. After the government's announcement of an open-tap policy on Transneft exports in 2001 the Ministry of Fuel and Energy has gradually lost its political influence. The government has even gone so far as denouncing it as an 'bureaucratic lobbying device for the oil industry' and contemplating its disbanding. (Mazalov, *Oil Sector Report*, Troika Dialog, 2001, p. 50). During the author's visit to the Ministry in 2002 extensive reconstruction and refurbishment was undertaken. According to one senior ministry official the oil companies collectively footed the bill. (Interviewee # 5). Commenting on the relationship between the Ministry and the oil industry, one industry executive said: 'I think that you find them having less and less power. The other process that has gone on is a general loosening of government control, and an ending of regulation that was set up for the sake of regulation. We find ourselves less and less dependent on the ministries. In the past it was always 'how can we minimise the control they have over us and maximally get around it', now we are more thinking 'how can they actually serve us well, effectively as a regulator and actually help the industry to grow?' I think you will find that over the past couple of years the relationship has really been normalising. They have a lot less power of the day to day things over which they shouldn't have power, and the start to gain power of things that they should have power...such as working to create a more stable pricing environment in Russia'. (Interviewee # 2).

formal political goals to operative levels and channelling information from the operative levels to the strategic organisations. Performance was evaluated and monitored through the system of plan formation and incentives (bonuses) that were closely connected to the system of rent extraction. With the demise of the Soviet Union this system of co-ordination started to unravel. In the late Soviet period several factors affected the state's ability to monitor the system. Firstly, an adverse structure of incentives that promoted self-interest. Secondly, diminishing returns to investment (monitoring) as a result of an excessive organisational structure. Finally, at the very end, the lack of credible threat of coercion.⁶²³ The Soviet economic structure had been geared to promote the political interest of a discredited leadership through an institutional matrix emanating from the structure of state power.

In this respect the overlap of authorities and responsibilities served to maintain the structure in a state of competition that enhanced the centre's patrimonial-despotic power. In the post-Soviet era the development of the Ministry's role in the regulation of the oil industry illustrates a similar approach. Gradually however, the responsibilities of the different administrative parts have begun to crystallise. In this respect there has been a general shift away from the previous branch oriented structure to a structure where more strategic ministries (Ministry of Finance, Ministry of Taxes and Ministry of Economic Development and Trade) have seen their participation in the oil industry increased.⁶²⁴ While this on the one hand has "freed" the Ministry to concentrate on strategic rather than operative issues, it has also reduced its relevance. From a state point of view, economising on transaction costs can now better be done through the non-branch ministries. At the same time

⁶²³ Harrison, 'Coercion, Compliance, and the Collapse of the Soviet Command Economy', *Economic History Review*, 2002, vol. 55, no. 3.

⁶²⁴ 'All the energy sectors here, and all the trade and state organisations – the Ministry of Economic Development [& Trade] [MEDT] – we have a lot of things that overlap. The MEDT has some departments specifically acting in the energy sector, and of course we have in our ministry a department that determines the economic policy in the energy sector and is very close with this ministry [MEDT]. We have very close contact with the Ministry of Natural Resources – nuclear is not our responsibility. After Chernobyl it was divided into two ministries and is now a separate matter. Of course in a lot of political issues we have contacts and relations with the Ministry of Foreign Affairs. With the Ministry of Finance it is necessary because a lot of problems need financing and MinFin is responsible for making decisions on these issues'. (Interviewee # 4).

maintaining an element of overlap is desirable (for the state) as this reduces the threat of upsetting the relative bargaining strength of the respective structures of policy implementation. All the main administrative organisations involved in the regulation of the oil industry (Minenergo, Minprirody, MinFin and METD) in addition to regulating their aspect of the oil industry pursue their own ends as well. This leads to a situation where there is a constant element of "bureaucratic competition" that the state can utilise in order to restrain the bargaining power of each organisation.

Thus, although the Ministry has lost much of its "former" authority this does not necessarily imply that the present mode of interaction (transacting) has changed significantly. For instance in the case of the oil industry spatial distribution had aggravated dysfunctions of the Soviet economic model, however in the post-Soviet era spatial distribution is set to increase. Although economising will be possible the reserves and deposits remain put after the Soviet Union as well. The state would in the immediate post-Soviet period be more reliant on oil and gas revenues than at any time before as the industry in a competitive market was expected to alter its product mix. Thus there would be a lag before state's revenues could be based on renewed growth in industrial production.

A similar situation was present with respect to state power. The Soviet Union had been based on a system of despotic-patrimonial structures of state power. There had been a high degree of state capture. Personal connections had pervaded politics as well as industry. In order to achieve a shift to a competitive market environment these institutions would have to change, as bureaucratic non-personal trust relationships replaced the old institutions. However, Russia has had no experience of this type of state power in its history. There were no historic institutions or social capital on which to base these new institutions.⁶²⁵ In other words Russia faced a reform situation similar in complexity to that experienced in the 18th century (Peter the Great) and the Bolshevik *coup d'état* early in the 20th century, how to change a

⁶²⁵ A different viewpoint can be found in Petro, *The Rebirth of Russian Democracy: an Interpretation of Political Culture*, Harvard University Press, 1995.

development path and avoid the restitution of traditional institutions? Implied in the above is not that Russians have an ingrained inclination towards authoritarian regimes, but rather that authoritarian regimes and power structures have been dominant throughout Russia's history. As such the institutions fostered by this experience will constitute the foundation of path dependency in state power through the historic weight of political, economic and social traditions.

In the case of the oil industry its operative framework has changed considerably. There is no longer a single ministry responsible for operational decisions, there are more places of interaction with the state apparatus than previously, and there is horizontal as well as vertical communication, which may increase the speed and accuracy of information. All these factors create a formal setting that could ideally generate a development shift. However, it is not only the form but also the substance of this framework that will determine to what extent a shift is possible. In this respect the reforms in the organisational framework illustrate the state's search for methods of reducing transaction costs associated with the appropriation of income and resources.

State-industry and inter-industry relations.

With privatisation and later consolidation of the oil industry the *loci* of interaction between industry and state and inter-industry changed. Previously interaction between industry and state was regulated through the ministerial structure with separate channels of interaction existing through the party's structure or by direct contact with the authorities in Moscow. Inter-industry interaction was similarly regulated through the ministerial structure. However, informal practices existed that served to enhance intra industry interaction.

Common for either structure of interaction was its non-monetized character. Orders and allocation of resources governed state-industry relations, while informal inter-industry relations took the form of favours and barter. Personalised networks and trust relationships under such circumstances were

conducive to the reduction of transaction costs. In a situation where the state was unable to satisfy all demand for goods and services, personalised trust relationships (networks) served to ensure stability of supply and reduce the threat of punishment.

Market economies, on the other hand, are to a great extent dependent on non-personalised exchange relationships with prices serving as means to monitor and control demand. Property rights and the enforcement of such create the basis upon which revenues are created. These are in many respects the foundations of market economies, instrumental in creating a competitive environment and reducing the costs of transaction.

Barter, non-payment and rent extraction. The radical reform process under Gorbachev was supposed to shift the economy from an administrative economy to contractual based forms of interaction. However, even prior to the collapse of economic output and political stability in the early 1990s the circumstances under which the reforms were introduced were less than favourable. Shortage was already pervasive, property rights had been contested for a long time (a process of clarification was just beginning) and rapid inflation beginning with price liberalisation made money a less efficient medium of exchange. Given these circumstances the Russian structure of economic interaction was stuck in a halfway house. The structure of old was being built down, while the expected new institutions could only function under the given circumstances at a prohibitive premium.

Instead of shifting to market based institutions of interaction the informal and residual Soviet economic institutions came to fill the institutional gap. Integration of industry, finance, and politics became a means to overcome supply side constraints. The establishment of financial-industrial groups (FIG) was a response to the transaction cost premium represented by market economy institutions. These organisations enabled the continued functioning of individual units by ensuring lower transaction costs between their members

and enabling continued operation.⁶²⁶ The FIGs represent a continuation of reliance of personalised exchange relationships in order to reduce transaction cost, and secure supply side stability.⁶²⁷ Ledeneva argues that such personalised exchange relationships characterised the relationship between industrial firms and the local/regional authorities as well.⁶²⁸

Non-monetization of the economy and non-payment likewise find their antecedents in Soviet informal economic institutions. A lack of credible threat of hard budget constraints resulted in continued over demand by enterprise managers that resulted in arrears. This was especially so in company towns where a single (or few) firm(s) was the employer,⁶²⁹ as is often the case in the oil industry. The state's commitment to maintaining an "acceptable" standard of living resulted in it condoning enterprise behaviour in exchange for political income.⁶³⁰

The absence of a capital market made the evaluation of a firm's creditworthiness fraught with uncertainty as the data necessary to evaluate the firm's performance was missing. Thus both missing capital-markets and soft budget constraints contributed to the continuation of personalised exchange relationships. Costliness of information was less in personalised exchange relationships as the network would have better access to information concerning a firm's bottom line than agents of non-personal exchange. Soft budget constraints contributed to the integration of industry-politics relations, particularly at regional level where the transaction cost of such exchange was

⁶²⁶ On FIGs in general see Johnson, *op cit.*, pp. 333-365. On relations between the oil industry and financial groups see Kryukov & Moe (1998).

⁶²⁷ Vasiliev's argument is similar: 'Administrative effectiveness in the economy rapidly vanished as traditional distribution systems disintegrated...Enterprises belonging to associations began to build horizontal links, and to establish informal industrial-financial groups. The official creation of such groups today merely recognises and formalises their *de facto* existence'. (Vasiliev, 'The Political Economy of Russia's Reform', Working Paper of the Stockholm Institute of East European Economies, 1994, No. 100, reprinted in Vasiliev, *Ten Years of Russian Economic Reform: A Collection of Papers*, Centre for Research into Post-Communist Economies (CRCE), 1999, p. 88).

⁶²⁸ Ledeneva, *op cit.*, p. 326.

⁶²⁹ Ickes & Ryterman, 'The Interenterprise Arrears Crisis in Russia', *Post-Soviet Affairs*, 1992, vol. 8, no. 4, p. 334 and footnote 7.

⁶³⁰ Treisman (2000), *op cit.*, p. 238.

less than at federal level.⁶³¹ The state in reality condoned the development of barter exchanges and non-monetary means of settlement by a continuous infusion of net credits into the economy through its *de facto* acceptance of tax arrears and non-monetary forms of tax settlement.⁶³²

However, as Ickes and Ryterman observe: 'payments that appear to be formally identical to those prior to January 1992 have very different systemic effects because of two factors: the end of the guarantee of solvency and the inadequacy of reserves held in the system to smooth payments. These two factors raised the demand for financial information about the enterprises precisely at the moment when the amount available decreased dramatically'.⁶³³ While as the informal economic institutions of the Soviet economy had contributed to the "successful" functioning of the Soviet system, these informal practices were not conducive to supporting the growth of market based institutions. As opposed to the Soviet economy where they reduced transaction costs, in the post-Soviet setting they contributed to increased intra economy transaction cost (excluding networks).

Arrears and barter where means for enterprise managers to continue the contestation of property rights before the clarification and redistribution of these had been initiated/completed.⁶³⁴ Barter allowed the firm to trade at "market clearing prices" rather than cost prices. Selling at below cost price was prohibited. However, the purchasing power of industry in many cases remained below cost. Thus barter allowed the firms to report inflated contractual prices. Tax on profits in these cases would be calculated at reported price, while in reality no "taxable" profit had been made. Offsetting taxes against produce would again reduce net taxes. Tax evasion was also a motive in barter arrangements where solvent customers existed.

⁶³¹ Treisman (2000), *op cit.*, p. 239.

⁶³² Commander & Mumssen, 'Understanding Barter in Russia', *EBRD Working Paper*, 1998, no. 37, pp. 9-11, 16.

⁶³³ Ickes & Ryterman, *op cit.*, p. 343.

⁶³⁴ This paragraph is based on Treisman (2000), *op cit.*, pp. 230-240.

Finally the gradual liberalisation of trade and prices extended the opportunities of rent seeking. Whereas previously "manager rent" had been extracted by means of diversion of cash flow and resource flows to private ends, liberalisation of prices and trade allowed managers to extract the differentials between various official prices and market prices.⁶³⁵ Both form and substance of this method of rent seeking can be interpreted as an extension of the previous struggle over property rights. The Soviet state had used the difference in domestic prices and world prices to appropriate a rent that was unassailable from the plant directors' point of view. With gradual liberalisation of trade and prices, this mechanism of extracting rent became available to the *de facto* owners as well.

Several regional exchanges were established in order to participate in this form of rent extraction. These regional exchanges appropriated part of the former state monopoly on economic and political rent extraction in that they excluded the federal authorities from the redistributive process.⁶³⁶ With the consolidation of the industry and the eventual liberalisation of prices and trade these mechanisms of rent extraction lost their appeal. The *loci* of rent extraction again shifted towards the federal authorities, through its control of export licenses, taxation and the transport infrastructure, and the holding companies once these had consolidated ownership and controlled internal cash flow.

Although oil prices theoretically have only been restricted by export capacity, quotas and export duties, the lack of solvent demand remains a problem. Only 5-10 per cent Russian domestic oil is traded at open markets,⁶³⁷ with the majority of "trade" taking place in house, i.e. between producers and refiners within the same group. Again the consolidation of the companies and the establishment of a single revenue and cost centre has reduced the problems of

⁶³⁵ Åslund, *op cit.*, pp. 109-112.

⁶³⁶ Sagers, 'Soviet Commodity Exchanges Trading in Oil', *Soviet Geography*, 1991, vol. 32, no. 7, pp. 513-515. See also the interview with Sergei Denisov (President of the Tyumen Commodity Exchange), 'Neft': *Valyuta ili tovar?* [Oil: Currency or commodity?], *Ekonomika i zhizn'*, December 1991, no. 51, pp. 8-9.

⁶³⁷ Allen & Henderson, *Valuations Overstate the Risk*, Renaissance Capital, Feb. 2001, p. 36.

industry non-payment and altered the structure of rent extraction (payment agreements still exist with the federal authorities).⁶³⁸

Patrimonial structures of state power. The protracted process of implementing a new administrative framework, its lack of coherence and the constraints placed on the development of the oil policy contributed to a situation where the reform process became stuck in its tracks. The overly political nature of the industry made economic considerations secondary to short-term political objectives. This was exaggerated by the departure of several reform-oriented politicians from the government in 1993/1994.⁶³⁹ In the absence of clearly defined 'rules of the game' the industry continued to rely on previously established patterns of behaviour.⁶⁴⁰ This is in line with new institutional thinking in that in a situation of uncertainty, with respect to return on investment in "new economic behaviour" and institutions, agents are more likely to act in accordance with previous patterns of economic behaviour since returns remain calculable.

This simple conclusion worked both ways. From an industry point of view continued lobbying of the executive remained the preferred course of action in that the probability of protecting their mechanisms of wealth maximisation in the short run would be more assured. A new structure of economic interaction would at the outset of reform seem less likely to protect the active parties from unwanted interference in the redistribution of property.

Similarly from an executive point of view the reliance of previous patterns of income establishment would allow the government to have a guaranteed level of income, both in terms of political and economic rent. Furthermore, expanding the patrimonial network also served as a means to tie a greater part of the constituency to the political and economic structure. Thus until such

⁶³⁸ Interviewee # 11.

⁶³⁹ Åslund, *op cit.*, p. xiii.

⁶⁴⁰ In a study of the wholesale trade sector in Moscow Treisman argues that 'in the loosely institutionalised, rapidly evolving Russian economy, connections matter. Furthermore, they continue to matter even after a year and a half of liberalised price setting and repeated attempts to impose financial discipline on enterprises. Markets appear not to be replacing but

time that a coherent framework of administration and management had been established, its implementation guaranteed and "player" adherence to the 'rules of the game' the previous structure of state power and state-industry interaction (hierarchical bargaining) would promise greater *ex post* stability in terms of rent extraction. Hence, a patrimonial structure of state power and industry relations continued to dominate Russian economic behaviour.⁶⁴¹ This again led to a situation that was non-conducive to the emergence of a 'rule of law' based economy and society. The situation conforms to Åslund's description of Russia as a rent seeking state or an intermediary reformer.⁶⁴²

In a despotic-patrimonial system the 'rule of law' (or *ex post* stability) would give the state less strategic room for action. It is precisely the state's monopoly in generating *and* interpreting the rules at any given time that empowers the state *vis-à-vis* industry. Such *ex post* uncertainty is, for instance, reflected in the state's attitude to forward contracting and industry long-term strategy. An important element of an internal energy market would be the ability for industry to engage in forward contracting, which would generate greater income stability and a lower cost of capital. However, both the Central Bank and the courts refuse to honour forward contracting describing it as a form of gambling.⁶⁴³ The result has been the increasing need for forward integration and less room for small independent producers that will find it harder to generate a profit at the present low internal prices.

Secondly, the state seems to lack a long-term sell-off/development strategy, i.e. when, where and what volume of reserves will be available to industry. Such plans are made on a short-term basis, making it less attractive for the

fusing with systems of personalised political redistribution'. (Treisman, 'The Politics of Soft Credit in Post-Soviet Russia', *Europe-Asia Studies*, 1995, vol. 47, no. 6, p. 967).

⁶⁴¹ A foundation of the Soviet system of patrimonial power had been the state's monopoly on creating organisations that "legally" could participate in the circulation of rent and resources. Kounov and Sitnikov argue that 'the constitutional origins of government corruption and inefficiency [in post-Soviet Russia] can also be traced to the unrestricted power of the President to expand his administrative apparatus or even create new decision-making structures that were not spelt out in the Constitution'. (Kounov & Sitnikov, 'The 'Constitutional Economy' of Russia: Political Roots of Economic Problems', *Russian Economic Trends*, 1999, vol. 8, no. 4, p. 10).

⁶⁴² Åslund, *op cit.*, p. 3.

⁶⁴³ Interviewee # 11.

industry to pledge investments in greenfield-development and opening up new areas of production.⁶⁴⁴ Finally, the continued uncertainty surrounding the tax regime, makes long-term investment in Russia less attractive and discounts the revenue the state will be able to make from the sale of assets. According to Khodorkovsky examination of Russia's tax regime has been discussed more than 50 times over the last decade.

A despotic-patrimonial structure of state power has been evident in the processes redistributing property rights, the development of an administrative framework, the collection of rent and the interaction between industry and state representatives. In her study Ledeneva analyses the continuance of the Soviet practice of *blat* in the modern Russian setting. '*Blat* is often used to invest...[in] business, *blat* is most necessary for access to bureaucratic decision making and information, especially where bribery is impossible...[the] licence will be issued not to the one who provides the biggest bribe, but to the one who has the most *blat*, who is the friend of the son of the head of the regional administration'.⁶⁴⁵

According to Tatur *blat* relations contribute to an obfuscation of the public and private sphere by eliminating the distinction between private interest and public functions, thus negating the 'idea of the public good, the public ethic and universal norms', which blocks the development of social modernisation.⁶⁴⁶ These institutions are more conducive to the continuance of a despotic patrimonial structure of state power than the development of a bureaucratic infrastructural state power. As such the present patrimonial structure of state power has been shaped by the regimes institutional inheritance. The Bolshevik leadership had come to rely on a patrimonial system of state power in order to channel sufficient rent towards the centre in order to maintain its existence. Modern Russia faced a similar situation where *de facto* control over rent was exercised outwith the state's control due to the

⁶⁴⁴ Interview with Khodorkovsky. Sivakov, *Vlast' bol'shoi nefi* [The power of big oil], *Ekspert*, 2003, no. 4 (3.2.2003). At: <http://www.expert.ru>.

⁶⁴⁵ Ledeneva, *op cit.* pp. 320-336.

contestation of the state's right to property appropriation. A large share of revenue claimed by the state could only be accessed through bargaining with regional governors, private financiers and corporate heads.⁶⁴⁷

An example of patrimonial state power (though not a proof of illegality) is the recent disputes surrounding Northern Oil. In the spring of 2001 the company won the development license to the Val Gamburgtsev field in the Nenets Autonomous Region for which it paid \$7 million, while its competitors claim they offered \$100 million.⁶⁴⁸ The Ministry of Natural Resources subsequently annulled the license, but Northern Oil has nonetheless proceeded with the development of the field. Upon the sale of the company to Rosneft in 2003 the Ministry of Economic Development and Trade sent a letter to the Supreme Arbitration Court asking it not to annul the license as this would reduce the valuation of Rosneft.⁶⁴⁹ The regulation of the dispute in the Supreme Arbitration Court had been stalled repeatedly.⁶⁵⁰ Separate from the license dispute LUKoil has been entangled with Northern Oil in an ownership dispute. LUKoil's subsidiary Komineft held a 25 per cent stake in the venture, but following a share expansion its share dropped to nothing.⁶⁵¹ At the same time LUKoil has been embroiled in a longer dispute with the governor of Nenets Autonomous Region Vladimir Butov, whom the company accuses of hampering the development of the industry, while the governor accused LUKoil of trying to obtain a monopoly position in the region.⁶⁵²

It is unlikely that Northern Oil would have been in a position to fend off both the Ministry of Natural Resources and LUKoil without its actions being

⁶⁴⁶ Tatur, *op cit.*, pp. 280-81. Ellman argues that post-Soviet Russia lacked a state that 'could reasonably be seen as the defender of the public interest'. (Ellman, 'The Russian Economy under El'tsin', *Europe-Asia Studies*, 2000, vol. 52, no. 8, p. 1418).

⁶⁴⁷ Easter, 'Institutional Legacy of the Old Regime as a Constraint to Reform: The Case of Fiscal Policy', in Harter & Easter, *op cit.*, p. 303.

⁶⁴⁸ Tutushkin & Becker, 'Vavilov stal bogach na \$600 mln [Vavilov became \$600 million richer]', *Vedomosti*, 13.2.2003.

⁶⁴⁹ Bushueva & Becker, 'Passivnaya zashchita [Passive protection]', *Vedomosti*, 6.2.2003.

⁶⁵⁰ Tutushkin & Becker, 13.2.2003, *op cit.*

⁶⁵¹ *Ibid.*

⁶⁵² Tutushkin, 'LUKoil i Butov podružilis' [LUKoil and Butov made friends]', *Vedomosti*, 25.10.2002. In July 2003 an arrest warrant was issued for Butov based on the alleged striking of a traffic police officer. Butov denied the charges and claims that LUKoil is behind the allegation. (RFE/RL NEWSLINE Vol. 7, No. 145, Part I, 1 August 2003).

condoned at both regional and federal levels in the form of regional authority and the Ministry of Economic Development and Trade.⁶⁵³ The disputes surrounding Northern Oil demonstrates the strategic space available for patrimonial structures of state power generated by the lack of a clearly defined and implemented legislative framework. Firstly, tenders themselves remain non-transparent. Secondly, the venues for conflict solving *ex post* are dominated by the respective agents' ability to draw upon political support and/or influence the judiciary.⁶⁵⁴ Neither is conducive to the establishment of the 'rule of law' that is a necessary condition for the establishment of a constitutional-bureaucratic infrastructural structure of state power.

A different aspect of the patrimonial structure of state power has been the collection of rent. Although in theory taxation and collection of such was regulated by various parliamentary enactments the inability of the state to collect income has been another example of continued contestation of what really belonged to the state. In the Soviet period ministry officials and enterprise directors bargained with state officials over levels of output and use of resources.⁶⁵⁵ Kryukov describes this process as one of 'institutional bargaining'.⁶⁵⁶ Throughout the 1990s good political connections were important in order to receive larger-than-average access to the pipeline system.⁶⁵⁷ In terms of rent payment final product accounted for and delivered to the state represented income. The diversion of resources, false reporting and theft represented the part of income being claimed by non-state officials. With the demise of the Soviet Union and the beginning of reforms in Russia

⁶⁵³ According to Interviewee # 12, 'BP's failure in 1990s in Russia, is also attributed to neglecting [the] role regional authorities are playing'.

⁶⁵⁴ Reciprocity remains an important form of economic relations. (Ellman, 2000, *op cit.*, 1419). Asked about the importance of personal connections Interviewee # 1 answered 'Yes! It is one of the elements of the business-culture. I don't think it is always bad, because in some cases it is useful. It is not necessarily connected with corruption, if the people know each other it is much easier to get into business – contra two strangers talking where there always will be some suspicions'.

⁶⁵⁵ The use of the word state officials is somewhat tenuous here since all industry, ministry, party and government officials as such were state officials.

⁶⁵⁶ Kryukov (2001), *op cit.*, p. 173.

⁶⁵⁷ According to Mazalov (*op cit.*, p. 53) political connections in this respect may become less important since the change in government attitude to Transneft export access and improved informal understanding between the companies. However, in the case of a change in export prices leading to fall in profit margins, or reaching the export ceiling it remains to be seen

this bargaining process altered in form but not substance. In light of a regulatory framework still under elaboration and a lack of reform coherence industry representatives were able to continue the bargaining process. Hierarchical bargaining now occurred with respect to 'fiscal benefits, licenses for oil exports, and other privileges for the oil sector'.⁶⁵⁸ In return the State was able to secure state order deliveries and later taxes and levies.⁶⁵⁹

Kryukov argues that a modification of the hierarchical bargaining process was motivated by the declining return on investment in the oil sector. Having based its economic policy on the revenue forming role of the oil and gas industry the decline in relative rent during the late 1970s and 1980s brought about a need for direct globalisation of the industry. The industry would thus be able to independently access international financial and equipment markets lowering the burden on the state. 'Thus the process of initial horizontal (or 'direct') globalization and vertical integration were supposed to transform the institutional framework of the oil sector in such a way as to preserve its substantial income-forming role and provide for the maintenance and development of its economic potential, without changing the form of ownership'.⁶⁶⁰

As a result the previous contest of property and income was part of the motivation behind state-industry relations. The clarification of *de jure* ownership rights through the privatisation process altered the structure of the contest. As property became defined and the structure of ownership (shares) become settled the state increasingly came to rely on taxation and levies in order to generate rent. From an industry point of view minimisation of tax

whether the 'gentlemen's agreement' between the companies with respect to export access survives.

⁶⁵⁸ Kryukov (2001), *op cit.* 173. According to interviewee # 3, '[When] Rosshelf was awarded production licences offshore in the Barents Sea they were obliged to keep the former military-industrial enterprises in a working mode so to say, and to employ people and to make orders with these enterprises in exchange for licences'.

⁶⁵⁹ Kryukov (2001), *op cit.* 173. According to one of the interviewees 'Unfortunately due to the non-payment of taxes, which we now are about to overcome, made the oil companies' position a little bit special. In some cases the government negotiated with Gasprom or LUKoil or other big companies that they will pay taxes in the full size, and in return they get something'. (Interviewee # 1).

⁶⁶⁰ Kryukov (2001), *ibid.*

payment is not a Russian phenomenon. However, in addition to legal minimisation of tax, by means of the many loopholes provided for in the tax legislation,⁶⁶¹ bargaining with tax officials over dispensations and withholding tax payments extended the previous hierarchical bargaining process to the “new” environment. According to one source, tax arrears to the state formed part of the previous redistribution pattern in that energy companies delivered resources to insolvent customers, these losses were then “offset” against tax arrears.⁶⁶²

In effect this was a continuation of the previous mechanisms of subsidisation. With the clarification of the property rights and consolidation in the oil industry the level of barter and offsets in the oil industry declined substantially.⁶⁶³ Industry executives the author has spoken to have also confirmed this. These claim that once ownership of the companies were concentrated in private hands debts to the state and workers began being paid off.⁶⁶⁴ Thus, the shift of *de jure* rights from the state to private investors has altered the ability of the state to use the sector as a strategic medium. While still in state hands the hierarchical bargaining process and collection of income had similarities to the Soviet system both in form and substance, with the privatisation and consolidation of property this process has changed – at least in form, if not entirely in substance.

⁶⁶¹ For instance Sibneft minimised its tax payments by use of invalids in Kalmyk and Chukotsk women trading firms. These regional organisations enjoy tax privileges, in addition a further reduction of tax was obtained if half the staff was made up of invalids. This mechanism of tax reduction was eliminated with the new tax framework that came into operation on 1.1.2002. (Neimysheva, ‘*Nefetreidery-invalidy* [Oil trading invalids]’, *Vedomosti*, 18.12.2002.) It is unlikely that Sibneft was the only company taking advantage of the many loopholes that existed in the old tax framework. All the oil majors have reported reduced profits in 2002 due to changes in the tax framework. (See individual financial statements at company websites: LUKoil; Yukos: Surgutneftegaz; TNK; Sibneft). LUKoil until 2002 leased two of its refineries (LUKoil-Volgogradneftepererabotka and LUKoil-Ukhtaneftepererabotka) to Polikon, a firm registered in Baikonur. According to a Russian-Kazakh bilateral agreement firms registered in this city are exempted from excise payments on petroleum. Although not strictly illegal LUKoil agreed to pay extra taxes in order to maintain a good working relationship with the authorities. (Neimysheva, ‘*Illyuziya l’got* [Illusion of privilege]’, *Vedomosti*, 6.2.2003).

⁶⁶² Treisman (2000), *op cit.*, p. 234.

⁶⁶³ *Ibid.*, table 5, p. 232 and footnote 9.

⁶⁶⁴ Interviewees # 7 & 11.

The government's best tool in this bargaining process has been its control over the pipeline infrastructure and export rights. On several occasions the government has stopped pipeline and export access in order to force the oil companies to pay tax arrears.⁶⁶⁵ However, the state's control over the pipeline and export infrastructure has been used to pressure the oil companies to fulfil political goals too. For instance, in 1998 several oil companies lost their export rights due to their preference for selling crude oil abroad rather than delivering crude to domestic refineries.⁶⁶⁶ In the spring of 1999 the government threatened to reduce export access in order to ensure sufficient deliveries to the agro-complex.⁶⁶⁷ While tax evasion and arrears were frequent and costly in all sectors in the early to mid 1990s,⁶⁶⁸ the level of tax collection in the oil industry has been significantly improved. Tax collection in the late 1990s-2000 was on average 80-85 per cent in the oil industry compared with 40-50 per cent for the economy as a whole.⁶⁶⁹

In light of the state's ability to utilise the pipeline system for non-economic as well as economic purposes it is perhaps understandable that the state is unwilling to give up its transport monopoly. In 2002 LUKoil, Yukos, TNK and Sibneft proposed to build a pipeline outside Transneft's network shipping oil from Western Siberia to Murmansk with the construction of a deep sea port. However, Prime Minister Kas'yanov in January 2003 replied that any pipeline system without state control, and thus its tariff setting authority, was inconceivable.⁶⁷⁰ With rising oil production in the past four years export capacity has become an important issue and the majors have increasingly

⁶⁶⁵ '6 Oil Firms Pay \$1.1Bln in Tax Debts', *Moscow Times*, 21.11.1997.

⁶⁶⁶ Borisova, 'Oil Firms Sent Scrambling After Losing Export Rights', *Moscow Times*, 24.11.1998. The companies were Rosneft, Sidanko, Slavneft, Tatneft, Sibneft and Onako.

⁶⁶⁷ Semenenko, 'Farmers' Needs Threaten Oil Exports', *Moscow Times*, 21.4.1999.

⁶⁶⁸ Treisman (2000), *op cit.*, table 5, p. 232.

⁶⁶⁹ Konoplyanik *et al.*, 'Glava 9 – Rossiiskaya energeticheskaya politika i razvitie neftegazovogo kompleksa [Chapter 9 – Russian Energy Politics and Development of the Oil and Gas Sector]', 2000, Part 10. At: <http://www.enippf.ru>.

⁶⁷⁰ Bushueva & Becker, 'Truba – ne chastnoe delo [Pipelines are not a private business], *Vedomosti*, 13.1.2003. However, the outcome of the issue is not yet settled as the oil companies have begun to exert pressure on the government. (Belton, 'Kremlin, Big Oil on Collision Course', *Moscow Times*, 28.1.2003). In April 2003 the government came with some concession to the oil companies. According to Energy Minister Yusufov 'the government has for the first time made public its position that the state is not trying to fully own new pipelines, but it reserves itself the right to monitor and regulate the transport infrastructure'. (Yenukov, 'Private Pipelines Get State's Backing', *Moscow Times*, 18.4.2003).

sought to participate in the construction of new pipeline capacity. Yukos and TNK have, in co-operation with Transneft, long championed the building of a pipeline to eastern markets China and Japan. Increasingly oil is leaving the country via rail and small ports as well.⁶⁷¹

State capture. One of the greatest (if not *the* greatest) challenge for the successful transition to a new development path will be the state's ability to create a level of autonomy. Such state autonomy would be the basis upon which to build a bureaucratic structure of infrastructural power. 'State capture commonly refers to the extent to which government policy-making is unduly influenced by a narrow set of interest groups in the economy who provide private benefits to politicians'.⁶⁷²

In the Soviet Union resource shortage and the high level of political income extracted through the structure of state power made state autonomy difficult. This was reflected in the "planning" process and the proliferation of informal institutions based on personalised exchange relationships – the patrimonial structure of state power. The Communist Party in this respect served as the integrating force between state and industry interests.⁶⁷³ The effort of the party and ministerial structures enabled a dialogue between *de jure* owners and *de facto* owners, a dialogue that was essential for the state to collect the life sustaining level of revenue.

With the demise of the Soviet Union the new Russian leadership found itself in a similar situation. However, during the last decade of Soviet power the institutions maintaining the flow of resources and rent had gradually been

⁶⁷¹ Zhdannikov, 'Oil Exports Fall Despite Record Output', *Moscow Times*, 5.11.2002. While the official level of export via Transneft's pipeline system stood at 2.65 million bpd (Russian only), oil traders estimate that the real level of oil leaving the country is about 4 million bpd (including some 430 000 bpd in transit). The official level of shipping outside Transneft (rail and small ports) is some 120 000 bpd. At the same time it is estimated that capital flight in 2002 remained at a level stable since 1996 ranging from \$12.5 billion (Central Bank) to \$25 (Troika Dialog). (Lavrentieva, 'Capital Flight Soared in 2002, Most Economists Say', *Moscow Times*, 15.1.2003).

⁶⁷² EBRD (1999), *op cit.*, p. 117.

⁶⁷³ Yasin, 'How the Chinese Path of Reform Failed in the USSR', in Ellman & Kontorovich, *The Destruction of the Soviet Economic System: an Insiders' History*, M.E. Sharpe, 1998, pp. 168-169.

eroded. Firstly, through the state's diminished ability to monitor the economy, secondly its ability (willingness) to enforce contracts *ex post* and finally through the economic and political reforms enacted in the 1980s. These three factors implied that the Russian leadership would have to enter into a similar bargaining situation in order to appropriate sufficient revenue for its survival. With the settlement of the constitutional conflict in 1993 a "new" structure of institutional bargaining was institutionalised, one which favoured industrial lobbying and state capture rather than impersonal bureaucratic structures of state power.⁶⁷⁴ This has been apparent in the development of the legislative foundations for the oil industry as well, particularly discussions surrounding the implementation of a PSA regime. The licensing and tax framework operative during the 1990s favoured the utilisation of personalised exchange relationships. According to the BEEPS survey 'high capture states tend to tax and regulate more heavily, extract more bribes, mismanage the macroeconomic environment, and prove less effective at preserving law and order'.⁶⁷⁵

As much was conceded by Yeltsin in 1997 when he declared that the new Russia 'had not been 'equipped with new tools of government' and that legislation and state bodies too often served particular interests'.⁶⁷⁶ A high degree of state capture is reflective of the reliance of the state on entering into a bargaining dialogue with sectors of industry in order to receive necessary revenues for its survival.⁶⁷⁷ The 'loans-for-shares' affair in the mid-1990s is only one of many examples of such bargaining. The state entering into negotiations over tax collection and the implementation of the legislative framework are others. This relationship works both ways – i.e. the letter of the law does protect neither the state nor industry completely, but is a result of

⁶⁷⁴ Åslund, *op cit.*, p. xiii. According to Robinson: 'The 1993 Constitution provided a structure for legislative activity and governance, but the content of that structure was generally not in keeping with the spirit of liberal democratic principles'. (Robinson, *op cit.*, p. 162. See also Vasiliev, *op cit.*, p. 85-90, on lobbying and state capture. Barnes argues that a breakdown of "negotiated policy-making" occurred during 1991-1993 with an eventual consolidation of executive dominance. (Barnes, *op cit.*, pp. 45-54).

⁶⁷⁵ EBRD (1999), *op cit.*, p. 118.

⁶⁷⁶ Yeltsin, cited in Robinson *op cit.*, p. 159.

⁶⁷⁷ Based on the BEEPS survey Hellman & Schankerman classify Russia as a high-capture state. (Hellman & Schankerman, *op cit.*, p. 12).

bargaining.⁶⁷⁸ Since the law does not have a normative character the state can utilise its “monopoly” in establishing laws to create a strategic space in which it can try to dominate the bargaining process. However, in addition to its monopoly in establishing laws the state enjoys a monopoly in re-negotiating agreements and laws *ex post*. This creates the incentive for industry to capture the state for two reasons. Firstly, capture can provide *ex post* property protection, i.e. the reduction of transaction costs. Secondly, once capture has been achieved, industry can *ex ante* attempt to generate rules that are conducive to goal maximisation.

In case of the oil industry representatives friendly to it are abundant in both the State Duma and the Federation Council. One oil executive described it as follows: ‘If the industry has well-formulated and unified opinions, then its ability to convince the Duma is good’.⁶⁷⁹ This is however not an exclusive situation to Russia, the same is the case in many oil producing countries. The difference lies in the relative low level of authority and power vested in these institutions and the “opinions” that the oil industry agrees on. For the time being some of the oil companies agree that a PSA regime is not necessary for the development of the oil industry.⁶⁸⁰

However, a PSA regime, especially for western investors, embodies a commitment to a stable, predictable and impersonal regulatory framework.⁶⁸¹ The low level of authority and power vested in the legislative has resulted in

⁶⁷⁸ On 1.1.2002 a new tax framework became operative in Russia, however the potential importance of bargaining and patrimonial structures of state power is contained in the following statement by an industry executive: ‘Because 4% regional tax and 20% federal, there are certain parts in there that can be reduced or offset against depreciation and amortisation. The 4% we are confident that we will get reduced almost completely, and of the 20% – there are a couple of per cent that we think that we can get around, through aggressive tax management’. (Interviewee # 11). The LUKoil experience as well demonstrates that the letter of the law is not always the benchmark by which behaviour and returns are measured or secured.

⁶⁷⁹ Interviewee # 7.

⁶⁸⁰ Interviewee # 2, 7 & 11. See also interview with Khodorkovsky in Fletcher, ‘CERA: Yukos CEO claims BP deal proves PSAs not necessary for Russian investments’, *OGJ Online*, 11.2.2003. At: <http://ogj.pennnet.com/home.cfm>. According to Interviewee # 2, ‘I think the real solution for Russia is not to have PSA. The real solution for Russia is to have stable predictable and western standard tax and regulatory environment’. That however, would embody a significant shift in the state’s structure of state power.

⁶⁸¹ Interviewee # 10.

the industry directly lobbying the executive (president and government). During the 1990s several tax breaks and other regulatory dispensations were instituted by presidential or governmental decree. This situation has contributed to a strengthening of the patrimonial structure of state power.

One industry analyst summed up the present optimistic climate in the Russian oil industry by saying that at present there is a "Kremlin-Capitalist" alliance.⁶⁸² This alliance is indicative of the present favourable rent situation. High oil prices have enabled both industry and the political leadership to generate income. On the other hand there seems to be an opinion that high oil prices are counter productive to the wider reform process.⁶⁸³ As long as Transneft enables the state to generate high levels of income from the sector it is unlikely that a competitive environment in the transport section will materialise. In the absence of pressure for further reform the present emphasis on western business values could in a worst case scenario (from a development point of view) be a short-term value maximising exit strategy.⁶⁸⁴ The continued reliance on the state's export-monopoly and Transneft's hold over the industry favour a continuation of personalised exchange relationships.⁶⁸⁵ When oil prices again decline the value maximising strategy would be to utilise the patrimonial structures of state power in order to create surpluses. This would be true both from a state perspective and from an industry perspective.

There is little evidence in the reforms initiated under Putin that the situation is likely to change. The new tax code effective as of January 2002 although simplified, has increased the general tax burden on the industry and continues a fiscally oriented system rather than a system enabling (and attracting) long-

⁶⁸² Interviewee # 8. The basis for this alliance is a deal between big business and government. According to Interviewee #2 the basis for this deal is: 'What's done is done – we are where we are – but now you have to pay taxes, we don't want to see any interference in the government, we want to see you behaving as normal business persons'.

⁶⁸³ Interviewees # 7 & 9.

⁶⁸⁴ Interviewee # 8.

⁶⁸⁵ A distinction should here be made between Transneft and the government. Transneft is a separate company that acts on behalf of the government. As such personalised exchange relationships in this respect are not to imply Transneft-industry relations. These are regulated on a fairly non-discriminating basis. (Interviewee # 11). Personalised exchange relationships refer to government-industry relations.

term investment activity. (See Chapter 7). In this respect Putin's 'strong state' approach should be seen as an attempt to strengthen the state's income collecting capacity rather than necessarily creating more state autonomy. Further, by streamlining the federal structure and approving of a continued trend of mergers and acquisitions in industry Putin seems to be trying to reduce transaction costs associated with the collection of income and resources by reducing the number of state-industry points of interaction.

According to Donald Jensen, Putin's policy continues the personalisation of authority, thus weakening the rule of law and civil society and has strengthened the state's coercive powers without reforming the bureaucracy that implements it.⁶⁸⁶ Robinson concludes that: 'Administrative reforms and measures to constrain powerful elite interests do not of and by themselves infuse Russia's constitutional structure with a democratic character even if they do increase the efficiency of the state and ensure some measure of bureaucratic impersonalism in the short-run. If the will of the leader changes, so too can the character of reform that is too dependent on one person to carry it through'.⁶⁸⁷

This very situation is implied by the characterisation of present developments behind the Western styled companies as a possible exit strategy. At the moment the companies in this group strive to increase profitability and productivity in order to increase the value of the assets. This allows them to either, sell out to a strategic partner (similar to the recent Alpha/Access-Renova deal with British Petroleum) and transform assets into cash, or to continue to receive good dividends on their companies.⁶⁸⁸ Under these circumstances it is perhaps understandable that the companies most aggressively pursuing an asset valuation strategy (Yukos & Sibneft) are opponents of a PSA regime that would (potentially) create a situation where a

⁶⁸⁶ Interview with Donald Jensen, Director of Communications at Radio Free Europe/Radio Liberty and former Moscow US embassy employee, in CDI Russia Weekly # 244.

⁶⁸⁷ Robinson, *op cit.*, p. 173.

⁶⁸⁸ Sibneft for instance has decided to pay \$1.09 billion in dividends for 2002 after a net profit of \$1.1 billion. (Bushueva, 'Sibneft' *rasdast \$1 mlrd* [Sibneft hands out \$1 billion]', *Vedomosti*, 17.3.2003).

foreign investor would be able to develop Russia's petroleum reserves independent of the Russian companies.

For the state to attain a higher degree of autonomy it needs to be able to establish a revenue gathering mechanism that guarantees the state a sufficient level of income *independent* of bargaining procedures. Neither in the Soviet Union nor in post-Soviet Russia has this been the case. In the Soviet Union the overlap of organisational responsibility and authority created a strategic space in which to culture patrimonial structures of state power. The reciprocal of this structure of state power was a high degree of state capture. A similar situation existed in Russia throughout the initial reform period and the constitutional compromise of 1993.⁶⁸⁹ The state's weakness, with respect to ensuring income, rendered the need for a similar strategic space for manoeuvre. Unclear and at times incoherent legislation, the division of state authority, and the distribution of property gave the executive precisely such a space for strategic action. This situation led one analyst to characterise Yeltsin as the "Leader-Arbiter".⁶⁹⁰

A similar trend is found in Putin's policy. The state's continued monopoly of crude transportation represents the most efficient tool in this arbitration process. The privatisation of Slavneft demonstrates the state's inability to capitalise on its *de jure* ownership. So far in his leadership there is little evidence that Putin is trying to break the hold of the "oligarchs". Upon coming to power Putin quietly assured property owners that previous distribution of property will not be challenged.⁶⁹¹ This has ensured that the executive remains in its bargaining position, yet also that real state autonomy remains low.

⁶⁸⁹ Robinson, *op cit.*, pp. 70-71 & 163.

⁶⁹⁰ Shevtsova, 'Can Electoral Autocracy Survive?', *Journal of Democracy*, 2000, vol. 11, no. 3, p. 37. According to the EBRD, firm influence at the federal level is most likely to be on the political executive. However, the EBRD also found that firm influence locally was greater than nationally. (EBRD (1999), *op cit.*, p. 118 & 120).

⁶⁹¹ Interviewee # 7 & 11. However, this assurance rested on non-interference by the business elite in politics. This bargain represents a crude division of spheres of interest. Importantly though, the bargain is subjected to unilateral re-negotiation by the state as the state maintains a monopoly in defining what is the appropriate content of each sphere.

According to McFaul, a possible explanation for Putin's situation is the manner in which he became elected. Although winning the presidential election in the first round the dynamics in voter support leading up to his victory indicated that his election strategy would only be successful in the short-term. Thus making him unwilling to act against the interest of the influential forces in politics and economics.⁶⁹² Putin's platform of being "everything to everybody" might have been a successful election strategy, however in order to maintain support he will be forced to accommodate the wishes of his supporters. In the absence of a separate election agenda endorsed by the public, Putin has no ideological (or philosophical) platform of legitimacy. His legitimacy therefore rests on his ability to accommodate the various demands made upon the executive. Examples of this has been the privatisation of Slavneft, where the state did little to intervene in the (at times armed) conflict surrounding the management dispute throughout 2002 (at a time when the company was still state owned!). Other examples are Putin's reluctance to break-up Gazprom,⁶⁹³ and his endorsement of a continued export-oriented policy in petroleum extraction.⁶⁹⁴ The latter example demonstrates a change attitude from the president. High oil prices have been an important factor generating revenues both for the state and the enterprises. However, upon coming to power Putin endorsed a policy that would reduce the dependence on raw material exports in order to increase value-added exports.⁶⁹⁵

⁶⁹² McFaul, 'Russia under Putin: One Step Forward Two Steps Back', *Journal of Democracy*, 2000, vol. 11, no. 3, p. 25-26. McFaul argues that the drop in Putin's optimum vote in January 2000 and his eventual support 3 months later indicated that his "no-campaign"-campaign would only be effective if elections were held swiftly. In the case of a conflict with parliament leading to new elections Putin's election strategy would have been based on a platform that no longer would be able to accommodate the conflicting and varied interests that he could unite in the first election.

⁶⁹³ Belton, 'Putin Says Gazprom Too Powerful to Break Up', *Moscow Times*, 17.2.2003.

⁶⁹⁴ RFE/RL Newline, vol. 7, no. 44, part 1, 7.3.2003. "Speaking to regional leaders and businessmen in Tyumen on 6 March, President Vladimir Putin noted that Western Siberia accounts for 90 percent of Russian natural-gas production and 65 percent of its oil production, Russian news agencies reported. "One can argue whether it is good or bad to be dependent on oil and gas exports, but this is an abstract dispute," Putin said. "The economic growth of the country has been achieved mainly because of the fuel and energy complex in Tyumen." He confirmed that Russia will strive to increase oil and gas production and exports next year".

⁶⁹⁵ Putin, 'Vystuplenie na vserossiiskom soveshchanii po problemam razvitiya TEK Rossii v Surgute 3.3.2000 [Speech at the all-Russian conference on problems of the development of the TEK in Surgut 3.3.2000], *Energeticheskaya Politika*, 2000, no. 1-2, reprinted in Minenergo (2001), *op cit.*, p. 780. In the same speech Putin said it was the state's responsibility to provide a transparent mechanism of export regulation and avoid bureaucratic abuse in this

There is however a fundamental distinction between the present situation and the situation immediately post-1991. During the transfer of *de jure* rights a low level and unclear protection of *de jure* owners' rights was instrumental to the redistribution process. Such right would have strengthened the legitimate threat of any *ex post* expropriation and protected the state from private appropriation. With the transfer of property beginning to settle down the new *de jure* owners will increasingly be interested in protecting the private sector from appropriation by the state. This again requires a normative framework of legislation binding on all parties. For such a framework to have long-term stability and credibility increased state autonomy is needed. In order for the state to sponsor a development that would approach a constitutional-bureaucratic structure of infrastructural power the state needs to be ensured its survival independent of the bargaining process.

The continued reliance on a transport monopoly, a fiscally oriented tax framework and an incomplete legislative framework should be an indication that, at least in the case of the oil industry, the state does not "trust" such an environment to materialise in the short to medium term. High levels of capital flight similarly indicate a continued distrust of the state as an impartial arbiter.⁶⁹⁶

In order for the state to develop a constitutional-bureaucratic infrastructural power structure it is reliant on an administration (state apparatus) that is able to impartially execute and implement the 'rules of the game'. One of the greatest sources of distrust seems to stem from the lack of belief that the state is able to develop such an apparatus. Commenting on the role of the Ministry of Fuel and Energy one oil industry executive said the following: 'The weaker the better, if it was removed altogether it would be even better. We have said openly for many years that we think this ministry totally superfluous...They are trying to make the decision process more complex and less transparent in

respect (p. 782), to clarify the tax framework and reduce the TEK's tax burden (p. 782), and eliminate the state's debt to the industry (p. 783).

⁶⁹⁶ On this issue see also: Robinson, *op cit.*, p. 165-167. White, *op cit.*, pp. 269-270.

order to improve their own ability to receive bribes. That's what they do'.⁶⁹⁷ Another analyst referred to 'the hideous behaviour [corruption] on behalf of bureaucrats' as 'a real plague for the country – it's a disease'.⁶⁹⁸ While such sentiments weaken the infrastructural power of the state, they are conducive to its continued reliance on a patrimonial-despotic structure of state power. This is apparent in another executive's assessment of corruption: 'obviously we do not like that, but that is the situation, so no point in crying up. You can get agreements for \$10 000, that stuff is crazy in effect, but that exists, that is the case'.⁶⁹⁹ Up to a certain point the companies accept that these are the rules and they act accordingly. The difference between Russian and Western investors is that this point lies at a lower level for the latter. In the absence of a normative legislative framework and an impartial arbiter (court system) a good working relationship with the authorities is important in order to create some form of *ex post* security and protect investments and profits.

Similarly the unsuccessful implementation of many important pieces of oil legislation have strengthened Soviet style institutions of economic interaction. The continued difficulty in finalising the PSA legislation is an example of this. Both local authorities and Duma representatives have increasingly become impatient with the wait for foreign investment to materialise, and have come to see PSA as an obstacle to field development.⁷⁰⁰ While foreign investors have been waiting for the PSA regime to be finalised previously rewarded tender contracts have been voided in the absence of any development progress.⁷⁰¹

Stalled development progress has also been used by competitors and local authorities to exert pressure on federal and local authorities to renege on previously granted contracts. One such incident is *RUSIA Petroleum* situated

⁶⁹⁷ Interviewee # 7.

⁶⁹⁸ Interviewee # 12. One industry insider said: 'the [tax] system is very opaque. Regional bureaucrats have a position of power, because they can block things, and they do use that position of power for their own means to a certain extent'. (Interviewee # 11).

⁶⁹⁹ Interviewee # 11.

⁷⁰⁰ Gorst, 'For Better or for Worse', *Petroleum Economist*, Oct. 1997, p. 38.

⁷⁰¹ *Ibid.* In this case Exxon's license to the Central Khoreiverskaya Block in the Nenets Region was repealed by the Ministry of Natural Resources, a ruling that was endorsed by the Nenets administration.

in the region of Irkutsk. Until the creation of a joint venture between several of BP's Russian oil assets and several of the Alpha/Access-Renova Group's oil assets the division of ownership rights hindered the development of this company's licences. With the proposed merger deal the situation has finally changed, but now the Ministry of Natural Resources is contemplating voiding Russia's licenses due to lack of progress in their development.⁷⁰² President Putin has, after a letter directed to him by the chairmen of Gazprom and Rosneft calling for a redistribution of licenses in Eastern Siberia and Yakutia, apparently endorsed this measure.⁷⁰³

In a reversed situation Yukos has complained to vice-premier Khristenko about the lack of co-operation from the Ministry of Natural Resources with respect to what the company calls a routine license correction in one of its subsidiaries (Tomskneft). The document, already approved by the regional representatives of the Ministry of Natural Resources and regional authorities, has been stalled at the federal level until another expert group is established to examine the proposals.⁷⁰⁴

From this it is clear that even tough licenses and contracts are eligible to re-negotiations (pending *ex ante* understanding) patrimonial structures of state power and state capture remain very important institutions of both political and economic interaction. According to Natalia Orlova (chief economist at Alfa Bank) this situation has not changed with Putin: 'In terms of the close connection of the government and the business groups the situation hasn't changed much...Before, we had separate individuals dealing with the head of state, now it is the RSPP that has direct access to Putin'.⁷⁰⁵ The reliance on a continued bargaining process and the vital role that the oil and gas industries play in generating state revenues clearly make a case for a continued high degree of state capture and the oil industry's strength in the bargaining

⁷⁰² Bushueva, Tutushkin & Osetinskaya, 'Pokushenie na "sdelku veka" [Attempts on the "deal of the century"]', *Vedomosti*, 17.2.2003.

⁷⁰³ Tutushkin & Bushueva, 'Gosudarstvennyi razmakh [State might]', *Vedomosti*, 16.2.2003.

⁷⁰⁴ Tutushkin, 'Yukos zhaluetsya na MPR [Yukos complains about MPR]', *Vedomosti*, 5.3.2003.

⁷⁰⁵ Startseva, 'Big Eight' Out-Earn the Government', *Moscow Times*, 9.8.2002. The RSPP is also referred to as the "union of oligarchs".

process. One analyst characterises the Russian oil companies as an 'integral part of the party of power' due to their financial strength.⁷⁰⁶

Is there a case for institutional competition at state level?

As defined in the introduction and Chapter 5 institutional competition exists where the dynamic interactions between formal and informal institutions shape the evolution of state and economy. In the case of the Russian oil industry clearly there is a discrepancy between an idealised institutional framework, sometimes represented in the legislative framework, and functioning formal and informal practices. Much of the reform objectives were based on the creation of constitutional-bureaucratic infrastructure of state power with a high degree of state autonomy. In the short-term the lack of infrastructural state power has meant that historic institutions of interaction and integration have survived and continued to function. These historic institutions, or residual Soviet institutions, are represented in the 1993 constitutional compromise that relies heavily on a patrimonial structure of state power with a high degree of state capture.⁷⁰⁷

This compromise has its origin in the traditional structure of income and resource appropriation in both the Soviet Union and pre-revolutionary Russia.

⁷⁰⁶ Smith, *Oil and Gas Interests in the Russian political Equation*, Conflict Studies Research Centre, Occasional Paper 59, 1998, p. 3.

⁷⁰⁷ In a study of Putin's federal reform Ross argues that Putin's creation of the 7 federal super-districts and the appointment of a plenipotentiary representative (*polpredy*) to each district represents an attempt at reasserting federal authority over the regions and recapture control over federal agencies situated in the regions. Ross points out the danger of the *polpredy* going native, i.e. building up personal fiefdoms or act in accordance with the preferences of regional elites effectively 'creating yet another layer of bureaucracy between the President and the regions'. (Ross, 'Putin's Federal Reforms and the Consolidation of Federalism in Russia: One Step Forward, Two Steps Back!', *Communist and Post-Communist Studies*, 2003, vol. 36, pp. 29-47, this quote p. 37). From a transaction cost and patrimonial state power perspective though the reform *can* lead to eased interaction with the regions. The reforms will imply fewer nodes of interaction and hence less administrative resources being spent. The caveat being that interaction circumventing the *polpredy* may continue, in which case administrative costs would become higher. Also, an added layers of administration is likely to increase monitoring costs as opportunistic behaviour is ripe at all levels (Ellman, *op cit.*, p. 1418). What is clear though, is that, rather than creating an economy and a state based on an infrastructural mode of power with a wide scope, Putin's reign has continued the development of a patrimonial-despotic state. The reforms allow the state to collect sufficient resources for state survival. If in addition the reduction in transaction cost outweigh the increased monitoring costs and cost arising from opportunistic behaviour the state will increase its resources.

A patrimonial structure of policy implementation became a substitute for a strong infrastructural power base (limited scope of the state). Reorganisation of the administrative structure became a method by which the state could try to economise on transaction costs and increase its loyal constituency. A monopoly in *ex post* re-negotiation of the 'rules of the game' and use of coercion, became a method by which the state could preserve its position by making the loyal constituency dependent on the state for legitimacy and authority. While the system was, to some extent, conducive to protect the despotic-patrimonial state it was not conducive to the development of intensive economic growth.

The great difference between the Soviet system and the present system is that under the present circumstances political and economic income is no longer tied up to a single economic model. This allows for a degree of pragmatism, which again allows for the interaction between state institutions and micro level institutions to affect the institutional development path of both the state and the economy. The question remains though, what kind of path Russia ends up with? This question will be examined in greater detail in the conclusion.

Chapter 10

Institutional competition at corporate level?

'It depends on what is the purpose – the final goal of the company. I would say that if the main goal is to maintain the business and keep it [] then the bureaucratic [SSC] way may be more efficient, more secure. But if the shareholder wants to create value and sell the business, then the second one [WSC] is better for them'.

Interviewee # 1

Corporate models in the Russian oil industry.

The two corporate models that constitute the basis for institutional competition at the micro level are the earlier mentioned Soviet Styled Company (SSC) form and the Western Styled Company (WSC) form. Both forms portray a high level of management control in the form of consolidated ownership. This sets the two forms apart from the Holding Type Company (HTC) form that constituted the initial re-organisational structure. The approach to consolidation has been different for the two forms.

The Soviet Styled Company form centres on self-reliance. Integration in this model combines the earlier Soviet practice of controlling all aspects of petroleum operations with vertical integration. The Western Styled Company form on the other hand is more open to outsourcing services that are non-core. In contrast to the SSC this places a higher demand on the general operating environment and the presence of satisfying means of monitoring and conflict resolution, which again places higher demands on the general political and economic operating environment. In the absence of such an environment there has been a high degree of convergence between the *de jure* and the *de facto* ownership in the WSC.

The Soviet Styled Companies. The SSC model combines aspects of privatisation described in Chapter 8. It incorporates both private and combined property forms. Its main characteristic is management *de facto* control and strong control over subsidiaries within the group. The corporate strategy followed by the companies in this group belongs to the active category with a clearly defined development strategy dominated by the

“advanced” group of insiders. The group label “Soviet” is not in any way meant to be derogatory, but rather a reflection of their managers’ Soviet oil industry background.⁷⁰⁸ Management from financial organisations during the 1990s did not displace the insider management group controlling these companies. Their managers’ understanding of industry-government relationship is still of a Soviet mentality, which allowed them to run their businesses as personal fiefdoms.⁷⁰⁹ One aspect of such industry-government relationship is the companies’ attitude to PSA. While the WSC are opponents of PSA, the SSC (particularly) LUKoil is in favour.⁷¹⁰

LUKoil and Surgutneftegaz are the two proponents of this model. Former oilmen with roots in the Soviet oil industry and bureaucracy lead both companies. Both companies had clearly defined strategies at the beginning of the 1990s. Alekperov’s LUKoil was the first VIC to consolidate subsidiaries’ shares into a single share structure in 1996, while plans for a consolidated company had existed since 1991. Similarly Bogdanov’s aspiration for Surgutneftegaz as early as 1991 was to control up to 80 per cent of a future joint-stock company.⁷¹¹

Alekperov perhaps best sums up the strategic goal of these companies: ‘We should look for reserves to increase our growth efficiency, while relying on our own production and human potential. We cannot wait for a favourable

⁷⁰⁸ The label here is in line with what Hass argues in a study of Russian enterprises. He found that communist-era managers tended to follow Soviet models – ‘uniting enterprises related in sectors and production links to support familiar practices’. (Hass, *op cit.*, p. 412).

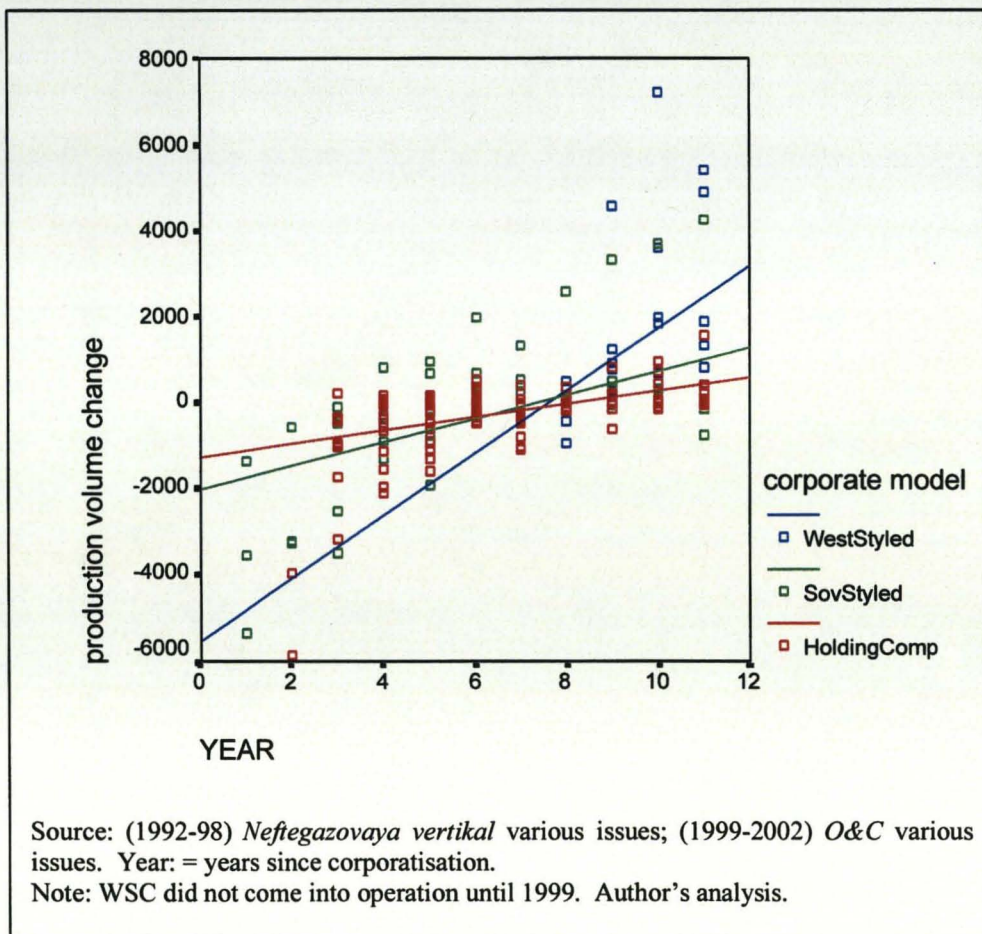
⁷⁰⁹ Interviewee # 8. An industry insider comparing Sibneft to Surgutneftegaz said: ‘When you go to Noyabrsk, the town is clean and tidy, so is Omsk. You do see Sibneft flags all over the place and [they] do put money into the town, but [they] don’t have five hotels and three sanatoriums and send all the kids off on holiday. It’s a normal working contract basis with Sibneft. If you go to Surgut, and see Bogdanov’s Surgutneftegaz it is the complete opposite, he is the Soviet model in action. He controls that town. Everything in there is his in effect, he makes sure everyone has got heat in the winter, there is bread on the table and there is food on the table – he controls it’. (Interviewee # 11).

⁷¹⁰ One industry executive maintained that the WSC were against PSA because such agreements would lessen the competitive advantage that the WSC had over the SSC. In effect transferring some of the advantages that these companies had obtained through their reorganisation efforts to the SSC and/or foreign companies. For this very reason the SSC were in favour of PSA as it would reduce their relative competitive disadvantage. (Interviewee # 11).

⁷¹¹ Kryukov & Moe (1998), *op cit.*, p. 36.

environment to be in place. In the existing complex macroeconomic situation and unstable political conditions, we should look for, find and realise a potential for stepping up the company's production and profits'.⁷¹² The sentiments expressed in this quote show much of the former Soviet economic credo – self-reliance and integration of services in order to maximise return in an unstable supply situation. Throughout the 1990s both LUKoil and Surgutneftegaz have belonged to the better performing oil companies in Russia. Figure 10.1 is a scatter plot showing production change 1992-2002. The fitted lines show the relative performance of the different models. The SSC throughout the 1990s can be seen to have turned around their production more quickly than the HSC. WSC did not figure until 1999. For the period 1994-99 the SSC was the best performing company model in Russia.

Figure 10.1 – Company model performance 1994-2002.



⁷¹² Alekperov cited in Chernikov, 'A talent to succeed drives LUKOIL to world prominence', *O&C*, 2000, no. 7-8. Accessed at: www.oilcapital.ru. No page numbers.

It enjoyed two specific advantages over the HSC. Firstly, its managers had a clearer corporate strategy and took an active part in the reorganisation of the company. Secondly, the managers of these companies were swift to assert their control over their respective subunits. LUKoil had been formed on a "comradely" basis. During the 'shares-for-loans' proceedings organisations/firms affiliated and controlled by the holding company received the state's shares in trust. In the case of LUKoil its investment company, Nikoil, acquired the state's 16 per cent share making it the largest non-state shareholder. In the following years other LUKoil affiliates acquired LUKoil and LUKoil subsidiaries' shares.⁷¹³ Although LUKoil's core business is consolidated, its extensive diversification into other businesses has made the organisational structure excessively large, complex and non-transparent.⁷¹⁴ Further consolidation and streamlining of the company is therefore necessary in order to increase investment attractiveness.

In the case of Surgutneftegaz NeftInvest obtained a 40 per cent share packet in NK Surgutneftegaz in June 1994. Although this share packet has since been sold on it has remained within the NK Surgutneftegaz group. During the 'loans-for-shares' auction NK Surgutneftegaz's pension fund received a 40 per cent state share in 1995, Surgutfondinvest, another Surgutneftegaz affiliate, obtained this share packet in an investment tender in 1997.⁷¹⁵

Characteristic of both companies has been their ability to swiftly assert *de facto* property rights over units within their structure. Even before the eventual consolidation of shares into a single share structure these companies controlled their substructures through various affiliated companies. LUKoil was consolidated into a single share structure in 1996. In the case of Surgutneftegaz this process was longer and was carried out over two stages. In 1996 shares in OAO Surgutneftegaz's Kirishinefteorgsintez oil refinery were swapped for shares in OAO Surgutneftegaz along with shares in its

⁷¹³ For details see Kryukov & Moe (1998), *op cit.*, pp. 24-26.

⁷¹⁴ Interviewee # 12.

⁷¹⁵ For details see 'Swap-2000 will end oil stock confusion', *O&C*, 2000, no. 2. Accessed at: www.oilcapital.ru. No page numbers.

marketing divisions.⁷¹⁶ OAO Surgutneftegaz and other units within the NK Surgutneftegaz group were *de facto* controlled by the holding company. In 2000 shares in NK Surgutneftegaz were swapped for shares in OAO Surgutneftegaz resulting in a uniform share structure.

Consolidation gave the companies greater financial independence and control over cash flow and corporate strategy than their remaining Russian counterparts until 1998. During the periods of non-payments and barter deals this made the model more robust and less prone to financial milking. Crucially *de facto* control over subsidiaries gave the companies control over the flow of export earnings.

Although LUKoil has had several strategic partnerships with foreign oil firms it maintains a protective stance with respect to foreign involvement in the Russian oil industry. Commenting on the situation in his native Azerbaijan Alekperov said 'We will not let anyone into Russia'.⁷¹⁷ Surgutneftegaz equally has refused to "surrender" operative control to strategic investors.⁷¹⁸ Nonetheless compared to the WSC firms the ownership structure of these companies is more dominated by foreign investors. In the case of LUKoil in excess of 50 per cent of its shares are owned by ADR shareholders, while international investors own 35 per cent of Surgutneftegaz.⁷¹⁹ Crucially though foreign share ownership has not been converted into operative control. As in Soviet times there is an important difference between *de jure* ownership and *de facto* ownership.

Both companies maintain very good relations with the authorities. Besides Rosneft (which is state controlled) LUKoil was the only company that has been permanently represented at the Ministry of Fuel and Energy's advisory

⁷¹⁶ OAO Surgutneftegaz is the producing subsidiary within the holding structure of NK Surgutneftegaz. Both are controlled by Bogdanov.

⁷¹⁷ Chernikov, *op cit.*

⁷¹⁸ 'Swap-2000...', *op cit.*

⁷¹⁹ Interviewee # 8. The ADR ownership structure is unclear as the ADR share controlled by management is unknown, i.e. offshore companies controlled by management. (Interviewee # 11).

board.⁷²⁰ Surgutneftegaz's tax record and "responsible" behaviour has lessened the official scrutiny of its privatisation process.⁷²¹

Despite some commonalties the two companies have shown different development strategies. LUKoil for instance has invested in a huge business empire. It is involved in several countries outside Russia (Iraq, Romania, the Czech Republic, Azerbaijan, Turkey, Kazakhstan and the USA), it operates its own icetanker fleet and is involved in the development of automobiles suitable for operation in arctic conditions. Surgutneftegaz on the other hand has remained regionally confined. Its production operations are located in and around the town of Surgut, while its' refining capacity is located in *Leningradskaya Oblast'*. While as the value creation/profit coefficient for LUKoil has been one of the lowest throughout the 1990s, Surgutneftegaz's has been one of the highest.⁷²²

The key characteristics of this model are *de facto* asset control, defined development strategy, independence and strong political connections. The relatively low levels of management shareholding makes creating shareholder value a lesser objective.⁷²³

Western Styled Companies. This company style evolved later than the SSC. The 1998 financial collapse in Russia must be seen as an important contributing factor. The WSC grew out of the private and bank controlled companies. Having initially portrayed a passive development strategy dominated by the "backward" group of insiders these companies became bank/FIG property after the "loans-for-share" process, and were managed by personnel from the financial sector that took an active role in the formation of the companies' strategy. (See Chapter 8). This strategy initially focused on

⁷²⁰ Pleines, *op cit.*, p. 20.

⁷²¹ 'Swap-2000...', *op cit.*

⁷²² See tables and discussion below. Also see Pleines, *op cit.*, pp. 9-12. Questions also remain surrounding the interests of the LUKoil leadership in generating profit or not. It has invested in a huge business empire, but has done little (so far) to increase profitability of this empire. (Interviewee # 11).

⁷²³ Interviewee # 8.

providing financial means to the respective owners rather than developing the oil producing capacity of the companies. With consolidation of ownership and control the WSC firm strategy has gradually shifted to one of developing the value of the respective assets.⁷²⁴ In Figure 10.1 they belong to the HTC until 1998/1999. The introduction of WSC can be seen as a structural break in the figure. The three companies in this group are Yukos, Sibneft, and TNK. Having been in a position to start the consolidation process earlier, Yukos and Sibneft are further along the consolidation path.

In financial terms the consolidation strategies of the SSC and the WSC differ. While the share consolidation of both LUKoil and Surgutneftegaz involved new share issues, the consolidation of Yukos, Sibneft and TNK involved cash outlays.⁷²⁵ As such the owners and shareholders of these companies utilised accumulated cash due to transfer pricing and capital flight in order to finance their consolidation.⁷²⁶ Transfer pricing in this respect had a two-fold advantage from the point of view of shareholders in these companies. Firstly, purchasing oil at discounted prices allowed them to accumulate the differential between procurement and selling price – a form a rent extraction similar to the one employed by the Soviet leadership.⁷²⁷ Secondly, transfer pricing depressed the value of the assets they were buying thus limiting the ability of minority shareholders to obtain favourable (or just) compensation for their stakes during buy-outs and share swaps.⁷²⁸

⁷²⁴ Interviewee # 11.

⁷²⁵ Mazalov, *op cit.*, p. 39.

⁷²⁶ Transfer pricing and capital flight further allowed the companies to structure the flow of investments in such a way that capital could be moved out of the country in a “legal” manner. Offshore structures were used to accumulate cash and invest in Russia through leasing agreements with the “mother” company. As operations had to generate investment capital, these measures allowed the companies to reduce tax exposure and recorded investments. According to one source investments of this form may have approximated 30% of total investments. (Vodyanov *et al.*, ‘*Neftyanoi Kompleks Rossii* [The Russian Oil Industry]’, *Ekspert*, 2000. At: <http://www.ekspert.ru>. (Accessed October 2000).

⁷²⁷ Such accumulation of capital was often unrelated from an accounting-financing point of view to the oil company, but rather served the interests of the companies’ shareholders and *de facto* owners. (Interviewee # 11).

⁷²⁸ Mazalov, *op cit.*, p. 68.

The financial collapse altered the relationship between the banks and the assets they controlled. In order to survive the corporate strategies of these companies were restructured, from primarily being part of a financial group to being developed as enterprises in their own right. The FIGs had typically been centered on a bank and a key industrial asset (with cash flowing from the latter to the former). Following the 1998 crisis the core industrial units have begun to make money, which has led to an untangling of the former FIG and offshore control structure.⁷²⁹ The role of the banks has been diminished and partly become superfluous as many of the companies have started to develop more normal relations with financial institutions.⁷³⁰

The new strategy incorporated three elements: asset consolidation and a unified share structure; western style management; strategic co-operation with non-Russian firms. The understanding of industry-government relationships in these companies is more of a capitalist sense.⁷³¹ This implies less government interference in return for economic rent. At the time being there seems to be a "Kremlin-capitalist" alliance that provides room for the WSC approach to take hold and grow.⁷³²

However, this "Kremlin-capitalist" alliance should not be taken to far. By default minority shareholders in these companies make a profit as a result of the altered corporate strategy, but the majority of shares are owned by a narrow group of investors/managers. At Yukos a manager-dominated block owns roughly two thirds. Abramovich and managers control almost 90 per cent of Sibneft.⁷³³ The Alpha/Access-Renova group controls 100 per cent of TNK industrial holding, which again controls 100 per cent of TNK International Ltd., which again holds 97 per cent of OAO Tyumen Oil company, which again controls 100 per cent of its respective producing subsidiaries.⁷³⁴ Thus a select group of investors/owners stand to benefit from

⁷²⁹ 'Russia', *Euromoney*, April 2001, p. 8.

⁷³⁰ *Ibid.*

⁷³¹ Interviewee # 8.

⁷³² Interviewee #8.

⁷³³ *Ibid.*

⁷³⁴ Company presentation/hand-out. With the merger of the Alpha/Access-Renova group's oil assets and BP's Russian assets a new holding will be formed in which the two parties each

an increase in shareholder value. However, the objective of creating shareholder value is not universal in this group. While Yukos has actively engaged in establishing a better corporate image to increase its valuation, Sibneft's share increase has been a by-product of its asset improving strategy (which in much is similar to Yukos' development strategy). Yukos's company objective is to increase shareholder value, while Sibneft's company objective is to increase asset value.⁷³⁵

The financial collapse of 1998 and reduced state ownership altered the relationship between company and financial organisation, and to some extent demonstrates the difference in corporate strategy between the SSC and the WSC. Before 1998 capitalisation of the Russian oil industry was driven by an undue optimism on behalf of investors without the appropriate valuation of the risk attached to these investments.⁷³⁶ Post 1998 on the other hand investors have become more cautious. Real reforms in the economy and corporate culture are needed to drive the petroleum stock market. While the managers of the SSC are oilmen the owners of the WSC are investors. As such their primary concern is not running an oil company but creating value.⁷³⁷ Increasing enterprise value in the WSC could therefore be seen as an exit strategy rather than an objective in itself.⁷³⁸ Nonetheless the emphasis on corporate governance as a driver behind foreign investment and share-price evaluation has resulted in both the legislature and several companies improving standards of regulation and behaviour. In 2001 a national corporate

will control 50 per cent. TNK Industrial Holdings further control 85% of Sidanko, while TNK International Ltd. and OAO Tyumen Oil Company hold 93% of Onako, which again holds a 61% stake in Orenburgneft. The other major shareholder in Orenburgneft is Sibneft. With the recent merger agreement between Alpha/Access-Renova's and BP's Russian oil assets the structure has changed. See below.

⁷³⁵ Interviewees # 7 & 11.

⁷³⁶ Interviewee # 8. See also Gorst, *op cit.*, p. 37.

⁷³⁷ 'In Sibneft, Yukos and TNK you have a very different situation [compared to LUKoil and Surgutneftegaz]. You have shareholders that demand financial results, from basically a higher management team'. (Interviewee # 2). In companies where the *de facto* owners can assert their interest over *de jure* owners' interest company strategy may not necessarily be geared towards maximising shareholder value. Thus for the WSC an important element is the 'matter of how much power the shareholders have over the management'. (*Ibid.*) For the SSCs on the other hand, 'There are old men [...] who after having received their education worked all their life in the oil sector such as Mr. Bogdanov [Surgutneftegaz] [...] they think more in terms of production, what's important for them is more production. And for other managers more important are high profits'. (Interviewee # 12).

⁷³⁸ Interviewee # 8.

governance code was formulated under the auspice of the Federal Securities Commission. Several amendments to the Joint Stock Company Law became effective on 1 January 2002. However, 'good corporate governance seems still to be viewed, by and large, primarily as an instrument for c[u]rrying favour with foreign investors'.⁷³⁹

If one views corporate governance as an institution, then long-term survival (investment in) of this institution would indicate an institutional shift (as it differs from Soviet management practices). On the other hand if corporate governance were a short-term maximising strategy then one would expect a reversal if a different institutional structure promises greater return. (Institutional competition would eliminate such institutions that are not goal maximising). The recent merger agreement between Yukos and Sibneft may indicate a possible shift in this respect. While Yukos has been a champion of corporate governance 2000-2002 (resulting in share price appreciation) it will be changing its statutes in order to facilitate a possible merger with Sibneft. Yukos' statute has explicitly forbidden the placing of share packets on closed subscription in order to increase transparency. With the agreement in principle to a merger with Sibneft, Yukos is to alter its statutes in order to sell shares to six offshore structures controlled by the Sibneft leadership.⁷⁴⁰

Reorganisation of the corporate structure has facilitated the control over cash flows and made organisation more conducive to creating economic dividends. For instance Yukos in 1998 reorganised its assets into an Exploration and Production Unit (E&P Unit) and a Refining and Marketing Unit (R&M Unit). Where possible non-core activities are contracted instead of produced in-house. Such reorganisation has allowed the organisation to better monitor its investments and make daily operational adjustments. The shift has been away from the traditional functional-territorial approach that left the operating units with considerable room for self-government and social responsibilities, to an approach where investments can be better controlled/monitored as a result of

⁷³⁹ Krasnitskaya, 'Corporate Governance: Russia's Evolution', Troika Dialog, 2001, p. 10.

⁷⁴⁰ Bushueva, Osetinskaya & Safronov, 'Yukos odolzhit \$3 mld na pokupku Sibnefti [Yukos borrows \$3 billion in order to purchase Sibneft]', *Vedomosti*, 12.5.2003.

sleeker organisations and use of better monitoring practices. For instance Yukos and Sibneft monitor all well production in real-time, by sophisticated computer technology.⁷⁴¹ These reorganisations have resulted in more transparency, which again has contributed to share price growth.

The consolidation process described in Chapter 8 gave these companies greater control with corporate strategies, it increased their investment attractiveness and gave them access to international financial markets on better terms. The result of this restructuring was the ability to take advantage of organisational synergies. For instance, after consolidation the flow of resources and revenues could be controlled "in-house" reducing tax exposure and allowing for optimal asset use. TNK thus reduced its cost per barrel (including administrative overheads) from \$12 in 1998 to \$2.8 in 2000.⁷⁴²

The companies in this group have pioneered the use of Western engineering firms to employ more efficient drilling and maintenance techniques and technology. At the same time the shedding of non-core business has been a vital factor in reducing costs. All the companies in this group have reduced their social responsibilities and spun-off loss making enterprises. In the case of Yukos loss-making oilfields were spun-off and transferred to local administrations in order to maintain local employment.⁷⁴³ During 1999 and 2000 TNK laid off 40 per cent of its work force.⁷⁴⁴ During 1998/99 Sibneft too was able to give away and spin-off several non-core businesses. The WSC firms' strategy during the immediate post-crisis years sets them apart from the SSC. In this period these companies managed to capitalise on a window of opportunity, brought about by low oil prices and profitability, that allowed them to remove from their books several non-profitable and non-core activities

⁷⁴¹ Interviewees # 7 & 11.

⁷⁴² Poruban, 'Tyumen Oil adopts Western-style management', *OGJ*, Week of February 28, 2000. At: <http://ogj.pennnet.com/home.cfm>. No page numbers. Part of the reduction is attributable to the devaluation of the Rouble in 1998 as well, which substantially reduced the cost of Russian inputs. (TNK is however not producing at the lowest cost in Russia. For production costs of the other companies see below).

⁷⁴³ Kryukov, 'Adjustment to change: the case of the oil and gas industry', in Harter & Easter, *Shaping the economic space in Russia*, Ashgate, 2000, pp. 120-21.

⁷⁴⁴ Poruban, *op cit*.

thereby reducing expenses and consumption of management resources.⁷⁴⁵ This again has allowed the WSC to a greater degree to contract service and non-core activities leading to substantial economising.⁷⁴⁶

The acceptance of local and regional administrations of these spin-offs is also partly a result of the consolidation process itself. As long as each entity within a VIC remained an independent unit, local and regional administrations could exert pressure and employ their tax powers to extract rent from these companies. However, with the consolidation of the companies, the revenue centre of each unit shifted to the VIC's headquarters, which often were located outside their immediate region of operation. Particularly since the establishment of the VICs had taken the form of forward integration this was the case for non-production related enterprises. The structure of rent extraction has therefore, altered from one of direct appropriation of income through ownership and redistribution, to one of appropriation of income through taxation. As a consequence of this change there has been a gradual shift away from the emphasis of political income to economic income. If this proves to be a long-term trend the relevant authorities could increasingly become more interested in creating the necessary conditions for firm profitability and efficiency.

⁷⁴⁵ According to one source this window of opportunity is now closing. 'Today in 2003 you've had a long period of healthy oil prices, the oil companies have all been doing very well, most of them are showing growth – of different amount – it is very difficult for the manager of an oil company to go to the local governor or the local region and say 'take this brick plant take this...whatever school or hotel...we don't want it anymore'. The governor is going to say 'look my budget hasn't gone up...you guys have just had \$30 for a year, what are you talking about you haven't got any money to pay it!' In 1998/99 you could do that and that's what we did. I'm not saying we were super-smart, but it was a very good decision...and it has enabled us to get rid of a lot of the non-core assets that we don't need. (Interviewee # 11). Notwithstanding spin-offs and reorganisation all Russian companies still have a number of non-core assets on their books. The difference between the WSC and SSC is that the former has relatively less than the SSC.

⁷⁴⁶ One of the interviewees described this situation as follows. 'Its really only Yukos and Sibneft that have done that...and to some extent TNK. The others may have been starting to talk about it or moving down that road, but they haven't got there yet. It is not a slam-dunk in effect to say that they have started it and that it is going to work, because there is a lot of internal resistance to not using connected service companies. I mean, a lot of the guys out in the field...stepbrother or whatever...works in the service company, and they'll give the contract to him because it's the brother and stuff. (Interviewee # 11).

In early 2000 the share of income from oil and gas taxation amounted to 40% in the Komi Republic, 50% in Tatarstan, 30% in Bashkortostan, 50% in Omsk Oblast, 60% in Tomsk and Tyumen Oblast, 85% in XMAO and 95% in Yamal-Nenets Autonomous Okrug.⁷⁴⁷

The effects of such restructuring has given the WSC the lowest production cost per barrel of all the Russian oil companies. In 2002 Sibneft had the lowest cost with \$1.70 per barrel in 2002, TNK \$2.46, while LUKoil's cost was \$2.66.⁷⁴⁸ Yukos has the highest long-term credit rating of any private Russian company rated by Moody's and Standard & Poor.⁷⁴⁹

The reorganisation of these companies has increased transparency, improved economic efficiency and profitability, and contributed to a different management style through co-operation with non-Russian firms and the transfer of Western management resources to Russia. The WSC strategy has paid dividends in the form of access to international capital markets on more preferential terms than other Russian companies, and a rapid increase in the capitalisation of these companies. Yukos and Sibneft began to publish their accounts according to US GAAP principles in 1998 with accounts going back to 1996.

However, the consolidation process has not been a quiet one. As described in Chapter 8 this occurred at the expense of minority shareholders (1997-99). Neither is the process over. Yukos is still in the process of absorbing VNK. TNK and Sidanko will form part of a new Russian oil company in partnership with BP. In April 2003 Yukos and Sibneft agreed in principle to a renewed

⁷⁴⁷ Kryukov *et al.*, *Regional'nye aspekty reformirovaniya nalogovoi sistemy v neftegazovom sektore Rossii* [Regional aspects of taxation reform in the Russian oil and gas sector], IEiOPP CO RAN, 2001, p. 18-19. Company headquarters are located in: Surgutneftegaz (Surgut – XMAO), LUKoil (Moscow), Yukos (Moscow), Sidanko (Moscow), Rosneft (Moscow), Slavneft (Moscow), TNK (Tyumen), Sibneft (Omsk), VNK (Tomsk), while Tatneft, Bashneft and Onako' headquarters are in their respective regions.

⁷⁴⁸ Sibneft and LUKoil in Korchagina, 'High Taxes Hurt Sibneft Profits', *Moscow Times*, 2.4.2003. TNK at: <http://www.tnk.ru> [6.2.2003]. Yukos and Sibneft have similar production cost. Interviewee #11 and #7.

⁷⁴⁹ Company news at: www.yukos.com [15.1.2003].

merger attempt. Alongside these processes all companies are still acquiring assets in order to supplement their activity base.

Holding Type Company. The residual company type incorporates the enterprises that remained under state control and/or could not consolidate their asset base into a single share structure. The companies in this group stem from the “backward” insider group. The companies in this group that had connections with financial groups developed into the WSC. The companies without such connections remained either state controlled or regionally dominated. (The exception in this case is Sidanko, which was connected to the powerful Interros FIG. In late 1997 the group made attempts to strengthen the control over its subsidiaries, but the FSC intervened on behalf of minority investors.⁷⁵⁰ Subsequently Sidanko lost several of its value creating units). This situation left them without a clear development strategy and without sufficient financial means to develop their companies.

Throughout the past decade several of the companies in this category have been taken over by the SSC and WSC and have been (or are in the process of being) consolidated into these. With the sale of Slavneft in December 2002, the remaining companies in this group are Rosneft and Sidanko. Due to their particular circumstances Tatneft and Bashneft are omitted from this group.

While the constituent parts of the other company models are no longer independently listed the units of Rosneft are listed separately from the holding company. This was also the case for Orenburgneftegaz (Onako), Komineft (KomiTEK), Tomskneft (VNK) and Megionneftegaz (Slavneft) before their holding companies were taken over by other companies. These sub-units are now at various stages of being fully absorbed into the asset base of the SSC and WSC. The lack of a consolidation strategy and financial means, as was shown in Chapter 8, was an instrument for the other companies to poach assets from these companies and finally absorb the holding companies.

⁷⁵⁰ Moser & Oppenheimer, *op cit.*, p. 316.

The continued dominance of “backward” insiders resulted in inefficient operations and low capital market evaluations of these companies. The absence of a controlling centre further aggravated this situation. In 2002 the Investment Company OLMA attributed the low capitalisation of Rosneft, and its daughter companies, to the company’s low corporate culture, poor relationship with minority shareholders, and management actions incompatible with the interests of its main shareholder – the state.⁷⁵¹

An example of the latter is Rosneft’s purchase of Northern Oil (*Severnoi Nefti*) in 2003. While experts estimated the value of the company to be \$320-350 million Rosneft paid \$600 million, leading analysts to brand Bogdanchikov the most ineffective manager of the industry.⁷⁵² (See Chapter 9 for details of the disputes surrounding Northern Oil). The anticipation of the transaction was thought to have led to a reduction in Standard & Poor’s credit rating of the company.⁷⁵³

Thus, although Rosneft (seemingly) has managed to expand its asset and reserve base it has also demonstrated poor financial responsibility by paying too much for an asset of an uncertain nature. Success stems not from good management, but rather from state protection. In terms of incentive structure the case demonstrates a lack of a coherent development strategy. On one hand the Putin administration advocates market discipline and economic efficiency. On the other hand the government shields favoured companies from market competition and the rule of law.

Institutional competition: company performance.

What the above corporate model analysis shows is that throughout the 1990s three corporate models have developed. Compared to Soviet times this is a first in terms of industry development and a major pre-requisite for the

⁷⁵¹ Kozitsyn, ‘*Vyshaya mera* [Capital punishment]’, *Vedomosti*, 13.2.2003.

⁷⁵² Tutushkin & Bekker, ‘*Vavilov stal bogache na \$600 mln* [Vavilov became \$600 million richer]’, *Vedomosti*, 13.2.2003.

⁷⁵³ Tutishkin, ‘*V S&P ne otsenili vybop Rosnefti* [S&P did not appreciate Rosneft’s choice]’, *Vedomosti*, 12.2.2003.

emergence of institutional competition. For institutional competition to take place three elements should be present. Firstly, an economic environment that endorses the existence of different corporate models (political/ideological environment). These models will differ in organisation and in corporate strategies. Secondly, the existence of different corporate models. Finally, differences in performance as companies strive to maximise different operative and strategic goals. Which again, in the presence of the other conditions, may allow institutional competition to "select" the most "effective" models.

The two first elements have been examined in the above, the next section considers company performance. Of particular interest is the examination of possible differences in production, economic efficiency, and stock market performance.

Production and operation.

In Soviet times production was very much a function of supply side constraints. Expansion of Soviet oil production came about as a result of massive investment in the production side of the upstream oil industry. Similarly the absence of centralised funding in the post-Soviet period contributed to a collapse in production volumes. What needs to be discovered is whether investment alone can explain the subsequent rise in oil production in the late 1990s and the first years of the 21st century.

Given institutional competition one would expect there to be a significant difference in productive results. Table 10.1 summarises VIC output 1992-2002. As can be seen from the table production started to flatten out in the mid-1990s. This coincided approximately with the consolidation process of in the SSCs and the second privatisation phases.⁷⁵⁴ After 1998 there was a rise in

⁷⁵⁴ In addition to consolidation of property the gradual liberalisation of prices (1992-1995), as described in Chapter 7, was an important pre-condition for making the industry "productive". The two arguments though, are closely related as efficient pressure for price liberalisation increased as the companies became more consolidated and assumed a stronger bargaining position *vis-à-vis* the respective authorities. Similarly the pressure for tax reductions (1994-1997/2002) became more efficient as the companies became more consolidated.

oil production. This rise coincided with the third privatisation phase and the emergence of the WSC.

Table 10.1 – VIC oil & condensate production 1992-2002 (Million tons).

	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	1992=100
LUKoil	70.8	61.1	56.9	53.5	51.0	53.4	53.7	53.4	62.2	62.9	61.7	83.6
% change		-13.6	-6.9	-6.1	-4.6	4.8	0.5	-0.6	16.5	1.2	-1.9	
Surgutneftegaz	42.5	38.1	34.3	33.3	33.3	33.9	35.2	37.6	40.6	44.0	49.2	115.8
% change		-10.4	-10.2	-2.7	-0.2	2.0	3.7	6.8	8.1	8.4	11.8	
Sidanko	36.9	29.5	25.6	22.9	20.8	20.3	19.9	19.6	13.0	9.1	16.3	44.2
% change		-20.2	-13.3	-10.5	-9.0	-2.7	-1.7	-1.7	-33.7	-29.5	78.0	
Rosneft	15.2	14.4	12.6	12.5	12.7	13.0	12.6	12.6	13.5	14.9	16.1	105.9
% change		-4.8	-12.4	-1.4	2.2	2.4	-3.2	-0.6	7.3	10.9	7.8	
Yukos	51.5	42.7	37.3	36.1	35.3	35.6	34.1	34.2	49.5	58.1	69.3	107.4
% change		-17.0	-12.7	-3.3	-2.3	0.9	-4.2	0.2	44.9	17.3	19.3	
VNK	12.2	11.7	11.3	11.2	11.2	11.2	10.7	10.5				
% change		-4.2	-3.1	-0.7	0.0	-0.5	-4.0	-1.9				
Tatneft	29.9	25.6	23.6	25.0	24.8	24.5	24.4	24.1	24.3	24.6	24.6	82.3
% change		-14.3	-7.8	6.0	-1.0	-1.0	-0.4	-1.5	1.1	1.1	0.0	
Bashneft	22.8	18.1	18.8	17.7	16.3	15.4	12.9	12.3	11.9	11.9	12.0	52.6
% change		-20.9	4.0	-5.6	-7.9	-6.0	-16.1	-4.9	-2.6	-0.6	1.3	
Onako	8.0	7.4	7.6	7.7	7.9	7.9	7.9	7.5	6.8			
% change		-7.2	3.1	0.4	3.0	0.5	-0.6	-5.4	-8.9			
Slavneft	14.6	13.5	13.5	13.2	12.9	12.3	11.8	11.9	12.3	14.9	14.7	100
% change		-7.5	-0.1	-1.9	-2.6	-4.5	-4.2	1.2	2.8	21.7	-1.5	
Sibneft	29.9	25.6	22.7	20.4	18.6	18.2	17.3	16.3	17.2	20.6	26.3	88
% change		-14.3	-11.5	-10.3	-8.5	-2.4	-4.7	-5.7	5.4	19.7	27.8	
TNK	34.3	28.1	24.7	22.6	21.3	20.9	19.7	20.1	28.6	40.6	37.5	70.6
% change		-18.1	-12.1	-8.7	-5.6	-2.0	-5.9	2.1	42.4	42.1	-7.6	
KomiTEK	11.1	7.7	5.1	4.5	3.3	3.6	3.5	3.6				
% change		-30.6	-34.3	-10.7	-28.1	10.3	-2.2	3.3				
Group Total	379.7	323.6	294.0	280.5	269.4	270.2	263.7	262.9	279.9	301.7	341.5	89.8
% change		-14.8	-9.2	-4.6	-4.0	0.3	-2.4	-0.3	6.5	7.8	13.2	
Russia Total	399	354	318	307	301	306	303	305	324	348	380	95.2
% change		-11.3	-10.2	-3.5	-2.0	1.7	-1.0	0.7	6.2	7.4	9.2	

Source: For companies: (1992-1994) Sagers 1996; (1995-2000) *Neftegazovaya Vertikal* various issues; (2001-2002) *Neft i Kapital* various issues. Russia Total: (1992-2000) Goskomstat 1997,2001; (2001-2002) *Neft i Kapital* various issues.

Note: See table 8.1 for when the different companies were constituted. Also VNK totals are added to Yukos' from 2000, KomiTEK to LUKoil from 2000, and Onako to TNK from 2001.

Column 13 is an index of production change 1992-2002, excluding production through acquisitions.

Note on LUKoil: The series here used here differ from that of the LUKoil's own reporting. In their own annual reports LUKoil records production (in Russia) for the years 2000-2002 as 75.6, 76.1 and 76.9 million tons. Yearly growth then is 2.5%, 0.7% and 1.1%.

Important additional factors post-1998 have been the effects of the devaluation of the Rouble and high oil prices.⁷⁵⁵ However, these factors would be common to all the companies in question. Production decline flattened out between 1996-1998 while production has been increasing since 1999. For the SSC group (1997) the turn around in production set in shortly after their consolidation, the same can be seen for the WSC group (1999). As can be seen from Figure 10.1 production increase in the WSC has been more rapid since 1999 than for SSC and HTC. Most of the HTCs enjoyed a brief improvement in production 1996/7 before continued decline. The exception is Slavneft where production has been declining all through the 1990s. Three of the companies in the HTC group (VNK, Onako and Slavneft) have subsequently been bought by the WSC.

To what extent is this performance attributable to corporate style? In Chapter 5 two factors were set out that are generally regarded as being important for production in the natural resources industries. Firstly, in line with general transaction cost economics it was assumed that better control/monitoring structures would decrease the cost of moral hazard and provide relative protection of investment, particularly so under circumstances of asset specific investments. Secondly, the protection of property rights and the perceived just distribution of such are seen as important factors to reduce investment risk.

Both these factors are closely connected to the degree of integration. Thus the SSC ability and willingness to halt the production decline after 1996 can be attributed to their ability to control the flow of finances within the company, thus reducing transaction costs. The SSC's relatively good relationship with government circles and regional authorities ensured better post-investment protection. From a management point of view these factors made it desirable to increase production in order to maximise return to management. In this respect the two companies in this group differ. While as Surgutneftegaz in terms of net profit margin has been one of the best performing companies throughout the last decade, and certainly the best during the 1990s, LUKoil

⁷⁵⁵ Interviewee # 12.

has not been able (willing) to run the same level of profits. (See table below). The reasons for this remains speculative, but in light of the relative low levels of *de jure* ownership by management (*de facto* owners) one must assume that the chosen strategy has enabled management to extract (a level) of income that they find desirable with.

For the WSC the attractiveness of company development did not occur until later. These companies went through protracted periods of minority shareholder conflicts in order to achieve a degree of integration similar to that of the SSC. While as *de facto* owners of the SSC has remained the same throughout the period, these changed for the WSC as a result of the 'loans-for-shares' deals of the mid 1990s, replacing "backward" insiders with personnel from financial organisations. The WSC did not attain a comparable level of corporate control until after 1999, thus the attractiveness of investing in production remained low. Also, with respect to post-investment protection, these companies were worse off than the SSC. With the end of central funding in the 1990s the companies had to generate means for investment out of their own activities. Given the prohibitive formal tax take, only companies that were strongly placed in the bargaining process could afford to increase production without incurring "tax penalties".⁷⁵⁶ The consolidation of the companies allowed them to have a single cost and profit centre, which reduced their exposure to both federal and regional/local taxation.⁷⁵⁷ Consolidation of *de facto* control allowed management to maximise their respective objectives by a) increasing monitoring and control structures thus safeguarding investments in-house, and b) protecting production and rent from outside expropriation.

In the regression analysis below development drilling has been used as a proxy for analysing the relationship between production and corporate strategy. The basic hypothesis to be tested is whether there are strategy specific differences.

⁷⁵⁶ If investments were a proof of the business generating profit and profit were exposed to excessive taxation, than not investing in order to conceal profit was the logical strategy.

⁷⁵⁷ According to Shafranik & Kryukov, the ability of the regions to appropriate income from the oil industry began to decline in the mid-1990s (Shafranik & Kryukov, *op cit.*, p. 220). This coincided with the consolidation of the oil companies.

The analysis is based on the original Soviet production associations (omitting Bashneft and Tatneft) in order to approximate homogeneity of subjects, development practice and history. Multivariate panel data analysis has been used in order to relax the assumption of independence between observations, i.e. the data analysed are repeated samples from a finite groups of observations.

Table 10.2 – Regression models based on data 1995-2002.

	Model 1	Model 2	Model 3	Model 4	Model 5
R ²	.67	.68	.50	.52	.54
n	175	175	175	175	175
Wald X ² (p>X ²)	198**	198**			
F (p>F)			43.4**	51.7**	63**
Constant	5662.9**	5658**	-517.9**	-497**	-539**
Prod_Drl	9.19**	9.37**	1.56	1.64*	2.76**
WSC	7.62**	7.84**	6.93**	7.03**	6.63**
SSC	6.36**	5.88*	2.21*	1.78	
Δ Drl	-1.62	-2.66*	1.55*	1.09*	1.21*
Δ WSC_Drl	-8.46**	-7.61**	-5.4**	-5.02**	-5.5**
Δ SSC_Drl	-2.39		-1.21		
LM X ²	261.1**	262.3**	25.3**	25.3**	25.3**
Hausman X ²	.0	.0	2398**	307**	307**

Model 1 & 2; dependent variable: production mt.

Model 3-5; dependent variable: production change mt.

Source: See table 10.1 & 10.3.

Note: Due to the reorganisation of some PA the author, on the basis of adding up values for the spin-offs/reorganisations, has estimated totals for Langepasneftegaz, Nizhnevartovskneftegaz, & Chernogorneft.

Multivariate panel data regression: 29 groups (Bashneft & Tatneft omitted). Model 1&2; random effect estimation (Hausman non-significant). Model 3-5; fixed effect estimation (Hausman significant).

** significant at the .00 level. * significant at .05 level.

See Appendix C for full report.

The hypothesis to be tested is whether security of property rights affects the level of investment, and whether such effects can be said to vary across the corporate groups. In the preceding analysis it has been argued that the WSC enjoys greater control over their subsidiaries resulting in greater control over assets and value created by the company. If this conclusion is correct one would expect the WSC to have higher levels of production per meter drilled as a result of minimising individual rent-seeking and value dissipation. Output growth in the Soviet Union was based on maintaining an increasing

investment in development drilling. The variables “WSC” and “SSC” are interaction terms between a company dummy variable and meters drilled. The baseline category is the HTC group, which is represented by the *Prod_Drl* variable. From the results it is clear that the WSC has had a higher growth rate than the SSC, which in turn has had a higher growth rate than the HTC (models 1 and 2). This is consistent with Figure 10.1.

The analysis thus confirms that degree of control and security of property has had a positive impact on levels of production. The coefficients for WSC and SSC confirm that company control has had an important effect on value creation in Russia. As argued in Chapter 5 this is in line with transaction cost economics expectation and general natural resource management theory. The reorganisation into WSC and SSC has offered greater control with the revenue stream compared with the HTC by reducing principal-agent cost. From a wealth maximising perspective these company types have a greater incentive to invest.

The variable “ Δ Drl” relates change in development drilling to output. “ Δ Drl” is the baseline category of HTC, while “ Δ WSC_Drl” and “ Δ SSC_Drl” are interaction terms. As expected for mature fields this variable is negatively related (-2.66 – model 2) to output indicating a declining return on development drilling. For WSC this coefficient is even larger (-7.61). Model 3-5 regress development drilling data on change in production (Δ production = production_{*t*} – production_{*t-1*}). Again the models shows higher output growth for the WSC and a negative rate of return on change in development drilling for the WSC. This indicator is non-significant for the SSC (i.e. the data show no statistically significant direction) suggesting that there is no significant difference between the SSC and the HTC in this respect. This is also consistent with the argument in this thesis. The WSC strategy has been to improve share and asset valuation in order to maximise the return on their investment. Output growth and reorganisation has been the vehicles for realising this strategy. Success has allowed the owners of the WSC to extract value. On the other hand it has been argued that the SSC and the HTC have extracted value by means other than the share and capital market.

The results are consistent with the observed practice. While growth in the SSC and HTC has had a "traditional" character the WSC have made extensive use of western field and well management firms to increase productivity. For instance average daily well production at Sibneft has increased from 11.3 tons per well in 1996 to 19.1 tons per well in 2002. At the same time water cut has been reduced from 65.9 per cent to 61.1 per cent while the percentage of idle wells has increased from 37 to 46.⁷⁵⁸ Both Yukos and Sibneft reduced the total meters of development drilling in 2002 while increasing production. LUKoil and Surgutneftegaz on the other hand have aimed to reduce the number of idle wells.⁷⁵⁹ LUKoil reduced the percentage of idle wells from 18.5 in 1997 to 15.2 in 2001.⁷⁶⁰ During the same period average well productivity fell from 10.6 tons per day in 1997 to 8 tons per day in 2001.⁷⁶¹ Surgutneftegaz increased its wells stock utilisation ratio from 0.84 in 1997 to 0.89 in 2001.⁷⁶²

Importantly though production in the WSC fell further than production in the SSC and their subsequent improvement is also a reflection of starting from a lower level. In the final column of Table 10.1 production in 2002 is expressed as an index of production of 1992. Apart from Yukos, both the other companies in the WSC have indexes that have not yet reached their 1992 level, which is in line with most of the other companies. The WSC companies have benefited from the introduction of western technology and services, however starting from a lower point than the other companies it is hard to access at the present level how sustainable the high growth figures of the past few years will be.

⁷⁵⁸ *Sibneft Analyst Modelling Databook 2002*. At: www.sibneft.ru.

⁷⁵⁹ In many Soviet fields the number of wells was excessively high. As water flooding damaged fields the Soviets relied on in-fill drilling and sinking new wells in remaining and/or displaced oil pockets. The practice of getting damaged and idle wells on-line does therefore not necessarily make production efficient.

⁷⁶⁰ *LUKoil Annual Report 1997 & LUKoil Annual Report 2001*. Both at: www.lukoil.com. In order to increase profitability of its operation LUKoil in 2002 commenced a programme of well closure. (*LUKoil Efficient Growth 2002*. At: www.lukoil.com).

⁷⁶¹ 1997 figure from http://www.lukoil.com/about/sub_product.htm. 2001 figure authors calculation.

⁷⁶² *Surgutneftegaz Annual Report 2001*. At: www.surgutneftegaz.ru.

The reserve-production ratio for these companies is still higher than compared to western companies, however, continued high levels of investment are needed. An important question will also be future oil prices. The rise in WSC production has profited from the devaluation in 1998, and then high oil prices 1999-2002, which made investment in the up-stream sector more attractive, and gave better profit margins on otherwise less attractive projects. Thus, it remains to be seen whether the WSC will be performing to a similar level given a change of circumstances. Finally, the relative political calm of the first Putin years has been a factor stressed by several of the interviewees as a reason for improved production – changes in the tax structure, and the apparent security of property.⁷⁶³

At the present stage it is therefore hard to assess the potential for institutional competition based on production figures alone. The best performing company (the entire period seen as one) in terms of production has been Surgutneftgaz. Since 1998 the best performing companies have been the WSCs. With respect to future development several factors are important. Firstly, the companies' ability to utilise efficiently their capital and investment. The regression analysis shows that the better companies in this respect are the WSCs. Secondly, the companies need access to capital in order to develop new fields. The cost of establishing production at green-field sites will be significantly higher than the kind of investment that has contributed to production growth over the past few years. Thus a company's ability to raise capital (and reduce the cost of such capital) on international markets will be an important factor in future production scenarios.⁷⁶⁴ Secondly, the "Kremlin-capitalist alliance" is boosted by present high oil prices, which generates income for the state and for the companies.

Development of green-field sites have a much longer payback period than present investment, and a stable tax and political regime will be necessary to

⁷⁶³ Interviewees # 2, 7, 8, & 11.

⁷⁶⁴ According to Interviewee # 2, 'We need significantly cheaper capital and more access to the international capital market, including equity before you see that [greenfield development]. Asked what drives the cost of capital Interviewee # 2 answered: 'The cost of

attract the needed capital. In the short run this could imply some sort of PSA. Power structures in Russia still have a highly patrimonial character, thus making a projection of the present apparent calm in to the future fraught with high risk. Therefore, unless an acceptable PSA regime is offered as an alternative to the licensing system the cost of capital in the development of green-fields is likely to remain high and thereby reducing investment attractiveness.

Differences in future strategies can to some extent be seen from Table 10.3. In Chapter 5 it was argued that under circumstances of secure property rights companies were more likely to develop a long-term strategy of development. On the other hand, uncertainty with respect to stability of (political) development and property rights would translate into an emphasis on pumping existing reserves rather than preparing new reserves.

Table 10.3 – Development to exploration drilling ratio.

	1995	1996	1997	1998	1999	2000	2001	2002
LUKoil	8.1	4.8	7.4	3.5	2.7	3.3	4.1	7.8
Surgut	29.3	14.4	11.1	9.0	8.8	9.4	8.4	9.1
Sidanko	13.4	8.8	6.7	7.2	8.2	5.0	8.3	113.7
Rosneft	8.9	8.5	6.4	2.8	5.3	8.9	10.8	9.4
Yukos	12.0	5.6	7.0	4.8	6.0	11.9	5.7	17.6
VNK	4.7	6.2	10.7	8.8
Tatneft	3.8	7.2	9.2	15.9	12.6	11.3	13.2	14.7
Bashneft	3.1	2.2	2.1	1.3	2.1	3.6	3.9	5.3
Onako	4.4	6.3	3.1	2.2	n.a	n.a	n.a	.
Slavneft	.	8.9	9.0	9.1	10.4	8.5	8.1	9.3
Sibneft	6.9	6.0	6.3	4.6	11.2	116.9	37.0	57.5
TNK	39.2	14.1	4.1	4.5	83.1	20.4	10.2	18.5
KomiTEK	6.2	3.9	0.7	1.0

Source: RPI, FSU Oil and Gas Statistical Yearbook (2002), *Neftegazovaya Vertikal* various issues, & *Neftyanaya Torgovlya*, № 1, 2003. Authors calculations.

Note: Data for Onako 1999-2001 not available, consolidated into TNK for 2002. VNK and KomiTEK consolidated into Yukos and LUKoil respectively.

equity and the cost of debt, transparency and the confidence that people have in the Russian market'.

Table 10.3 shows the ratio of development drilling to exploration drilling. If one takes exploration drilling as a proxy for a long-term strategy (the pay off period for investments in new reserves can be up to 15 years) there is a clear difference between the SSC and the WSC. Despite different geographical and diversification strategies both LUKoil and Surgutneftegaz have a much lower ratio than Yukos, TNK and Sibneft. Partly this is due to the WSCs' objective of bringing their production reserve ratio to a par with that of western oil majors. While the Soviet reserve production ratio was 20-25:1 western standards in this respect are 10-12:1.⁷⁶⁵ On the other hand if these trends turn out to be long-term they would lend credence to the 'exit strategy' option presented previously. Similarly the slow development of new extraction regions is a testimony to short to medium term strategies rather than long-term strategies. The situation in this respect is different for the SSC. Two factors are important here. Firstly, the argument that the managers of these companies are interested in the long-term development of the companies as oil companies. Secondly, both retain a different attitude towards public-private relations that would lead to the conclusion that closer political integration in these companies gives them greater long-term security. Both companies have enjoyed extremely good relations with federal and regional authorities. Presumably income from these companies is not only extracted through shareholder value and dividends. Thus, although income from these companies may be lower it may also be more stable.

However, in the case of Surgutneftegaz its exploration is geographically very limited and its reserve additions are mainly from areas where it already operates, i.e. has developed infrastructure. LUKoil has been engaged in the exploration of the "new" areas in the Caspian basin and the Timan-Pechora area. In the long-term therefore LUKoil's reserve situation should be better than that of Surgutneftegaz. The WSC have relied on reserve acquisitions rather than exploration of new fields.⁷⁶⁶ In other words apart from LUKoil

⁷⁶⁵ Interviewee # 7 & 12.

⁷⁶⁶ Thus capex (capital expenditure) in the WSC has been targeted at improving reserves already under production. 'You need to develop the field planning systems and the like. The extraction process is the reserve recovery, the reserve measurement, the reserve analysis...all of that stuff. It is not just exploration of new fields, you need to add to that better

there seems to be little difference between the companies with respect to the exploration and development of new high risk and cost areas.

Table 10.4 – Reserve Additions million tons 1991-2002.

	1991	1993	1996	1997	1998	1999	2000	2001	2002
Production	462.3	354	301.3	305.2	303.6	305.2	323.1	348.1	379.9
Reserve growth	836.3	392	212.8	214	192.7	127.5	195	293	380

Source: Zapivalov, 'Petroleum Industry of Russia: the Past, Present and Future', *Georesources*, 2002, no. 6, p. 4. For 2002: 'Oil Finds Outpace Production', *Moscow Times*, 22.1.2003.

Apart from 2002, production of oil has been higher than reserve addition for most of the post-Soviet period – Table 10.4. Russia's reserve situation continues to grow increasingly costly. The recent increase in reserves are largely satellite fields of already existing fields and production from new fields is not expected to constitute more than 7 per cent of total production by 2020.⁷⁶⁷ Estimates of remaining Russian production calculate that 65 per cent of future production will come from wells producing less than 10 tons per day.⁷⁶⁸ While this is not a uniquely Russian situation Russia's tax framework needs to be accommodating in order to create the necessary incentives for more exploration and development of new areas. The sustainability of high production growth is also questionable if (when) export prices should fall and make marginal production less attractive.

Under the present conditions this points to a situation where, *ceteris paribus*, the probability of an institutional reversal remains a distinct possibility. The reserve situation, and thus long-term guarantee of resource flows, has been a constant motivation for calls for more state control and influence.⁷⁶⁹

understanding the assets that you have by using 3D seismic, horizontal drilling and things like that'. (Interviewee # 11).

⁷⁶⁷ Zapivalov, 'Petroleum Industry of Russia: the Past, Present and Future', *Georesources*, 2002, no. 6, p. 3.

⁷⁶⁸ *Ibid.*

⁷⁶⁹ *Ibid.*, pp. 4-5. Interviewee # 6.

The increase in oil production since 1999 is reflective of a development shift in terms of improvements in well stock management and re-commissioning of idle wells and less reflective of new fields coming on-line.⁷⁷⁰ Such investments carry lower risk than exploration and green-field development and have shorter pay-off periods.

Efficiency and profitability.

Efficiency in this part refers to economic efficiency. As such it does not take into consideration the maximisation of objectives not reflected in the following analysis. In Chapter 5 a shift towards economic efficiency was seen as a possible indicator of institutional change, while differences in economic efficiency between different models was seen as a possible indicator of institutional competition.

In the following analysis an examination of two possible indicators of such change will be presented. Productivity per worker will be taken as a measure for organisational improvements and a shift towards a more narrowly defined sphere of business activity. Profitability per worker will be taken as a measure of how well the company is able to shift towards a "capitalist" indicator of success and how well the company is able to take advantage of changing circumstances and utilise its assets. While inter-company comparisons will be interesting, of greater importance is the long-term trend within each company and corporate model.

From Table 10.5 it can be seen that all companies increased their number of workers in the immediate period after the Soviet Union (1994-1995). This is in line with arguments presented earlier that until the eventual consolidation of the companies, each operating unit was more exposed to regional and federal pressure to maintain employment. Places like Surgut, Nizhnevartovsk and Noyabrsk are company towns where Surgutneftegaz, TNK and Sibneft are the major (if not sole) provider of employment.

⁷⁷⁰ Mazalov, *op cit.*, p. 44.

Table 10.5 – Number of workers.

	1994	1995	1996	1997	1998	1999	2000	2001
LUKoil	82900	107000	94200	100000	102000	120000	128000	140000
Surgut	68000	80700	80800	76700	77400	70100	86400	91500
Sidanko	79000	100600	97300	84200	80000			
Rosneft	405000	75000	70000	62200	56100	47500	54600	51800
Yukos	83000	110000	102000	100000	93700	102300	86300	120000
VNK	43436	48000	40400					
Tatneft	80777	72900	75000	65500	46700	46000	52200	54100
Bashneft	15200	38400	60900	56900	104800	93300	44100	54300
Onako	10400	31900	31700	29100	27700	18700	20000	
Slavneft	3000	18520	27300	27900	27600	27100	33600	35900
Sibneft		48656	58000	56200	47000	42300	38300	46100
TNK		59000	53700	49100	39600	32100	60900	94800
KomiTEK		18803	11500	11500	10600			

Source: Expert Rating, various years. At: <http://www.expert.ru>.

Several analysts have commented how the initial insiders maintained the workforce in their respective workplaces as a form of “payment” for company control.⁷⁷¹ Similar bargains were struck with local/regional authorities with respect to taxation and with the federal government with respect to exports.

Before consolidation the individual producing units were comparatively more dependent on such networks in order to survive. Income surrendered under these circumstances was of a political nature rather than an economic nature. Although political connections remain very important consolidation has altered the relationship between the authorities at different levels and the companies in that the companies now are in a better bargaining position. What the company uses its bargaining strength for differs from company to company. The present existence of different company styles and the alterations to the structure of income appropriation therefore allow for an element of institutional competition.

Consolidation of the companies was fraught with conflict with entrenched management in several of these company towns. After consolidation of the

⁷⁷¹ Earle & Estrin, *Privatization Versus Competition; Changing Enterprise Behaviour in Russia*, International Institute of Applied Systems Analysis, Working Paper, no. WP-96-049, May 1996, p.12. At: <http://www.iiasa.ac.at>. Kochevri et al., *op cit.*, pp. 380-82. This situation would have been most pressing before corporatisation and eventual privatisation

industry a shift towards a re-centralisation of the income bargaining process has occurred. With a shift towards greater industry independence there has also occurred a shift in the structure of income extraction and circulation. Consolidation often shifted the cost and revenue centre of these units out of their immediate area of operation, making them less exposed to local and regional pressure.

With the lessening of exposure the consolidated companies were in a better position to reorganise their activities and divest themselves of non-core businesses. Table 10.6 shows the development of worker productivity for each company. The table shows that in terms of worker productivity there is little difference between the SSC and WSC. The ratio ranges between 3.3 and 3.5. In the last entry for TNK, Onako has been added to the figure. As Onako is not fully integrated (consolidated) into TNK yet its figures have affected the ratio. The ratio for 2000 (3.4) will therefore be more representative of TNK core.

Table 10.6 – Worker productivity (barrels per worker).

	1994	1995	1996	1997	1998	1999	2000	2001	Coeff.Var
LUKoil	5.0	3.7	4.0	3.9	3.9	3.3	3.6	3.3	0.08
Surgut	3.7	3.0	3.0	3.2	3.3	3.9	3.4	3.5	0.09
Sidanko	2.4	1.7	1.6	1.8	1.8				0.07
Rosneft	0.2	1.2	1.3	1.5	1.6	1.9	1.8	2.1	0.19
Yukos	3.3	2.4	2.5	2.6	2.7	2.4	4.2	3.5	0.24
VNK	1.9	1.7	2.0						0.12
Tatneft	2.1	2.5	2.4	2.7	3.8	3.8	3.4	3.3	0.19
Bashneft	9.1	3.4	2.0	2.0	0.9	1.0	2.0	1.6	0.46
Onako	5.4	1.8	1.8	2.0	2.1	2.9	2.5		0.20
Slavneft		5.2	3.5	3.2	3.1	3.2	2.7	3.0	0.24
Sibneft		3.1	2.4	2.4	2.7	2.8	3.3	3.3	0.14
TNK		2.8	2.9	3.1	3.6	4.6	3.4	3.1	0.18
KomiTEK		1.8	2.1	2.3	2.4				0.14

Source: Calculated from Tables 10.1 and 10.5. Conversion factor for tons to barrels = 7.33. Authors calculations.

Note: Column 10 shows the coefficient of variation 1995-2001, and should be read as a measure of the variability of productivity over the period. Thus a low factor shows less change and *vice versa*.

(1998-1993). With the clarification of means of ownership and consolidation of ownership management could begin to assert their preferences over that of their workers.

However, comparing the coefficient of variation between SSC and WSC the companies in the former group have a lower (.08-.09) values than in the latter (.14-.24) indicating that worker productivity has remained more constant for these companies than the WSC. This is also reflected in the yearly ratios where worker productivity has been increasing since consolidation. Again TNK differs in this respect as it is still in a consolidation process, and has been adding assets throughout the period making its ratio less stable. Importantly there is a difference within the SSC as well. While Surgutneftegaz since consolidation has shown a gradual improvement in worker productivity, LUKoil has experienced the opposite.

Is there any evidence on institutional competition? Again the evidence is inconclusive. While the WSC have been performing better than the SSC since consolidation, their productivity per worker has only caught up with that of the SSC, and it remains to be seen to what extent they will be able to continue the modernisation process long-term and over take the SSC. However, this picture changes with respect to profitability.

Table 10.7 shows the development of worker profitability 1994-2001. Again the coefficient of variation shows greater homogeneity for the SSC than for the WSC, indicating less variation in profitability for this group. As opposed to worker productivity, where the WSC have just caught up with the SSC, the WSC display far greater profitability than the SSC. (TNK's last entry again contains the figures for Onako where consolidation is still on going, and 2000 will be a more representative figure for core TNK).

Table 10.7 – Worker profitability (\$000 per worker).

	1994	1995	1996	1997	1998	1999	2000	2001	Coeff Var.
LUKoil	3.71	4.92	7.96	4.85	0.57	10.41	26.79	22.23	0.92
Surgut	4.50	4.61	9.94	10.05	6.86	17.90	31.47	20.10	0.71
Sidanko	-5.52	4.01	1.37	0.35				0.00	75.73
Rosneft	0.87	2.64	4.76	0.00	-6.65	7.93	1.53	15.36	1.94
Yukos	1.27	3.52	0.82	1.72	-7.47	2.48	38.60	33.39	1.82
VNK	2.41	3.55	4.13						0.26
Tatneft	0.10		4.15	3.92	-10.27	11.09	16.40	9.37	1.73
Bashneft	7.43	-2.11	3.84	3.64	0.50	4.94	9.82	7.49	0.88
Onako		3.99	4.04	4.92	0.52	9.58	8.13		0.62
Slavneft			4.35	6.01	-1.47	12.00	20.39	5.52	0.96
Sibneft			2.63	1.80	0.77	7.45	17.62	28.31	1.13
TNK		0.71	0.59	-4.50	1.14	8.32	28.04	11.79	1.66
KomiTEK	0.00			1.53	-26.96				-1.89

Source: For workers; see table 10.5. For Profit; Expert Rating, at: <http://www.expert.ru>, except Yukos and Sibneft since 1998 company statements and LUKoil, Surgutneftegaz and TNK since 1999 company statements. Authors calculations.

Note: Company statements are prepared in accordance with US GAAP. Column 10 shows the coefficient of variation 1994-2001, and should be read as a measure of the variability of profitability over the period. Thus a low factor shows less change and *vice versa*.

All groups show a drastic rise in profitability due to rise in world oil prices and the effects of devaluation in 1998. For Russian oil companies 85-90 per cent of expenses are denominated in Roubles. The effect of the devaluation for an industry that generates most of its profits in dollars had an immediate positive effect on the companies. These effects would have been similar for all the companies though, thus leading to the conclusion that the WSC have been better able to take advantage of these circumstances due to their earlier divesting of non-core business, and reliance on western assistance in the development of their fields. Comparisons with the HTC become less significant as these accounts are not published on a comparative basis. Also, Rosneft, as the representative of the state, has had disproportionate access to the pipeline system, enabling them to export proportionally more of their crude production than the other producers do.⁷⁷²

⁷⁷² Pleines, *op cit.*, p. 23. According to Pleine's estimates Rosneft's exports (1995-99) were consistently higher than those for other companies. The percentages for oil majors (export out of production) in 2002 were: LUKoil (33.8%), Yukos (35.3%), Sibneft (39.2%), Surgutneftegaz (35.5%), Sidanko (32.6%), Tatneft (35.4%), TNK (34.2%), Bashneft (43.1%), Rosneft (37.6%), Slavneft (37.2%). Apart from Sibneft Rosneft had the highest export level. Authors calculation from *Neftyanaya Torgovlya*, № 1, 2003.

This conclusion changes somewhat with respect to the net profit margin, which reflects management's ability to efficiently utilise capital equipment and control expenses – Table 10.8. Again the SSC show less variability over time than the WSC. In the case of the WSC the net profit margin rises significantly after consolidation of these companies. (See previous comments about TNK for final year entry). However in this respect they have only just caught up with the best performing SSC. Surgutneftegaz has consistently showed the best performance in terms of this indicator. Importantly Surgutneftegaz is the only VIC that has not engaged in transfer pricing.⁷⁷³

Table 10.8 – Net profit margins (Million Dollars).

	1994	1995	1996	1997	1998	1999	2000	2001	Coeff. Var.
LUKoil	0.10	0.13	0.11	0.08	0.02	0.18	0.30	0.21	0.62
Surgutneftegaz	0.17	0.25	0.22	0.19	0.24	0.30	0.48	0.42	0.40
Sidanko	0.17	0.12	0.04	0.03					0.75
Rosneft	0.38	0.10	0.14	0.00	-0.23	0.27	0.35	0.43	1.23
Yukos	0.08	0.13	0.04	0.06	-0.24	0.41	0.58	0.37	1.45
VNK	0.14	0.14	0.11	0.06	0.07	-0.02			0.69
Tatneft	0.02	0.21	0.12	0.16	0.00	0.34	0.29	0.19	0.72
Bashneft	0.34	0.02	0.13	0.13	0.04	0.27	0.44	0.31	0.73
Onako		0.16	0.16	0.17	0.04	0.44	0.29		0.67
Slavneft*	0.20	0.22	0.11	0.10	0.00	0.26	0.32	0.10	0.63
Sibneft*		0.04	0.06	0.06	0.03	0.19	0.31	0.40	0.96
TNK		0.04	0.02	-0.07	-0.08	0.30	0.47	0.28	1.54
KomiTEK*	-0.12	0.04	0.17	-0.01	-0.63	0.30			-8.11

Source: See table 10.7. Authors calculations.

Note: Column 10 shows the coefficient of variation 1994-2001, and should be read as a measure of the variability of profit margin over the period. Thus a low factor shows less change and *vice versa*. Net profit margin = Net profit (before interest and tax)/ Sales (turnover).

LUKoil, although being the largest producer of oil in Russia, in both these profitability indicators has performed below Surgutneftegaz and the WSC. Part of the explanation is LUKoil's very broad business interest and continued reliance on self-sufficiency. In 2001 LUKoil board of directors decided to change their development strategy to one more akin to the WSC. Objectives for the period 2001-2003 were to divest non-core businesses like drilling, service and construction units (152 unpromising and non-core units were

⁷⁷³ Kryukov *et al.*, *op cit.*, p. 22.

divested), and increase investments in operations with shorter payback periods.⁷⁷⁴

The net margin development demonstrates another important factor, which affects the interpretation of the table. While hiding profits was an important objective before 1998 (and most likely after) the table could be interpreted as demonstrating a change in this respect. The interpretation of what constituted profits and costs were often a matter of negotiation between company officials and local/regional/federal authorities. Companies strove to under-report their sales/profits in order to reduce tax exposure. Thus transfer pricing out of the country, and various other means were employed in order to conceal profits. Changes in the structure of taxation and the consolidation of the companies have enabled them to defend their interests better, thus disclosure for the years 1999-2001 should be seen as more reliable than the figures prior to this period.

This raises the question whether one can speak of a change in the economic environment? What seems clear is that the present "Kremlin-capitalist alliance" has been fruitful for both parties, however, indications as to what may happen if there should be a substantial reduction in oil prices, or there is a new leadership are still unanswered. Russia still lacks a stable and attractive tax and operational regime for green-field developments. Nonetheless based on the presented indicators it seems appropriate to conclude that in terms of profitability there is a difference between the two models. The WSC perform better than the SSC on this indicator, LUKoil's shift in corporate strategy seems to reflect the validity of this statement. A similar strategic shift is occurring in Rosneft, the last state owned oil company. Beginning in 2003 Rosneft is to divest non-core units and return development licenses to the state in order to optimise its present and future activity.⁷⁷⁵

⁷⁷⁴ LUKoil annual report 2001, p. 24 & 5. The main objective of the company's future strategy is to 'maintain and, possibly, increase the profitability of the Company's operations'. (p.4). At: <http://www.lukoil.com>.

⁷⁷⁵ Tutushkin & Bushueva, 'Rosneft' sbrasyvaet ballast [Rosneft discards ballast], *Vedomosti*, 27.2.2003.

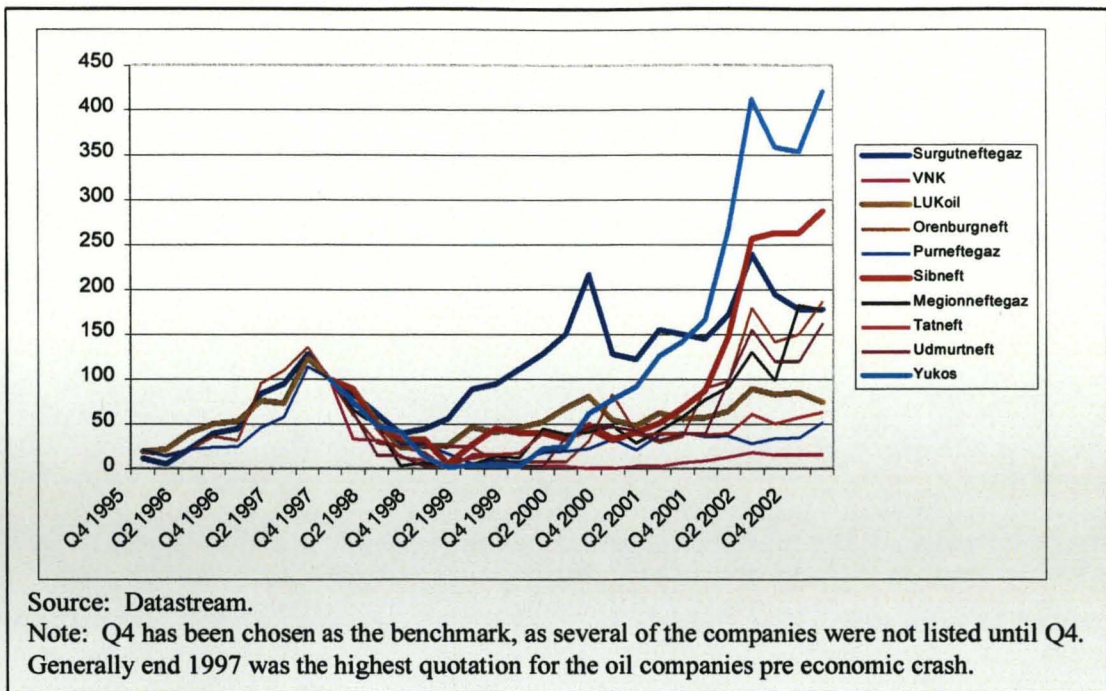
For the period post-1998 it is therefore appropriate to speak of institutional competition in terms of economic profitability. However, the longevity of this situation is still undetermined, as environmental factors play an important role, competition needs to generate rewards, both at a company level and at a macro level for the situation to develop into a shift in the development path. The aforementioned differences in PSA support amongst the companies and their attitude to industry-government relations is for instance one area where the government can affect the incentive structure.

Stock market performance.

In the aftermath of the 1998 financial collapse company shares in Russia plummeted. While share prices before 1998 were driven by the lack of due diligence on behalf of particularly western investors the share market post 1998 has reflected a more sombre mood.⁷⁷⁶ Development in share price has to a greater extent become a function of investors' confidence in the company's commitment to restructuring, corporate strategy, and adherence to western standards of accounting, transparency and corporate governance. These are standards of evaluation that break significantly with Soviet standards of evaluation.

Although neither of the companies (in any of the groups) in question have reached western levels yet, the companies in the WSC have performed better on stock market indicators than have the SSC. Thus the two "winners" in terms of share price development between 1999-2003 are Yukos and to lesser extent Sibneft, while both companies have outperformed the SSC. Figure 10.2 shows the stock market performance 1995-Q3 2003. Entries are in index form with Q4 1997 equal to 100. At the end of 1997 oil companies reached their highest quotation before the crash.

⁷⁷⁶ Interviewee # 8.

Figure 10.2 – Stock market performance. (Q4 1997=100).

TNK is omitted from the figure, as its shares are not listed in the Russian Trading System (RTS). Of the four companies that fall into the SSC and WSC categories only LUKoil has not managed to obtain a share price that exceeds its pre-1998 quotation. This is partly a reflection of LUKoil's relatively poorer performance 1999-2001 in terms of efficiency. LUKoil's development strategy during 1996-2001 has focused on diversification both nationally and internationally, thus long-term LUKoil presents one of the better investment opportunities of the Russian companies. Its domination in the high yield area of Timan-Pechora and Northern Caspian has significantly improved the company's reserve base and reduced development risk. Its productivity indicators should improve as these areas start large-scale production. Although LUKoil has commenced a restructuring programme that is to increase its short-term investment attractiveness as well, it remains to be seen to what extent it will be able to capitalise on restructuring benefits. An important factor will be the overall economic and political climate. (See above on window of opportunity).

Common for the SSC is their lower stock market performance than the WSC. This is also connected with corporate strategy. The SSC are less transparent

companies. Their *de facto* owners run the companies to different standards than the WSC. While the WSC have focused on creating shareholder value, the SSC have focused on growing production.⁷⁷⁷ Calculation of dividend is illustrative of this. Both LUKoil and Surgutneftegaz have paid less than the 10 per cent dividend standard. LUKoil has done so by paying 10 per cent on net profit calculated from a reduced number of assets compared to the groups entire asset base, while Surgutneftegaz has used reduced profit calculations in order to calculate the 10 per cent dividend.⁷⁷⁸ This disregard for investors is illustrative of a problem that has been fundamental in the entire post-Soviet period. In order to monitor investments *de jure* ownership rights are insufficient. This is the reason why the companies have expended a lot of effort on consolidating assets within their groups. Consolidation gave them control with cash flows and export earnings. While this certainly was the case during 1993-99 subsequent behaviour by some of the companies (primarily the WSCs) may indicate a change. On the other hand most of these companies are dominated by a very select group of shareholders (making the minority group very small indeed) and the strategy will have to prove itself in the coming years (Duma and presidential elections, possibly falling oil prices) to indicate a sustained shift.⁷⁷⁹

Equity investment gives an investor the right to a portion of the cash flow generated by the company after expenses and taxes. In the case of LUKoil and Surgutneftegaz the investors do not know what portion of the cash flow generated they can claim, in other words there is uncertainty with respect to *de jure* ownership.⁷⁸⁰ In terms of historic institutions this situation in the SSC show continuity with economic behaviour during the Soviet period. The ownership uncertainty in this group makes it possible for management to divert part of cash flow to private purposes.

⁷⁷⁷ See also footnote 536 on share price and divergence of manager's and owner's interest.

⁷⁷⁸ Allen, *LUKoil versus Surgutneftegas*, Renaissance Capital, May 2000.

⁷⁷⁹ Future uncertainty with respect to corporate governance can perhaps be found in the recent Yukos-Sibneft deal. Also in the wake of the TNK-BP deal, minority shareholders have sought to have parts of TNK's assets frozen. (Bushueva & Volkov, '*TNK-BP prosyat doplatit'*' [TNK-BP requested to pay-up], *Vedomosti*, 11.6.2003).

⁷⁸⁰ Allen, *op cit.*

For both companies this situation has improved over the past years. Both companies have now published accounts to US GAAP standards for the period 1999-2001, in the case of Surgutneftegaz its 2002 publishing of the US GAAP results was a first in the company's history and may signal a shift in management attitude. While Surgutneftegaz has been possibly the "best" oil company throughout the 1990s (in terms of production) investment attractiveness in the firm has been hampered by the company's regional character, and investors' lack of operative influence. From an investor's point of view Surgutneftegaz's policy of saving profits and not expanding its business, casts doubts over the long-term return on investments and management's development plans. In addition Surgutneftegaz has continued its practice of paying dividends on reduced profit statements. According to Russian legislation dividends are to be paid on net profits, however legislation does not specify how net profit is to be calculated. Surgutneftegaz's continued practice of deducting capital expenditures and other payments before declaring profit for shareholders has substantially reduced the sum available to shareholders.⁷⁸¹ On a comparative level Surgutneftegaz's dividend policy has averaged only 3-4 per cent of standard net profit calculation for the past years.⁷⁸² A standardised method of calculating net profits is likely to be codified during the Duma's 2003 spring session (March), the first reading of the amendment passed in 2002.⁷⁸³ However, Surgutneftegaz has called in its annual shareholders' meeting early in order to avoid possible calculation changes.⁷⁸⁴

LUKoil has likewise drawn recent criticism from investors due to conducting a policy that is seen to favour management rather than shareholders. In February 2003, LUKoil purchased a 27 per cent share package in its own (fully controlled) subsidiary LUKoil-Perm.⁷⁸⁵ According to investor's the

⁷⁸¹ Golybovich, 'Surgutneftegaz ekonomit [Surgutneftegaz saves]', *Vedomosti*, 28.2.2003.

⁷⁸² Allan, *op cit.*

⁷⁸³ Reyters, 'Miserly Surgutneftegaz Keeps Dividend Policy', *Moscow Times*, 3.3.2003.

⁷⁸⁴ Golybovich, 28.2.2003, *op cit.*

⁷⁸⁵ Tutushkin, 'LUKoil ne pozhalet pochtii \$400 mln [LUKoil did not regret almost \$400 million]', *Vedomosti*, 25.2.2003.

funds should rather have been spent developing LUKoil's assets, than converting management shares into cash.⁷⁸⁶

The WSC on the other hand have tried to improve investment attractiveness in their companies by improving transparency and being seen to accommodate shareholders' interests. Western management, outsourcing, shareholder dividends and organisational optimisation reflect a realisation that in order to increase market value of the firm, these measures are necessary. This strategy provides management and owners with two possibilities. In the case of the need for an exit strategy increased market value will give greater return upon the sale of these companies. In the case of running an oil firm, these measures reduce the cost of capital, which reduces the cost of development projects and thus increases profitability.

Common for the companies in this group is a low free float of shares. While LUKoil and Surgutneftegaz's free float share is 70 and 43 per cent, the free float share of Yukos and Sibneft is only 17 and 12 per cent.⁷⁸⁷ In the case of TNK only 3 per cent are not controlled by the offshore TNK International Ltd. The low free float share of these companies has made share manipulation a distinct possibility,⁷⁸⁸ while the structure of ownership is such that only a few investors stand to make substantial gains from the policy. Nonetheless, the share value of these companies reflects a greater trust in the development of these companies. BP, which perhaps has come to symbolise the risk that foreign investors took in the 1990s, during 2002 sold off its LUKoil stake and in 2003 announced a \$6.75 Billion investment in a joint venture with the Alpha/Access-Renova Group to create Russia's third largest oil company.⁷⁸⁹

⁷⁸⁶ Somov & Braslavskaya, 'Management of Yesterday: Experts Fire Salvos of Criticism at Lukoil, Gazprom, Rosneft and Surgutneftegaz', *RusEnergy*, vol. 2, issue 55, March 2003.

⁷⁸⁷ Datastream. (Feb. 2003). In 2002 Sibneft released a 1% stake of its shares to free float, and promised to increase the total share over the next 2-3 years. Bushueva & Khrennikov, 'Abramovich and Ko zarabotayut \$100mln [Abramovich and Co. earn \$100 million]', *Vedomosti*, 21.5.2002.

⁷⁸⁸ Interviewee # 8.

⁷⁸⁹ BP acquired a stake in LUKoil through its take over off Arco. In 1997 BP purchased a 10% stake in Sidanko. This stake was subsequently increased to 25% as part of a settlement package with Alpha/Access-Renova over asset disputes between Sidanko and TNK. In the course of 1999-2001 TNK acquired 85% control over Sindako. During the past two years disputed assets have gradually been returned to Sidanko (Chernogorneft &

BP's CEO John Brown attributed the renewed trust in the Russian oil industry to the management and ownership of structure of TNK's assets established in 2001.⁷⁹⁰

With regards to share price development there is a distinct difference in performance between the two styles. In terms of market value per million barrels of production Yukos and Sibneft are respectively priced at \$47.2 million and \$52.8 million, while LUKoil and Surgutneftegaz are priced at \$22.5 million and \$31.6 million. *Ceteris paribus* if share price development is taken as an indicator of market trust, then the WSC in a long-term perspective should be more proficient at raising capital at a lower price in order to develop and expand their firms. This conclusion hinges on a third factor though. While there is at the moment a shift towards the WSC the longevity of this development is dependent on the state's willingness to allow this model to develop. At the moment the state seems to be in favour of the realignment, however, the opportunity cost of this support is at the moment minimal since high oil prices have created a favourable rent situation for both the state and the companies. Tendencies of an environment not susceptible to further reform can perhaps be found in the above discussion around a window of opportunity. On the other hand the legislature's recent endorsement of clarifying dividend rules in favour of standard western dividend principles is a sign of a positive shift due to institutional competition. However, only if these rules are actually enforced and the state maintains a less intrusive role given altered circumstance will it be possible to speak of a shift in development path.

Differences in stock-market performance could further indicate a difference in rent extraction between the two models. In *Forbe's* latest list of billionaires 12 of Russia's 17 billionaires are from the oil industry, with 10 connected to the WSC.⁷⁹¹ According to one investment banker in Russia: 'if Khodorkovsky

Var'yeganneftegaz). For comparison FDI in Russia 1998-2002 was \$3.6 billion. (Munter, 'Russian assets soar on BP deal', *Financial Times*, 11.2.2003. At: <http://www.ft.com>).

⁷⁹⁰ 'BP, Alfa Group, Access-Renova create new Russian company', *OGJ Online*, 11.2.2003. At: <http://ogj.pennnet.com/home.cfm>.

⁷⁹¹ Yefimova, 'Russia No. 4 on Forbes' Billionaires List', *Moscow Times*, 3.3.2003. With fortunes above \$2 billion are: Khodorkovsky (Yukos), Abramovich (Sibneft), Fridman (TNK), & Vekselberg (TNK).

steals now it is just pointless, because the maximum he can steel in a year – you know, realistically – is going to be \$1 Billion, and he has created in 2 years \$17 Billion of value. He has gone from zero market capitalisation [about \$600 Million] to \$17 ½ Billion, he has created a massive...and he can double that again. Because Yukos is still pretty undervalued relative to emerging markets, and if he keeps growing the way he has been growing he can create \$30 Billion in value in three years – it is just extraordinary how much value you can create. LUKoil could do the same. They were not as undervalued as Yukos, therefore the leap is not as great, but they could easily be a \$25 or \$30 Billion company rather than the \$10 Billion company they are now. So I mean, if management motivation was there and they owned enough stock and they actually saw the end result there would be a huge incentive for them to turn things around. At the moment it is all happening very slowly [at LUKoil]'.⁷⁹²

While the WSC are generating extractable rent through the stock market, the SSC are maintaining rent extraction through diversion of cash flow. Path dependency and social capital can explain both structures of rent extraction. In Chapter 5 it was argued that present behaviour was, under circumstances of uncertainty and time pressure, more likely to be a form of continuation of past behaviour. Management in the SSC are very competent oilmen from the Soviet era. By Soviet standards they run very efficient firms. However, their primary goal is to develop their business and generate rent for themselves. Unlike a classic western division between shareholders and management, the SSC continue the Soviet practice of contesting the *de jure* owners' right to property. This is reflected both in dividend policy and the unproductive use of company resources.

The classic western ownership division is not a precise description of the WSC either. To what extent it in actual terms is possible to differentiate management from owners remains somewhat unclear. While Abramovich (Sibneft) and Friedman (TNK) are not directly in charge of the firms, their

⁷⁹² Interviewee #8.

influence is still very large. Khodorkovsky on the other hand is the CEO of Yukos. What distinguishes these firms, in this respect, is that neither of these owners are former oilmen. Since the financial collapse their wealth maximising strategy has been to improve shareholder value in order to create value for themselves as the main beneficiaries of this policy.

Nor are all outstanding minority shareholder issues brought to a satisfactory conclusion. Share prices in both Orenburgneft and Megionneftegaz were driven by take over speculations (see Figure 10.2). The settlement with minority shareholders in both these companies is still not resolved.⁷⁹³ Sibneft's (and Tatneft's) recent attempt at expanding its asset base bears resemblance to minority shareholder abuse in the late 1990s. In a conflict with the Moscow/Central Fuel Company for the control of Moscow Oil Refinery (MNPZ), both sides conducted separate extra ordinary shareholders meetings approving separate councils of directors. The Sibneft/Tatneft side in addition voted to transform preferred shares into ordinary shares, thus increasing their voting share from 46.8 to 55.5 per cent.⁷⁹⁴ The two companies further refused to deliver oil to the refinery until its demands were met. The matter was resolved in early 2003 and there is now joint management of the refinery by Sibneft, Tatneft and the former managers.

In the case of Yukos, a lawsuit, prepared by former minority shareholders in one of its subsidiaries (Samaraneftegaz), has been accepted to the Constitutional Law Court to examine alleged breeches of minority shareholders' rights during the consolidation process.⁷⁹⁵ If this lawsuit were to be successful it would have far reaching consequences for all the consolidated companies. In other words it is difficult to assess at the present whether changes in corporate governance reflect a sustainable long-term strategy, or if it represents a short-term maximising strategy. Part of the answer to this question will be the overall political and economic environment.

⁷⁹³ Bushueva, '*Aksionery Onako khotyat spravedlivosti* [Onako's shareholders want justice]', *Vedomosti*, 5.11.2002.

⁷⁹⁴ Tutushkin & Kozitsyn, '*MNPZ snova delyat* [MNPZ again divided], *Vedomosti*, 21.10.2002.

⁷⁹⁵ Neimysheva, '*Reviziya proshlogo* [Revision of the past]', *Vedomosti*, 27.2.2003.

The SSC strategy continues an investor unfriendly policy reminiscent of Soviet times. The continued antagonistic relationship between *de jure* and *de facto* ownership and the structure of rent extraction by management is conducive to operate in a non-transparent market and political environment. The WSC strategy on the other hand, assuming it is a long-term strategy, will need qualitative changes in the institutional structure in order to succeed. As such the WSC contribute to creating an environment where institutional competition might bring Russia on to a different development path. For the WSC (long-term) strategy to succeed the development of informal trust relationships, a bureaucracy and government/presidency abiding by established rules (i.e. *ex post* stability), non-discriminatory 'rules of the game', and secure property rights are essential. These elements all represent a break with past institutions. According to Kryukov, positive effects of the hitherto transformation have been: a strengthening of decentralisation through a more flexible system of economic institutions; a more flexible regulatory system of laws and norms; a widening of contractual relations; and a shift towards the use of financial/economic indicators of measurement rather than physical indicators.⁷⁹⁶

To what extent a new environment will materialise is dependent on the ability of the various participants in the circulation of income and resources to achieve/maximise their objectives. This will be examined further in the conclusion, suffice here to say that the WSC strategy does provide the necessary fall back strategy in case such changes should not occur. The present optimism and moderate trust in Putin's leadership provides for a possible sell-off to a strategic investor – the TNK-BP scenario. Should this strategy not succeed a reversion to previous behaviour is still possible.⁷⁹⁷ The present environment, however, allows for the functioning of the forces of institutional competition and if continued might create a virtuous circle that can bring a shift to Russia's development path.

⁷⁹⁶ Kryukov (2000), *op cit.*, pp. 27-28.

⁷⁹⁷ Interviewee #8.

Conclusion.

'But now we come to the other case, where a private citizen becomes the ruler of his country neither by crime nor by any other outrageous act of violence but by the favour of his fellow citizens []. I say that one becomes a prince in this case with the favour of the people or of the nobles. []. A man who becomes prince with the help of the nobles finds it more difficult to maintain his position than one who does so with the help of the people. As prince, he finds himself surrounded by many who believe they are his equals, and because of that he cannot command or manage them the way he wants'.⁷⁹⁸

Niccolo Machiavelli

So...how will Russia develop, and more specifically what will become of Russian oil? The principal argument of this thesis has been that institutions at each level of the institutional matrix condition the development of lower placed institutions and that organisations are established in order to minimise transaction costs associated with principal-agent factors running through the institutional matrix. In the Soviet Union the first order dimension – structure of state power and development strategy – conditioned the development of both the organisational structure and administrative planning.

Both these second order dimension facilitated the maintaining of a patrimonial-despotic structure of state power. Fragmentations of the organisational structure tried to reduce the information over-load at the top of the organisation by establishing unsophisticated organisations and standards of evaluation. The organisational structure was to complement administrative planning by reducing monitoring cost. Efficient administrative planning would allow the centre to control the circulation of income and resources and thereby strengthening the state's hold over the incentive structure. Controlling the incentive structure was necessary in order to maintain a patrimonial-despotic structure of state power.

One of the side effects of these arrangements was that they implied a *de facto* displacement of operational control and influence. In terms of information

⁷⁹⁸ Machiavelli, *The Prince*, Penguin Classics, 1961 [1531], pp. 31-32.

and distribution of resources this strengthened the position of the ministries versus the central planning agencies. In terms of information and operations this strengthened the position of the production associations. Such *de facto* displacement of operational control led to the emergence of a series of informal practices and economic institutions that distorted the flow of income and resources.

As complexity and spatial distribution increased the transaction costs associated with the institutional matrix increased too. As fields started to mature and operations became increasingly idiosyncratic development costs soared. Coupled with inefficiencies stemming from the planning process and associated agency costs the oil industry was becoming a *de facto* burden to further industrialisation and social welfare.

Agency costs were also linked to the Soviet incentive structure and the circulation of income and resources. Plan fulfilment had a legitimising effect in that it "proved" the superiority of the Soviet system and hence the vanguard function of the CPSU's leadership. Importantly a distinction has been made here between the operative and strategic goals of the Soviet state power. The operative goal was the implementation of state power and control. The strategic goal was the efficient functioning of the economy. In organisations experiencing time and resource pressure, as has been shown in this thesis and well documented in organisational literature, departmentalisation and principal-agent factors can result in the displacement of strategic goals by operative goals.

Similarly the circulation of income and rent was construed to extend and perpetuate the Soviet structure of state power. This again implied a *de facto* acceptance by the leadership of rent dissipation. Rent dissipation in this respect served two functions. Firstly it contributed to the implementation of the planning process through various informal institutions. Secondly, and as importantly, it contributed to the implementation of state power by allowing accumulation of income outside the formal channels, which again constituted an incentive for agents to preserve the formal source of income (constituency

building). Both these elements were "maintained" through an ideological absence of property rights resulting in a conflict between *de jure* owners and *de facto* owners.

Permeating the entire institutional matrix and increasing transaction costs associated with its functioning was the failure of the Soviet system to develop a strong infrastructural base of state power. Power and control were cultivated through a large bureaucracy that showed characteristics of patrimonial (personal) loyalty structures rather than Weberian bureaucracy characteristics. This was not only a feature of the Soviet system, but had also been a feature of the Tsarist system. On the one hand this facilitated the implementation of narrowly defined (primarily) political objectives. On the other hand it increased transaction costs through a distrust of the state and therefore, reduced the return on investment in institutional reform. As the economy grew and became more complex the scope of the state was reduced.

Organisational reform in the Soviet Union was aimed at reducing transaction costs associated with the functioning of state power. As resource pressure increased and economic growth dissipated, reforms were increasingly aimed at increasing economic efficiency. The convergence of strategic aims with operational aims constituted a central dilemma for the Soviet system. On the one hand continued economic growth had an important legitimising role, on the other hand altering the institutional structure to accommodate growth would affect the ideological basis of the Soviet system and thus undermine legitimacy claims. The fragility of this balance of interest and state power came to the fore during Gorbachev's radical reform period, resulting in the gradual formalisation of former informal institutions and a modification to the circulation of income and rent and the associated bargaining process.

The great challenges that the post-Soviet leadership faced were to maintain the integrity of the state, while altering the institutional matrix of the state's functioning in order to generate economic growth. The two factors were highly interconnected. Maintaining the integrity of the state could only be achieved if the state had sufficient resources to survive. These resources could

only be generated if economic growth created them. The reform period 1987-1991 had increased the participants in and altered the structure of income and resource circulation. This again reduced the state's access to resources, thereby creating even stronger resource pressure. These then were the factors that conditioned the political and economic environment in which institutional and organisational reform of the Russian oil industry has taken place.

From the inception of oil industry reform under the aegis of the Russian leadership this dilemma has haunted all reform attempts and created the basis for a strong path dependency. Seizing control over oil flows during the twilight period of the Soviet Union established a basis upon which to secure income for the state's survival. With the dissolution of the Soviet Union maintaining Russian supremacy in the oil industry became an important factor in protecting the integrity of the Russian state in the presence of strong centripetal forces.

Similarly the reorganisation of the industry into a series of vertically integrated companies continued a Soviet trend where organisational reform aimed at maintaining the state's central role in the circulation and distribution of income and resources. At the same time the modified structure of income circulation resulted in a continued contestation of the state's position in the structure of income circulation and the state's right to appropriate income.

From 1987/88-1996 oil production in the Russian declined from 569 to 301 million tons per year. While redistribution of resources (investment) had been a pillar of the Soviet leadership's legitimacy claim, the modification of the state's investment responsibility brought to the fore the conflict between *de jure* and *de facto* owners that had affected transaction costs in the Soviet system as well. However, this struggle represented only one part of the struggle over property rights. Equally important was the struggle over what was the state? In the Soviet Union property rights had been very ambiguous, and the functioning of the system and minimisation of transaction costs hinged (to some extent) upon individual actors' acceptance of the state's central position in the circulation of income and resources. A patrimonial-despotic

structure of state power ensured the acceptance of a sufficiently large number of actors for the system to function.

With the dissolution of the Soviet Union and the dissipation of the state's ability to finance and maintain the extent of the Soviet state apparatus, previous actors in the circulation of income and resources began to claim the right to assets "under their care". Under the circumstances this was a perfectly logical development. Property in the Soviet Union belonged to the state only as long as the state fulfilled its vanguard role. In the absence of the state's ability to maintain its former position its authority regarding property claims was diminished. This resulted in a situation where actors that took on some of the state's former patrimonial duties could claim the right to property on an equal footing with the state.

Property in the Soviet Union had not been an ownership issue, but rather a function of the state's patrimonial role. Thus, throughout the Soviet period there had been a steady accumulation of income outside the official state channels as the economy grew and some of the state's patrimonial roles shifted away from the central planning and party organs to local and enterprise levels – through informal practices. This situation is clearly reflected in the reorganisation of the oil industry. On the one hand the state tried to maintain its former right to income appropriation through a system of majority ownership in the newly created VICs. On the other hand the loose amalgamations of productive units ensured insiders' ability to further usurp part of the revenue stream and part of the state's patrimonial role.

One of the dilemmas faced by the Russian leadership in the first post-Soviet years (1992-1994/5) was the bridging of the institutional gap separating the tools of state survival from the creation of a more efficient economy. Price liberalisation and monetary policies recommended by the IFIs assumed that this gap could be negotiated in a matter of a few years. Most western advice to Russia in general and the oil industry specifically was based on the understanding that Russia would be able to establish a constitutional-bureaucratic structure of state power with a strong infrastructural base. In the

immediate post-Soviet years the gap between the Soviet institutional matrix and the IFIs aspirations represented the strategic space for institutional competition.

As has been argued throughout this thesis, institutions – political and economic – are *ex ante* agreements on the rules of the game. Building and maintaining institutions is a form of investment, and capital will be invested in institutions that *ex ante* promise greater returns. Returns will be discounted as a result of high transaction costs. In the immediate post-Soviet years transaction costs associated with the IFI proposals were prohibitive. Information asymmetry, moral hazard and time and resource pressure all led to an emphasis on the operational goal of state survival rather than structural economic reform (still the strategic goal). These factors again contributed to the triumph of the patrimonial-despotic structure of the Soviet period over the IFIs constitutional-bureaucratic structure.

It should be kept in mind here that institutional reform and competition is a multi-dimensional process. While the former structure of state power and income circulation successfully competed with the exogenously induced institutional structure in the oil industry, this has not necessarily been the case in all economic sectors and disciplines in Russia. In sectors of less importance for state finances – i.e. small and medium sized enterprises – time and resource pressure has been less, perhaps allowing these sectors to develop in conjunction with a different institutional matrix. Notwithstanding this possibility, all economic sectors in Russia have been impeded by the Soviet-IFI institutional gap. This is perhaps best seen in the slow development of small and medium sized enterprises and the lack of government attention to this, which again is a result of the state preoccupation of maintaining the former structure of income circulation.

Bargaining with a few large enterprises will in this respect consume less government/management time (transaction costs) than bargaining with thousands of smaller enterprises. Fewer nodes of interaction reduce the transaction costs associated with the patrimonial structure of state power.

However, it also represents a continuation of the trade-off between state power implementation and possible growth effects as a result of greater economic efficiency through competition.

With the demise of the Soviet Union the structure of income (political versus economic) was altered. The Soviet leadership had structured income appropriation in a way conducive to maintaining the state's patrimonial role. With the modification of the income circulation structure (1987/88-1993) the political aspects of income were altered. Economic rent and political income were drastically reduced as production plummeted, transaction costs reduced potential rent, capital left the country and an increasing part of value generation took place outside the state monitored channels. These elements of institutional competition constituted economic institutions of an endogenous nature. They originated in former informal economic institutions (property rights contestation, propensity to defect in the light of low levels of state trust) and uncertainty created by the Soviet-IFI institutional gap.

An important part of the argument of this thesis has been that institutions of an endogenous nature have a greater probability of dominating institutional competition than institutions of an exogenous nature. The IFI/Western institutional matrix that was offered at the beginning of the 1990s differs from the Soviet institutional matrix in almost every aspect – particularly so in the mode of state power. This does not imply that Russians are categorically different from humans anywhere else, or that the “laws of economics” do not work in Russia. (Both the Soviet and post-Soviet experience demonstrates that Russians are “economic men”). It means however that the institutional matrix in Russia has generated a different incentive structure than that present in many “developed” economies. The IFI/Western advice at the beginning of the 1990s failed to take the weight of the historic institutional matrix into account. In short their institutional design was flawed not because Russia could not go where they wanted her to, but because they didn't fully appreciate where Russia came from. Perhaps if Western advice and initial reform proposals had taken into account the close relationship between state power and circulation of income and principal-agent characteristics associated

with the institutional structure, progress could have been made sooner. However, not only the IFIs should have considered these factors. Russian policy makers themselves made the mistake of not appreciating the extraordinary impact *at all levels* of the institutional matrix if an institutional shift was to be achieved.

Again though, transformation is a multi-dimensional process and oil industry development differed from that of many other sectors. The oil industry was not directly subjected to shock therapy, nor was it preserved in its previous monolithic form. An important reason for this was the state's dependence on generating income from this sector. With the structural changes that had occurred during the Gorbachev years the state's ability to generate income had been diminished while simultaneously the very structure of income began to change. With profit retention and self-financing a criterion that was incompatible with political surplus had been introduced. Once these institutions had been formalised the relationship between state power and income circulation had to change as well for the system to take on a semblance of efficiency.

It has been stressed throughout the thesis that under conditions of uncertain property rights in extractive industries investors are unlikely to produce at all if property rights of product are uncertain and unlikely to sink capital into the development of resources if subsoil property rights are uncertain. Experience in the post-Soviet oil industry supports these claims. The first phase of privatisation did little to modify the principal-agent factors characteristic of the previous regime, thus both production and development of the industry abated in this period. Simultaneously, state income was substantially less than it could have been and the industry did not take on the wanted "engine effect". The second phase of privatisation began to change the previous structure. Ownership over product became more certain, though the state (at all levels of administration) continued to levy an unsustainable level of taxes and duties. In this period the companies that managed to obtain *de facto* control over their subsidiaries – the SSCs – stopped the fall in production. Similarly, when the WSCs obtain *de facto* control over their subsidiaries they too managed to halt

the fall in production. The degree of *de jure* ownership then affected the difference in structure of rent appropriation between these two styles.

Importantly, these reforms were accompanied by a shift in the structure of income circulation. In the Soviet Union income had circulated along the lines of centre-ministries-enterprises. In the late Soviet and immediate post-Soviet period this structure was mainly retained. (Rosneftgaz – then Rosneft – supplanted the former MNP's operative responsibilities but proved ineffective). The first phase of privatisation saw this change to centre (and regional/local authorities)-VICs-enterprises, while the second and third phase of privatisation gradually changed this to centre (and regional/local authorities)-VICs. An important element of the restructuring of the 1990s has been the gradual reduction of the Ministry of Fuel and Energy's and other branch ministries' influence. Although successors to most of the former Soviet ministries exist, their role throughout the 1990s has been gradually diminishing and has, at times, been at odds with the interest of other ministries and branches of government.

Although the structure of income circulation began to change income circulation still maintained an important aspect of the previous structure – hierarchical bargaining and thereby the maintaining patrimonial/personal exchange relationships and a continuing high degree of state capture. The state retains an element of autonomy by maintaining a monopoly in *ex post* re-negotiation of the 'rules of the game' that ensures a level of "bureaucratic competition". Such "bureaucratic competition" ensures that the bargaining strength of state's bargaining partners and vehicles remains balanced. This has created a strong path dependency in the state's position in the structure of circulation of income and resources.

On the other hand the difference in consolidation strategy displayed by the two company categories contains a necessary element for institutional competition if an environment conducive to letting them compete exists. The drawback is that either model is still dependent on portraying a high degree of political integration at all levels of state administration. This creates a unifying

structure of state income appropriation – a degree of hierarchical bargaining. On the other hand the structure by which the companies extract rent “from themselves” is momentarily conducive to the establishment of a situation where institutional competition may bring about a shift in the general structure of rent retention in the oil industry. This, however, will only be the case if the WSC method of rent extraction – shareholder price and share dividends – is not a short-term exit strategy, but proves a viable long-term strategy, and exit threat is not diminished through political integration.

The WSC strategy is moving towards a Kuznets pattern of growth. The SSC strategy of rent extraction still portrays a high element of rent extraction through the antagonism between *de jure* owner and *de facto* owners. This leads to a situation where capital employed is not necessarily drawn to its most productive use but to a use where verification and measurement becomes more subjective. On the other hand, the WSC strategy can only constitute an element of competition if it remains the choice strategy for rent extraction in the long-term.

If the state (at all levels of administration) allows either strategy to function then market forces and agency self-interest could result in an institutional shift. How likely is this though? There are signs that the state is trying to accommodate the existence of both strategies. A recent amendment proposal to the joint-stock legislation is a positive development. On the other hand, the opportunity cost of this strategy to the state, at the present, is very low. There are signs to the contrary that a possible reversal/stagnation is under foot as well. Tax policy remains a contested area and recent developments cast doubt over the corporate governance commitment amongst the some of the companies that have been championing this strategy (2000-2002). At local and regional levels there has been growing resistance to further restructuring (in terms of slimming social responsibilities and burdens) of the sector. The oil industry's position in the accumulation of state finances and the interplay between the sectors propensity to “minimise” state appropriation (distrust of the state) and the continued structure of hierarchical bargaining are non-conducive to the establishment of a constitutional-bureaucratic structure of

state-industry relations. Finally, limited institutional competition has developed in a high growth period (that has allowed the state to seemingly fulfil its patrimonial role better than in previous years) and stable political parameters. If either should change there remains a credible threat that the state may use its monopoly to re-negotiate *ex post*. The anticipation of such a re-negotiation would be likely to induce a shift in the Nash equilibrium that is the circulation of income and resources. All in all this might lead to a situation where the two models co-exist rather than compete.

If this should turn out to be the case then it is questionable whether a virtuous circle can develop that might induce a different development path in Russia. One of the fundamental difficulties in reforming Russia's political and economic structure stems from the fact that the state's historic role and behaviour is itself a major source of non-negligible transaction costs. This makes investments in political and economic institutions (unrelated to the historic institutional matrix) fraught with uncertainty.

In terms of the post-Soviet reform parameters this means that path dependency in evolutionary strategy stems from transaction costs associated with the functioning of the institutional structure. Partly these transaction costs relate to the human capability to process information and make rational choices. The argument of this thesis has been that in complex situations and time/resource pressure human abilities are limited in this respect (bounded rationality). Thus policy formation and economic behaviour is not a process anchored in pure rationality because short-term versus long-term rationality and individual versus collective rationality differ. The new institutional economic framework used in this thesis has tried to incorporate these elements of human behaviour and what they mean for institutional development in the Russian oil industry.

Hence, institutional investment, the post-Soviet oil industry has gone through a series of Nash equilibria rather than establishing a Pareto equilibrium. Policy formation at state level has been reactive rather than proactive, while the lower levels (regional and local) and industry actors have acted both

reactively and proactively. Particularly at industry level, actors' ability to create new organisations to maximise opportunities at any given time has been impressive. The state's weak infrastructural power, its dependence on patrimonial structures of income collection and the discrepancy between operational goals and strategic goals have contributed to a situation where organisational ingenuity and energy at industry level has not substantially contributed towards general welfare.

What this thesis has shown is that institutional uncertainty (due to high transaction costs) has created a strong path dependency in the development of the post-Soviet oil industry. The analysis of economic institutions has allowed the thesis to link these transaction costs with the institutional matrix found in the Soviet Union and the interrelationship between different institutional dimensions. It has found that there seems to be a strong relationship between previous patterns of behaviour in a situation where institutional uncertainty prevails and there is a high degree of idiosyncratic transacting (i.e. the existence of potential quasi-rents).

On the other hand the thesis has also identified the existence of institutional competition at both the second and third dimensional level. (Although many of the reforms initiated and formally recommended by the leadership constitute an institutional basis for institutional competition also in the first dimension, the maximisation of operational goals over strategic goals has, for the time being, suppressed any *de facto* competition). Particularly important in this respect is the second dimension of organisational institutionalisation. Whereas the Soviet economy was severely restricted by politically (ideologically) induced fences, the Russian economy has a more pragmatic air to it. This is again linked with the circulation of income. While the centre had a monopoly on determining income circulation in the Soviet Union the transition period has altered this foundation of Soviet power. The functioning of this monopoly was closely linked with a right to establish and reshuffle the organisational structure in order to minimise transaction costs associated with the execution of its patrimonial-despotic state structure.

In the post-Soviet period the state has gradually come to accept an altered role. Although it initially tried to maintain its hold over the circulation of income in the oil industry its (at first) *de facto* acceptance of relinquishing its organising monopoly (and then *de jure* acceptance) has created a situation where the state has to respond to organisational and institutional changes. In other words the Russian state has become a Nash player rather than a static (Soviet) player. This on one hand implies that the state like other actors will be more responsive to rewarded behaviour, on the other hand it could imply that the degree of state capture will increase as the state becomes increasingly dependent on rewards from a selective section of the Russian population. Importantly though, the state retains a monopoly in re-negotiating the 'rules of the game' *ex post*. This maintains a level of "bureaucratic competition", which ensures that no other actor singularly is strong enough to compete with the state for this monopoly.

However, path dependency in the development has not only been a function of the historic institutional matrix. The Soviet oil industry had by the early 1990s already entered into a mature stage of development. Easily accessible fields with good geological characteristics had long been worked. The older regions in the Northern Caucasus and Volga-Urals area were in a declining life stage. The West Siberian resources had entered a mature stage. "Newer" areas like Eastern Siberia, the Sakhalin Island group, the Komi area and the continental shelf have been insufficiently explored to assess the investment risk and production potential. In addition, the poorly developed infrastructure in these areas and increasingly complex geological conditions of remaining reserves make these capital-intensive areas under the best of regimes. The Russians cannot alter the location of these resources, nor can they realistically alter the location of consumption in the short term. These factors alone contribute to an increased investment risk connected with the further development of Russian oil.

While the present structure has allowed aspects of the previous patrimonial structure of income circulation to prevail and, under the favourable international oil prices of the early 2000s, even allowed oil production to

increase again, the present structure and environment is not necessarily suited to the development of new resources. The merger and acquisition trend of the late 1990s has followed international precedence and resulted in economies of scale benefits for existing reserves. However, unless the government structures the tax and regulation framework to encourage high-risk – possibly marginal return – projects, the present industry structure will not be conducive to the large scale development of new resources. While the VIC structure, after the various rounds of property transfers, has been adapt at increasing production and reducing some costs, the lack of a truly competitive element in auxiliary industries and administrative dislike of further restructuring adds to the factors hampering the development of a market driven competitive industry. The industry response to this environment is, not surprisingly, continued political integration and use of its position in the income circulation structure to protect value maximisation and self-interest.

Wither then Russian oil? From the evidence presented in this thesis Russian oil will continue to develop and remain an important element of Russian state finances in the foreseeable future. However, apart from the WSC there is as yet only little evidence of a shift towards a Kuznets pattern of growth (and there remain question marks surrounding the longevity of the WSC model). Such a shift can only be accomplished with the support of the state and will only succeed if its in the interest of both state and industry.

This rather simple conclusion has far reaching consequences for the development of the sector and implicitly conceals many of the institutional barriers to achieving such a shift. Without greater state accountability distrust of the state will continue. Without state trust both the state and industry may favour a patrimonial structure of state power. A patrimonial structure of state power will not be conducive to the establishment of a strong infrastructural base. Without a better infrastructural base a convergence between operational and strategic goals will be difficult since short-termism (and a propensity to defect from collective rationality) will be non-conducive to reducing transaction costs associated with the working of the institutional matrix. Without a reduction of transaction costs the interest of actors will be non-

conducive to institutional investment. Without institutional investment path dependency of institutional development will tie Russia and Russian oil to a development path that will not achieve the goals and aspirations many had hoped for after seven decades of Soviet rule.

Postscript.

The events described in this thesis are based on events that took place until the spring of 2003. However, during the summer of 2003 events have occurred, that warrant a postscript. This section is intended to illustrate the applicability of the framework of analysis used in this thesis to present and future events.

One of the arguments running throughout this thesis has been that the mode of state power and circulation of income and resources are closely interrelated. This has generated a specific institutional and incentive matrix. The prospect for reform through institutional competition, or continuity through path dependency will be determined by the ability of actors to maximise their objectives. In Chapter 10 it was argued that limited institutional competition in company behaviour (1999-2002) could be the result of the relatively low opportunity cost of this competition to the state. In other words, as long as the state seemed to be fulfilling its objectives, industry could develop with a degree of competition/difference in corporate strategy. This was one of the effects of the 'Kremlin-capitalist' alliance.

During this time the parameters were quite stable. Firstly, the economic downturn in 1998 opened up a window of opportunity for company restructuring. Secondly, the 'party of power' secured a strong position in the state Duma (December 1999). Thirdly, Putin was elected president (spring 2000). Fourthly, the 'Kremlin-capitalist' alliance ensured a degree of regime continuity. Finally, continued high oil prices after 1999 ensured a high level of potential income. Thus, from a state perspective institutional competition at company level carried a relatively low opportunity cost as long as the state continued to ensure income. During this period the state could ensure both political income and economic due to high levels of growth.

With the upcoming election season (Duma elections in December 2003 and presidential elections in the spring of 2004) the relative weight of these two

forms of income is changing. In democracies there is a propensity to increase the relative weight of political income during elections, as parties and candidates vie for the support of the electorates.⁷⁹⁹ In Russia political income is derived from the ability to control the circulation of income and resources and direct these towards uses that reinforce the patrimonial-despotic structure of state power upon which policy implementation depends.

An important element of Putin's reform agenda has been the lowering of transaction costs associated with the hierarchical bargaining that stems from the mode of state power. While as the Yeltsin period drastically increased the number of bargaining participants (politically in terms of the ascent of the regions and economically in terms of privatisation), Putin has sought to reduce the number of (direct) bargaining participants. Examples of this are his federal reform, continued privatisation, merger and acquisition in the oil industry, maintaining Gazprom as a monopoly and finally, plans to let Russian Communal Systems (RCS) take control of parts of housing infrastructure in exchange for assuming responsibility for communal services in regions where that infrastructure exists (the maintenance and repair of buildings and the supply of basic services such as water, electricity, heat, gas, sewage and garbage).⁸⁰⁰ This briefly sketched situation is the background for understanding the turmoil that has surrounded Yukos this summer.

⁷⁹⁹ Democracy is here used in the widest sense possible and is strictly meant to indicate some kind of voting system where candidates of different backgrounds and with different programmes compete for the support of voters in their constituency/polity. What constitutes political income varies from society to society.

⁸⁰⁰ With regards to Gazprom, Putin said 'Gazprom is a powerful political and economic lever of influence over the rest of the world...Gazprom is light and heat in the homes of the population. It is the activity of enterprises...Taking this into account, the state has been very careful about reforming the gas sector. We will continue to be careful in the future'. (Belton, 'Putin Says Gazprom Too Powerful to Break Up', *Moscow Times*, 17.2.2003). Russian Communal Systems is a consortium consisting of Gazprom, Unified Energy Systems (UES), Interros, Renova, Evrofinance bank, YevrazHolding and Kuzbassrazrezugol. (Startseva, 'Putin and Chubais Move to Clean House', *Moscow Times*, 15.5.2003). If the reform goes through it would achieve two goals. Firstly, the bill of these services in 2002 came to \$17.7 billion, 30% of which were covered by federal and regional budgets. However, a large amount of the funds are misappropriated by municipal authorities, leaving 70% of communal services companies bankrupt and a source of back wages (*Ibid.*). Shifting responsibilities to the RCS would go some way to separate political income from economic income at regional and local levels while strengthening the state's access to political income (through Gazprom and UES). The reform could therefore contribute to strengthening the position of the centre versus the regions. Secondly, transaction costs in providing these services from a state point of view would be reduced as the number of negotiating partners would be reduced. In other

On 22 April 2003 two of Russia's leading oil companies, Yukos and Sibneft, announced a second attempt to merge their businesses. The merger announcement followed another high profile oil transaction announcement between the Tyumen Oil Company (TNK) and British Petroleum (BP) in February 2003. Both transactions were immediately praised as being signs of the Russian economy's coming of age and evidence of the stability that had come to Russia with Vladimir Putin's ascent to the presidency. Since 1999 both Yukos and Sibneft have pioneered standards of operation and corporate governance that differed from Soviet practice. This made them favourites of the Moscow stock market and with investors.

However, on 2 July 2003 the Prosecutor General's Office arrested Platon Lebedev on charges of theft of state property to the amount of \$280 million relating to a 1994 privatisation of the fertiliser company Apatit. Lebedev is the director of Yukos's parent company Menatep, which controls 60.5 per cent of Yukos's shares. Subsequently, a list of charges have been brought against Yukos affiliates and employees ranging from murder and tax evasion to illegal property transfers.

Two favourite explanations have circled the media since July. Either an alleged break by Mikhail Khodorkovsky of the gentleman's agreement ("Kremlin-capitalist" alliance) between the President and the oligarchs, or a palace struggle between the St. Petersburgers (Putin's entourage) and the Family (Boris Yeltsin's former entourage) is taking place. Importantly though the two are closely interconnected.

The first explanation relates to a tacit agreement struck between the president and the oligarchs shortly after Putin's inauguration in 2000. In return for not mingling in politics the oligarchs were to keep their spoils from the tainted privatisation deals of the 1990s. The deal represented a first step in the strengthening of the state's bargaining position that has been an implicit part

words, the state would negotiate with RCS, while RCS in turn would negotiate with local and municipal authorities. The interest of RCS will to some extent differ from that of the regions

of Putin's strong state rhetoric. During the Yeltsin years the oligarchs' most effective strategy of property protection was to usurp the state itself. A structure of principal-agent relationships and networks flourished that allowed the oligarchs access to the executive. The oligarchs were thus allowed 'to extract at will'.⁸⁰¹

By founding opposition parties and openly criticising the Kremlin Khodorkovsky is to have broken this tacit agreement. By threatening the property of the richest man in the country Putin is sending a signal to the oligarchs that the 3-year-old bargain will only be honoured if all parties remain faithful to the agreement. The actions brought against Yukos eventually led Arkadii Vol'skii, president of RSPP, to petition Yukos to 'play by the rules'.⁸⁰²

The second explanation relates to the men behind Putin, the so-called *siloviki* – security and law enforcement officials – that constitutes the Putin loyal clan. In an apparent struggle between the Family and the *siloviki* the latter is trying to bolster its position and Putin's dependence on them before the upcoming Duma and presidential elections.⁸⁰³ By attacking big business the *siloviki* have been launching a campaign that enjoys widespread support in the population. In recent poll by ROMIR 77% of those questioned agreed with a partial or complete revision of past privatisations.⁸⁰⁴ Ultimately what might be at hand is a struggle for property transfers from one political clan to another.

While state autonomy is an important element in Putin's approach access to revenues and resources are equally important elements in the upkeep of the state and the legitimacy of the head of state. The interconnectivity of the two

and local authorities thereby *possibly* introducing a higher degree of hard budget constraints and enforcement of payment.

⁸⁰¹ Hedlund, 'Property Without Rights: Dimensions of Russian Privatisation', *Europe-Asia Studies*, 2001, vol. 52, no. 2, pp. 213-237.

⁸⁰² 'President RSPP Arkadii Vol'skii prizval Yukos igrat' po pravilam [Arkadii Volskii, president of the RSPP, calls on Yukos to play by the rules]', 30.7.2003. At: www.strana.ru.

⁸⁰³ Simon Saradzhyan & Igor Semenenko, 'Just How Far Will Putin Let the Pendulum Swing?', *Moscow Times*, 18.7.2003.

⁸⁰⁴ Fedyukin, 'Otnyat' i podelit [Take away and divide]', *Vedomosti*, 18.7.2003.

explanations is therefore to be found in the structure of state power and the dynamic relationship between the circulation of resources and the mode of state power.

Most observers would probably agree that the likelihood of a presidential election upset is slim to non-existent. The alleged breach by Khodorkovsky of the 'gentleman's agreement' is therefore not likely to be the impetus behind recent occurrences. Neither is the *siloviki* plot entirely convincing. The economic resources necessary for state survival are outwith the control of this group and any attempt at large-scale redistribution would prompt more capital to leave the country and investment/production to decline again.⁸⁰⁵ If the *siloviki* scenario is correct there is a likelihood of endangering the flow of resources that the state depends upon. Assuming that the state leadership are maximising actors it is unconvincing to argue that such an attempt is underway.

Rather one should examine what the conflict reveals about the institutional structure in Russia. While as the WSC form in the period (1999-2002) imposed a low opportunity cost upon the state this is gradually beginning to change. As argued in the thesis, for the WSC form to successfully compete with the SSC form fundamental changes in the relationship between the state and the economy have to take place. Foremost of these would be a change in the accountability of the state in terms of greater *ex post* contractual stability. This again would imply a shift towards a 'rule of law' society rather than a 'rule by law' society. With a rapidly expanding economy in the aftermath of the 1998 economic collapse the state was in a position to accommodate both models as it was in a position to appropriate sufficient funds for its survival. As described in Chapter 10, in this period growth in the WSC was faster than in the SSC.

⁸⁰⁵ Capital flight since 1996 has remained stable at \$20-30 billion per year. The Putin years have not seen a decline of the outflow of capital. (Lavrentieva, 'Capital Flight Soared in 2002, Most Economists Say', *Moscow Times*, 15.1.2003).

However, at the same time the WSC instigated a beginning retreat from the traditional Soviet model, for instance the social responsibilities traditionally assumed by the Soviet "firm" (thus generating political income). Under these circumstances high oil prices and rapid growth went some way to recompense the authorities at different levels for the added cost (mainly lost political income) they experienced as a result of such restructuring. The growing resistance to further restructuring (and hence further reduction of political income) was commented on in Chapter 10. Throughout the thesis the state has been identified as major source of high transaction costs, i.e. distrust of state officials and the state's commitment to *ex post* stability.

What the Yukos affair demonstrates is that this very situation remains an important obstacle to reform and long-term investment. Although the RTS index fell by almost 100 points from 520 immediately after the turmoil broke it recovered to above 500 in less than a month.⁸⁰⁶ However, this should not be taken as an indication of the limited implication or low seriousness of the situation but rather as an indication that Russian equities already trade at a heavy political discount.

The Russian business elite has come to expect and anticipate sudden changes in the political climate of the country. An indication of this is the low-level reactions from other companies that followed the affair.⁸⁰⁷ Seemingly unprovoked attacks on the business elite have occurred repeatedly during Putin's reign. Seemingly because there are no clear-cut catalysts for the attacks and yet they are not unprovoked. In a system where there is no *ex ante* consensus with regards to the 'rules of the game', *ex post* stability can at best be a finite number of Nash equilibria. This again implies that upon the alteration of any of the parameters constituting the equilibrium a re-positioning *can* occur. Opportunity cost considerations determines whether such a re-positioning will take place or not.

⁸⁰⁶ 'RTS Recovers From Yukos Scandal, Breaks 500 Mark', *Moscow Times*, 18.8.2003.

⁸⁰⁷ Jack, 'Yukos affair has Russia's oligarchs squirming in their seats', *Financial Times*, 13.8.2002.

Throughout the thesis it has been argued that the WSC form could constitute a possible exit strategy. Both the BP-TNK deal and the Yukos-Sibneft deal could be interpreted as the beginning of an exit based on the anticipation that the state would be likely to re-position as a result of the gradual entrenchment of Putin's own team and with the upcoming election season. In both cases the Russian investors have been able to convert their equity ownership into value outwith the reach of the state. From a state point of view the two deals differ though. While as BP is an international actor, and therefore likely to behave differently in the circulation of income and resources, YukosSibneft remains a Russian actor.⁸⁰⁸ As such the merger is positive for the state as it reduces transaction costs when dealing with the oil industry.⁸⁰⁹ On the other hand, it is imperative for the state to ensure that YukosSibneft *remains* a Russian kind of actor. The WSC form constitutes a partial break with Soviet practice. For it to reach its natural conclusion (i.e. to develop further along "Western" lines), changes in the overall political and economic institutional matrix is necessary. If the state is to continue its reliance on a patrimonial-despotic structure of state power it needs to maintain its monopoly in unilaterally being able to re-negotiate any state-society or state-industry agreements.

For the WSC form to come to its natural conclusion the state would have to give up this monopoly position, which again would imply an institutional shift in the circulation of income and resources. On the other hand, the WSC form at its present development stage is not an inherent threat to the structure of state power as such. Path dependency in state survival strategy constitutes an inhibiting factor to the further development of the WSC form. Thus Khodorkovsky's alleged breach of the gentleman's agreement and the Kremlin clan struggle are mere symptoms rather than causes. Both can be said to be true, but neither explains the present turmoil.

⁸⁰⁸ 'Written all over the Yukos affair is the bureaucracy's desire not to allow other big Russian corporations to follow in the footsteps of the Tyumen Oil Co., which in essence sold its business to BP'. (Markov, 'The Yukos Affair and Putin's 2nd Term', *Moscow Times*, 29.7.2003). However, there are continued speculations and rumours that a foreign investor may come and secure a strategic investment in YukosSibneft.

⁸⁰⁹ The Anti-Monopoly Ministry approved the merger on 14 August 2003. ('Ministry Approves YukosSibneft Merger', *Moscow Times*, 15.8.2003).

In Russian politics, election time is a time for re-negotiating pacts and alliances. Based upon the relative weight of the various participants in the circulation of income and resources agreements are being struck that will constitute the basis for rent-seeking and income appropriation in the coming term. From a state point of view the system remains most efficient if the state can draw on the support of groups and alliances that compete for state favours. For instance it is not in the state's interest to eliminate either the family or the *siloviki*. As long as these groups compete the state can protect its monopoly position by ensuring that neither group becomes too strong by favouring one group over another. Similarly it is not in the interest of the state to eliminate big business since big business can be used effectively to counter regional influence. Both the *polpredy* (potentially) and vertically integrated companies in this respect reduce the bargaining position of the regions by weakening regional hold over sources of income.

As such, the Yukos affair should be seen as an element of the patrimonial-despotic structure of state power in which the state secures a monopoly position in terms of defining spheres of interest and unilaterally re-negotiating agreements *ex post*. The state maintains this position by relying on several bargaining hierarchies that to some extent are mutually exclusive and competing. Competition is maintained by the state's ability to re-negotiate *ex post*.

According to the influential RSPP's leader Lebedev paying a "fine" of \$220 million could have solved Yukos's skirmish with the state at an early stage.⁸¹⁰ Lebedev's refusal to pay the fine constituted a direct threat to the state's monopoly in re-negotiating the rules of the game *ex post*. The escalation of the conflict followed as a result of the state trying to force Yukos to remain a Russian kind of actor. For instance, faced with a fine situation in February 2003, LUKoil decided to pay the fine in return for stability.⁸¹¹ However, the

⁸¹⁰ Strana.ru, 30.7.2003, *op cit*.

⁸¹¹ Neimysheva, 'Illuziya l'got [Illusion of privilege]', *Vedomosti*, 6.2.2003. LUKoil, like all other companies, used loopholes in the tax framework to minimise tax payment. According to the letter of the law, LUKoil was not obliged to pay any tax-fine. The incidence is thus, a further example of the state's ability to re-negotiate *ex post* the 'rules of the game' and the

Anti-monopoly Ministry's decision to approve the Yukos and Sibneft's merger plans also illustrate that the state will be careful in impeding/upsetting the relative weight of its bargaining partners in order to maintain them in status of competition.⁸¹²

The recent BP-TNK and Yukos-Sibneft deal should also be taken as indications that there was an anticipation that a re-negotiation could be imminent. All these Russian companies are undervalued compared to their international peers. Thus, theoretically the Russian investors could have held out for greater trade-inn profits. The WSC development strategy likewise indicate that there remains great uncertainty and *ex post* instability. These companies have focused on investment strategies with short pay-off periods in order to maximise short- term profits. The BP-TNK deal is the culmination of BP's long involvement in Russia, however on the back of a long period of growth and seeming political stability the deal was struck at a very opportune moment. Similarly, the YukosSibneft deal, in the short-term, maximises investors' investment and allows them to take value out of the company. According to one industry analyst 'Abramovich and Khodorkovsky are two of the cleverest guys in Russia. They are always ahead of the curve. These guys got their assets for next to nothing and now they are cashing out'.⁸¹³

What the Yukos affair therefore, demonstrates is that the Russian state continues to rely on a patrimonial-despotic structure of state power with path dependency being created by the state's need to maintain its position in the circulation of income and resource. This creates an institutional matrix that is

functioning of the patrimonial-despotic structure of state power. The different behaviour of the WSC and the SSC also illustrates, to some extent, the potential threat of the WSC to the state's traditional role in the circulation of income and resources.

⁸¹² The Anti-Monopoly Ministry's however, also ensures that there remains a bargaining element *ex post*. There is a 30% monopoly limit. On a national level YukosSibneft will a 29% market share. If the companies continue to grow at a faster pace than other Russian companies the company could very well break this limit. More imminent though is the regional position, where the new company will exceed the 30% limit, particularly in the downstream sector. The Anti-Monopoly Ministry's decision therefore states that 'that the merged firm grant fair access to its regional retail markets and refineries'. If this does not occur than the firm may be forced to sell some of its refining capacity in Omsk, Achinsk and Angarsk. ('Ministry Approves YukosSibneft Merger', *Moscow Times*, 15.8.2003).

⁸¹³ James Fenker, Trokia Dialog, cited in Belton, 'Are Some Oligarchs Going to Cash Out?', *Moscow Times*, 14.7.2003.

characterised by repeated end game agreements and continued high transaction costs through *ex post* instability. While the situation is conducive to protect the state's interest in the short term, it is not conducive to ensure the development of a 'rule of law' society and a shift to an indirect system of resource mobilisation. To paraphrase Fisher Ames, this may mean that Russians not only will have wet feet but remain soaked from the waist down.⁸¹⁴

⁸¹⁴ 'Monarchy is like a sleek craft, it sails along well until some bumbling captain runs it into the rocks; democracy, on the other hand, is like a raft. It never goes down but, dammit, your feet are always wet'. (Ames, cited in Rosen, 'Public Finance' Irwin, 1992, p. 119).

Appendix A – Interviewees.

1. International Oil Company executive, 'Manager Government and Industry Relations', 25 January 2002, 1045-1200.
2. Russian Oil Company executive, 'Vice-President Director of Corporate Finance', 28 March 2002, 1515-1600.
3. International Oil Company executive, 'Business Development Manager & Deputy Head of XXXX Representation in Russia', 19 March 2002, 1215-1330.
4. Ministry of Energy of the Russian Federation Official, 'XXXX of Department for Foreign Economic Relations', 29 March 2002, 1230-1315.
5. Ministry of Energy of the Russian Federation Official, 'XXXX Bilateral Economic Relations Division', 29 March 2002. 1200-1230.
6. Academic, 'XXXX of Department of Mining Law', Gubkin Russian State University of Oil and Gas, 65 Leninsky Prospect, 27 March 2002, 1300-1445.
7. Russian Oil Company executive, 'Director International Information Department, 26 March 2002, 1100-1200.
8. Investment Banker, 'Managing Director Research XXXX', 8 April 2002, 1115-1200.
9. Consultant, 'State Duma's Commission on PSA' & 'State Duma's Committee on Budget & Taxes', 9 April 2002, 1100-1215.
10. International Oil Company executive, 'Country Manager XXXX', 19 March 2002, 1100-1215.
11. Russian Oil Company executive, 'Head of Corporate Finance', 22 March 2002, 1000-1115. Telephone interview, 30 May 2003.
12. Investment Banker, 'Oil and Gas Industry Specialist', 18 March 2002, 1200-1315.

Appendix B – VIC formation.

1. Surgutneftegaz:

Government Decision № 271, 19.3.1993, '*Ob uchrezhdenii aktsionernogo obshchestva otkrytogo tipa Neftyanaya kompaniya Surgutneftegaz*' [On the founding of the open joint stock oil company Surgutneftegaz]', *Sob.Akt.* № 15, st. 1275.

2. LUKoil:

Government Decision № 299, 5.4.1993, '*Ob uchrezhdenii aktsionernogo obshchestva otkrytogo tipa Neftyanaya kompaniya LUKoil*' [On the founding of the open joint stock oil company LUKoil]', *Sob.Akt.* № 15, st. 1289. Amended: Government Decision № 861, 1.9.1995, '*O sovershenstvovanii struktury aktsionernogo obshchestva Neftyanaya kompaniya LUKoil*' [On the improvement of the joint stock oil company LUKoil], *Sob.Zak.*, № 37, st. 3610.

3. Yukos:

Government Decision № 354, 15.4.1993, '*Ob uchrezhdenii aktsionernogo obshchestva otkrytogo tipa Neftyanaya kompaniya YUKOS*' [On the founding of the open joint stock oil company Yukos]', *Sob.Akt.* № 17, st. 1547. Amended: Government Decision № 864, 1.9.1995, '*O sovershenstvovanii struktury aktsionernogo obshchestva Neftyanaya kompaniya YUKOS*' [On the improvement of the joint stock company Yukos], *Sob.Zak.*, № 37, st. 3613.

4. Rosneft:

Government Decision № 357, 22.4.1993, '*Ob uchrezhdenii gosydarstvennogo predpriyatiya Rosneft*' [On the founding of the state company Rosneft]', *Sob.Akt.* № 17, st. 1556.

5. Slavneft:

Government Decision № 305, 8.4.1994, '*Ob uchrezhdenii aktsionernogo obshchestva otkrytogo tipa Neftegazovaya kompaniya Slavneft*' [On the founding of the open joint stock oil and gas company Slavneft]', *Sob.Zak.* № 16, st. 1385. Amended: Government Decision № 867, 1.9.1995, '*O sovershenstvovanii struktury aktsionernogo obshchestva Neftegazovaya*

kompaniya Slavneft' [On the improvement of the joint stock company Slavneft], *Sob.Zak.*, № 37, st. 3616.

6. VSNK:

Government Decision № 306, 8.4.1994, '*Ob uchrezhdenii aktsionernogo obshchestva otkrytogo tipa Vostochno-Sibirskaya neftegazovaya kompaniya*' [On the founding of the open joint stock company East-Siberian Oil and Gas Company (VSNK)], *Sob.Zak.* № 16, st. 1386.

7. Sidanko:

Government Decision № 452, 5.5.1994, '*Ob uchrezhdenii aktsionernogo obshchestva otkrytogo tipa Sibirsko-Dal'nevostochnaya Neftyanaya kompaniya*' [On the founding of the open joint stock company Siberian-Far-Eastern Oil Company (SIDANKO)], *Sob.Zak.* № 3, st. 253.
Amended: Government Decision № 866, 1.9.1995, '*O sovershenstvovanii struktury aktsionernogo obshchestva Sibirsko-Dal'nevostochnaya Neftyanaya kompaniya*' [On the improvement of the joint stock company SIDANKO], *Sob.Zak.*, № 37, st. 3615.

8. VNK:

Government Decision № 499, 20.5.1994, '*Ob uchrezhdenii aktsionernogo obshchestva otkrytogo tipa Vostochnaya neftyanaya kompaniya*' [On the founding of the open joint stock company Eastern Oil Company (VNK)], *Sob.Zak.* № 5, st. 501. Amended: Government Decision № 863, 1.9.1995, '*O sovershenstvovanii struktury aktsionernogo obshchestva Vostochnaya neftyanaya kompaniya*' [On the improvement of the joint stock company VNK], *Sob.Zak.*, № 37, st. 3612.

9. Onako:

Government Decision № 715, 19.6.1994, '*Ob uchrezhdenii aktsionernogo obshchestva otkrytogo tipa Orenburgskaya neftyanaya aktsionernaya kompaniya*' [On the founding of the open joint stock company Orenburg Oil Company (Onako)], *Sob.Zak.* № 9, st. 1046. Amended: Government Decision № 862, 1.9.1995, '*O sovershenstvovanii struktury aktsionernogo obshchestva Orenburgskaya neftyanaya aktsionernaya kompaniya*' [On the improvement of the joint stock company Onako], *Sob.Zak.*, № 37, st. 3611.

10. TNK:

Government Decision № 802, 9.8.1995, '*Ob obrazovanii otkrytogo aktsionernogo obshchestva Tyumenskaya neftyanaya kompaniya* [On the formation of the open joint stock company Tyumen Oil Company (TNK)]', *Sob.Zak.* № 33, st. 3404.

11. Sibneft:

Presidential Decree № 872, 24.8.1995, '*Ob obrazovanii otkrytogo aktsionernogo obshchestva Sibirskaya neftyanaya kompaniya* [On the formation of the open joint stock company Siberian Oil Company (Sibneft)]', *Sob.Zak.* № 36, st. 3530.

Appendix C – Statistical Appendix.

The models.

The models (1-5) estimate the effects of different corporate strategies on production performance. The baseline category in all the models is the HTC category. The variables used to estimate the models are listed below. It should be kept in mind that only a limited number of potential variables have been used to estimate the models. This is one of the reasons that only the original Soviet PAs have been used as these initially will have portrayed a higher degree of homogeneity. The objective of the models is to the effects of ownership structure and corporate strategy in subsequent divergence of performance.

In order to allow for heterogeneity across the observations panel data analysis has been used in order to estimate the regression coefficients for the different company categories (xtreg).⁸¹⁵ The basic regression model takes the form

$$Y_{ij} = X'_{it}\beta + Z'_{i}\alpha + \epsilon_{it}.$$

There are K regressors in X_{it} , not including the constant. Individual group effects (heterogeneity) is $Z'_{i}\alpha$ where Z_i contains a constant term and a set of observable group/individual variables, which are taken to be constant over time.

Two models will be considered in the following analysis. A 'Fixed effects' model where Z_i is unobserved but correlated with X_{it} . In this case the β is biased and inconsistent as a consequence of an omitted variable. Therefore the model

$$Y_{ij} = X'_{it}\beta + \alpha_i + \epsilon_{it},$$

⁸¹⁵ Unless otherwise stated the following sections are based on Greene, *Econometric Analysis*, Prentice Hall, Chapter 13.

where $\alpha_i = Z_i' \alpha$, embodies all the observable effects. In this model the α_i is a group specific constant term.

Where the heterogeneity can be assumed to be uncorrelated with the included variables the model

$$Y_{ij} = X'_{it} \beta + \alpha + u_i + \varepsilon_{it},$$

will be estimated. This is the 'random effects' model where u_i is a group specific random element similar to ε_{it} . However, 'for each period, there is but a single draw that enters the regression identically in each period'.

Selection between the two models has been made on the basis of Hausman's specification test (xthaus). 'If one believes the model is correctly specified and the test returns a significant result, then this can be interpreted as evidence that the random effects [u_i], and the regressors, X'_{it} , are correlated'.⁸¹⁶ Thus testing the appropriateness of fitting the 'random effects' model to the data.

Variables:

Production [Prod]:

Yearly production in thousand tons.

Production change[vol_cng]:

Change in yearly production in thousand tons.

Production drilling [prod_drl]:

Production drilling, thousand meters.

Production drilling WSC [wsc]:

Interactive term; production drilling*dummy variable for WSC.

Production drilling SSC [ssc]:

Interactive term; production drilling*dummy variable for SSC.

Production drilling change [drl_cng]:

⁸¹⁶ Stata Reference P-Z, Release 5, p. 631.

Change in production drilling, thousand meters.

Production drilling change WSC [WSC_drX]:

Interactive term; production drilling change *dummy for WSC.

Production drilling change SSC [SSC_drX]:

Interactive term; production drilling change*dummy for SSC.

MODEL 1:

```
. xtreg prod prod_drl wsc ssc drl_cng SSC_drX WSC_drX
```

Random-effects GLS regression

Group variable (i) : pa_num

Number of obs = 175

Number of groups = 29

R-sq: within = 0.4820

between = 0.6970

overall = 0.6713

Obs per group: min = 1

avg = 6

max = 7

Random effects u_i ~ Gaussian

corr(u_i, X) = 0 (assumed)

Wald chi2(6) = 197.85

Prob > chi2 = 0.0000

prod	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
prod_drl	9.187817	2.08668	4.403	0.000	5.097999	13.27764
wsc	7.623667	1.731937	4.402	0.000	4.229133	11.0182
ssc	6.361401	2.428582	2.619	0.009	1.601468	11.12133
drl_cng	-1.622398	1.742836	-0.931	0.352	-5.038294	1.793498
SSC_drX	-2.393567	2.711496	-0.883	0.377	-7.708002	2.920867
WSC_drX	-8.457189	2.872621	-2.944	0.003	-14.08742	-2.826955
cons	5662.876	705.3822	8.028	0.000	4280.352	7045.4
sigma_u	2431.7676					
sigma_e	1417.361					
rho	.74642651	(fraction of variance due to u_i)				

. xthaus

Hausman specification test

---- Coefficients ----			
prod	Fixed Effects	Random Effects	Difference
prod_drl	4.058374	9.187817	-5.129443
wsc	7.261715	7.623667	-.3619521
ssc	6.571045	6.361401	.2096442
drl_cng	.2651665	-1.622398	1.887564
SSC_drX	-.9142919	-2.393567	1.479275
WSC_drX	-7.740438	-8.457189	.7167512

Test: Ho: difference in coefficients not systematic

$$\chi^2(6) = (b-B)'[S^{-1}](b-B), S = (S_{fe} - S_{re})$$

$$= 0.00$$

Prob>chi2 = 1.0000

MODEL 2:

. xtreg prod prod_drl wsc ssc drl_cng WSC_drX

Random-effects GLS regression
Group variable (i) : pa_numNumber of obs = 175
Number of groups = 29R-sq: within = 0.4810
between = 0.7042
overall = 0.6764Obs per group: min = 1
avg = 6
max = 7Random effects u_i ~ Gaussian
corr(u_i, X) = 0 (assumed)Wald chi2(5) = 198.54
Prob > chi2 = 0.0000

prod	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]
prod_drl	9.368831	2.094702	4.473	0.000	5.263291
13.47437					
wsc	7.843811	1.727758	4.540	0.000	4.457467
11.23015					
ssc	5.875364	2.382992	2.466	0.014	1.204786
10.54594					
drl_cng	-2.660436	1.352056	-1.968	0.049	-5.310418
.010455					
WSC_drX	-7.610452	2.722706	-2.795	0.005	-12.94686
2.274046					
cons	5658.044	700.5103	8.077	0.000	4285.069
7031.019					
sigma_u	2385.6431				
sigma_e	1413.3556				
rho	.74019917	(fraction of variance due to u_i)			

. xthaus

Hausman specification test

---- Coefficients ----			
prod	Fixed Effects	Random Effects	Difference
prod_drl	4.114498	9.368831	-5.254332
wsc	7.333801	7.843811	-.5100091
ssc	6.250732	5.875364	.375368
drl_cng	-.0845635	-2.660436	2.575873
WSC_drX	-7.452239	-7.610452	.1582131

Test: Ho: difference in coefficients not systematic

chi2(5) = (b-B)'[S⁻¹](b-B), S = (S_{fe} - S_{re})

= 0.00

Prob>chi2 = 1.0000

MODEL 3:

. xtreg vol_cng prod_drl wsc ssc drl_cng SSC_drX WSC_drX

Random-effects GLS regression

Number of obs = 175

Group variable (i) : pa_num

Number of groups = 29

R-sq: within = 0.6165

Obs per group: min = 1

between = 0.6053

avg = 6

overall = 0.5881

max = 7

Random effects u_i ~ Gaussian

Wald chi2(6) = 239.86

corr(u_i, X) = 0 (assumed)

Prob > chi2 = 0.0000

vol_cng	Coef.	Std. Err.	Z	P> z	[95% Conf. Interval]	
prod_drl	.0730897	.4609989	0.159	0.874	-.8304515	.976631
wsc	6.112196	.6236462	9.801	0.000	4.889872	7.33452
ssc	1.265759	.4640275	2.728	0.006	.3562815	2.175236
drl_cng	1.506967	.6772094	2.225	0.026	.1796614	2.834273
SSC_drX	.0311591	1.025843	0.030	0.976	-1.979456	2.041774
WSC_drX	-3.652814	1.185876	-3.080	0.002	-5.977088	-1.32854
cons	-46.2532	83.06885	-0.557	0.578	-209.0652	116.5587
sigma_u	0					
sigma_e	713.79294					
rho	0 (fraction of variance due to u _i)					

. xthaus

Hausman specification test

---- Coefficients ----			
vol_cng	Fixed Effects	Random Effects	Difference
prod_drl	1.563819	.0730897	1.49073
wsc	6.92768	6.112196	.8154837
ssc	2.206724	1.265759	.940965
drl_cng	1.551585	1.506967	.0446173
SSC_drX	-1.208462	.0311591	-1.239621
WSC_drX	-5.399577	-3.652814	-1.746763

Test: Ho: difference in coefficients not systematic

chi2(6) = (b-B)[S⁻¹](b-B), S = (S_{fe} - S_{re})
 = 2398.35
 Prob>chi2 = .0000

. xtreg vol_cng prod_drl wsc ssc drl_cng SSC_drX WSC_drX, fe

Fixed-effects (within) regression Number of obs = 175
 Group variable (i) : pa_num Number of groups = 29

R-sq: within = 0.6507 Obs per group: min = 1
 between = 0.6063 avg = 6
 overall = 0.5028 max = 7

corr(u_i, Xb) = -0.7842 F(6,140) = 43.47
 Prob > F = 0.0000

vol_cng	Coef.	Std. Err.	T	P> t	[95% Conf. Interval]	
prod_drl	1.563819	.829307	1.886	0.061	-.075765	3.203404
wsc	6.92768	.6252377	11.080	0.000	5.691551	8.163808
ssc	2.206724	1.08816	2.028	0.044	.0553726	4.358075
drl_cng	1.551585	.6302338	2.462	0.015	.3055786	2.797591
SSC_drX	-1.208462	1.018923	-1.186	0.238	-3.222928	.8060039
WSC_drX	-5.399577	1.030404	-5.240	0.000	-7.436742	-3.362412
cons	-517.8748	132.4345	-3.910	0.000	-779.705	-256.0446

sigma_u 1026.7317
 sigma_e 713.79294
 rho .6741655 (fraction of variance due to u_i)

F test that all u_i=0: F(28,140) = 3.59 Prob > F = 0.0000

MODEL 4:

```
. xtreg vol_cng prod_drl wsc ssc drl_cng WSC_drX
```

Random-effects GLS regression
Group variable (i) : pa_num

Number of obs = 175
Number of groups = 29

R-sq: within = 0.6180
between = 0.6033
overall = 0.5880

Obs per group: min = 1
avg = 6
max = 7

Random effects u_i ~ Gaussian
corr(u_i, X) = 0 (assumed)

Wald chi2(5) = 243.80
Prob > chi2 = 0.0000

vol_cng	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
prod_drl	.1160381	.4802079	0.242	0.809	-.8251522	1.057228
wsc	6.300634	.6156963	10.233	0.000	5.093891	7.507376
ssc	1.26109	.4896781	2.575	0.010	.3013382	2.220841
drl_cng	1.590221	.4994048	3.184	0.001	.6114058	2.569037
WSC_drX	-4.003088	1.054551	-3.796	0.000	-6.069969	-1.936206
cons	-58.81152	89.93642	-0.654	0.513	-235.0837	117.4606
sigma_u	163.29094					
sigma_e	714.82148					
rho	.04959498	(fraction of variance due to u_i)				

```
. xthaus
```

Hausman specification test

---- Coefficients ----

vol_cng	Fixed Effects	Random Effects	Difference
prod_drl	1.638001	.1160381	1.521963
wsc	7.022959	6.300634	.7223258
ssc	1.783351	1.26109	.5222617
drl_cng	1.08933	1.590221	-.500891
WSC_drX	-5.018652	-4.003088	-1.015564

Test: Ho: difference in coefficients not systematic

chi2(5) = (b-B)'[S⁻¹](b-B), S = (S_fe - S_re)
= 307.57
Prob>chi2 = 0.0000

```
. xtreg vol_cng prod_drl wsc ssc drl_cng WSC_drX, fe
```

Fixed-effects (within) regression
Group variable (i) : pa_num

Number of obs = 175
Number of groups = 29

R-sq: within = 0.6472
between = 0.6235
overall = 0.5215

Obs per group: min = 1
avg = 6
max = 7

corr(u_i, Xb) = -0.7612

F(5,141) = 51.74
Prob > F = 0.0000

vol_cng	Coef.	Std. Err.	T	P> t	[95% Conf. Interval]	
prod_drl	1.638001	.8281365	1.978	0.050	.0008317	3.27517
wsc	7.022959	.6209486	11.310	0.000	5.795387	8.250532
ssc	1.783351	1.029424	1.732	0.085	-.2517485	3.818451
drl_cng	1.08933	.4959784	2.196	0.030	.1088149	2.069845
WSC_drX	-5.018652	.9804801	-5.119	0.000	-6.956994	-3.08031
Cons	-497.0589	131.4555	-3.781	0.000	-756.9375	-237.1803

sigma_u 943.23848
sigma_e 714.82148
rho .63519583 (fraction of variance due to u_i)

F test that all u_i=0: F(28,141) = 3.53 Prob > F = 0.0000

MODEL 5:

. xtreg vol_cng prod_drl wsc drl_cng WSC_drX

Random-effects GLS regression
Group variable (i) : pa_num

Number of obs = 175
Number of groups = 29

R-sq: within = 0.6211
 between = 0.5818
 overall = 0.5697

Obs per group: min = 1
 avg = 6
 max = 7

Random effects u_i ~ Gaussian
corr(u_i, X) = 0 (assumed)

Wald chi2(4) = 229.08
Prob > chi2 = 0.0000

vol_cng	Coef.	Std. Err.	z	P> z	[95% Conf. Interval]	
prod_drl	1.253641	.1872442	6.695	0.000	.8866491	1.620633
wsc	5.392126	.5196463	10.377	0.000	4.373638	6.410614
drl_cng	1.733681	.5056168	3.429	0.001	.7426901	2.724672
WSC_drX	-4.260303	1.069913	-3.982	0.000	-6.357294	-2.163312
cons	-139.7813	84.73468	-1.650	0.099	-305.8583	26.29559

sigma_u 155.15866
sigma_e 719.84067
rho .04439731 (fraction of variance due to u_i)

. xthaus

Hausman specification test

---- Coefficients ----

vol_cng	Fixed Effects	Random Effects	Difference
prod_drl	2.760758	1.253641	1.507117
wsc	6.636278	5.392126	1.244152
drl_cng	1.216752	1.733681	-.5169286
WSC_drX	-5.498781	-4.260303	-1.238478

Test: Ho: difference in coefficients not systematic

chi2(4) = (b-B)'[S^(-1)](b-B), S = (S_fe - S_re)
 = 47.49
Prob>chi2 = 0.0000

. xtreg vol_cng prod_drl wsc drl_cng WSC_drX, fe

Fixed-effects (within) regression
Group variable (i) : pa_num

Number of obs = 175
Number of groups = 29

R-sq: within = 0.6397
between = 0.6276
overall = 0.5386

Obs per group: min = 1
avg = 6
max = 7

corr(u_i, Xb) = -0.7168

F(4,142) = 63.03
Prob > F = 0.0000

vol_cng	Coef.	Std. Err.	T	P> t	[95% Conf. Interval]	
prod_drl	2.760758	.5191534	5.318	0.000	1.734489	3.787026
wsc	6.636278	.5835124	11.373	0.000	5.482784	7.789772
drl_cng	1.216752	.4939382	2.463	0.015	.2403298	2.193175
WSC_drX	-5.498781	.9470977	-5.806	0.000	-7.371014	-3.626548
cons	-539.3922	130.0712	-4.147	0.000	-796.5184	-282.2659

sigma_u 841.18649
sigma_e 719.84067
rho .5772677 (fraction of variance due to u_i)

F test that all u_i=0: F(28,142) = 3.75 Prob > F = 0.0000

Newspapers & Periodicals, Web Resources and Official Publications.

Newspapers & Periodicals:

1. *Vedomosti*. At: <http://www.vedomosti.ru>.
2. Moscow Times. At: <http://www.moscowtimes.ru>.
3. Financial Times: At: <http://www.ft.com>.
4. *Pravda*.
5. *Ekonomicheskaya Gazeta*.
6. *Ekspert*. At: <http://www.expert.ru>.
7. Oil and Gas Journal. At: <http://ogj.pennnet.com/home.cfm>.
8. Oil and Capital. At: <http://www.oilcapital.ru/main.asp?IDR=2402>.
9. *Neftyanaya Torgovlya*.
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