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HOW TO SUSTAIN GROWTH IN A RESOURCE BASED ECONOMY? THE MAIN CONCEPTS AND THEIR APPLICATION TO THE RUSSIAN CASE

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ABSTRACT/RÉSUMÉ

How to sustain growth in a resource based economy? The main concepts and their application to the Russian case

In recent years economists have come to see rich natural resource endowments as a "curse" or "precious bane" that inevitably undermines development and slows economic growth. Resource-based development undeniably involves important risks. Nonetheless, the resource curse - if it exists - is at least no *fatalité*, as the examples of Australia, Canada and the Scandinavian countries demonstrate. This paper argues that the serious challenges posed by resource-dependence, which include an increased vulnerability to external shocks, the risk of 'Dutch disease', and the risk of developing specific institutional pathologies, can be overcome, or at least very substantially mitigated, if accompanied by the right economic policies. It then analyses in detail what these "right" economic policies are, and how to set up economic and political framework conditions to facilitate their successful implementation. The paper thereafter looks specifically at Russia as a prominent example of a resource-based economy. It investigates briefly the main drivers of Russian growth in recent years, and makes specific recommendations that would help the Russian economy to sustain high growth.

JEL classification: E6, O1, O52, P2, Q43.

Keywords: Russia, transition, economic growth, natural resources, Dutch disease, resource curse, oil, diversification, fiscal policy, monetary policy, capital flight.

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Comment soutenir la croissance dans une économie fondée sur l'exploitation des ressources naturelles ? Les principaux concepts et leur application au cas de la Russie

Ces dernières années les économistes ont commencé à envisager la dotation en ressources naturelles comme une 'malédiction' qui inévitablement mine le développement économique et freine la croissance. Le développement économique fondé sur l'exploitation des ressources naturelles comporte sans aucun doute des risques importants. Cependant, la malédiction des ressources – si elle existe – n'est pas toujours une fatalité, comme le montre les exemples de l'Australie, du Canada et des pays scandinaves. Cet article soutient que les défis sérieux posés par une forte dépendance envers les ressources naturelles - comme une vulnérabilité accrue aux chocs externes, le risque d'un 'syndrome néerlandais' et le risque de développer des pathologies institutionnelles spécifiques - peuvent être maîtrisés, ou au moins très sensiblement amoindris, s'ils s'accompagnent de politiques économiques adéquates. L'article analyse en détail ces politiques économiques 'adéquates', et comment mettre en place un cadre politique et économique qui facilite l'implémentation réussie de ces politiques. Le cas de la Russie est ensuite étudié comme un important exemple d'une économie fondée sur l'exploitation des ressources naturelles. L'article examines brièvement les principaux moteurs de la croissance de ces dernières années, et formule des propositions qui pourraient aider la Russie à maintenir une croissance forte.

Classification JEL : E6, O1, O52, P2, Q43.

Mots clés: Russie; transition; croissance économique; ressources naturelles; malédiction des ressources; syndrome néerlandais; pétrole; diversification; politique budgétaire; politique monétaire.

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1. Introduction

1. While in the 1950s and 60s economists generally saw abundant natural resource endowments as facilitating a country's rapid development[2], in the last two decades many economists have come to see natural resources as an obstacle to successful development. A large literature has developed that econometrically investigates the existence of a so-called 'resource curse'[3] and speculates on its underlying causes[4]. This paper makes the case that the resource curse, at least, is no *fatalité*. If suitable economic and political framework conditions can be established, natural resource abundance does not have to prevent successful, economic development as, e.g., the examples of Australia, Canada and the Scandinavian countries demonstrate. Nonetheless, resource-based development obviously presents important challenges. These include an increased vulnerability to external shocks, the risk of 'Dutch disease', and the institutional pathologies often associated with heavy reliance on natural resource sectors. These challenges are indeed serious, but they can be overcome or at least very substantially mitigated with the aid of appropriate institutions and policies. The main aim of this paper is thus to analyse in depth what the "right policies" are to achieve this. We first discuss the main concepts in general, before looking more specifically at the Russian case.

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1. The author is an economist at the OECD Economics Department. Parts of this paper draw on material originally produced for the fifth OECD *Economic Survey of the Russian Federation* published in September 2004. The views expressed in this paper are nonetheless those of the author and do not necessarily reflect those of the OECD or its member countries. The author is indebted to Svetlana Arkina, Andrew Dean, Vladimir Drebentsov, Evsey Gurvich, Val Koromzay, Silvana Malle, Isabel Murray, Douglas Sutherland, William Tompson, Alexander Ustinov, Anna Vdovichenko and Oleg Zasov, as well as to many colleagues in the OECD Economics Department for helpful discussions and comments. Special thanks go to Corinne Chanteloup and Anne Legendre for technical assistance. Responsibility for any errors of fact or judgement that remain in the paper rest, of course, entirely with the author.

2. See, for example, Viner (1952), Lewis (1955) and Spengler (1960). The most ardent support for resource-based development strategies came from economists identified with the staple theory of growth, which grew out of studies of the Canadian fur and cod industries (Innis 1956), and work on economic growth in the western U.S. (North 1955). Proponents of the staple theory suggested that economic development in backward areas commonly begins with resource booms that draw in labor and capital. As the booms proceed, the profits of this core resource sector are reinvested in local infrastructure and "value-added" industries, producing a diversified pattern of growth (see also Watkins 1963). I am particularly thankful to William Tompson for drawing my attention to this literature.

3. See e.g. Sachs/Warner (2001) and Manzano/Rigobon (2001) for conflicting views.

4. See Ross (1999) for an overview of competing explanations.

2. The first part of this paper discusses in detail the policies that are required for successfully developing a resource-based economy. We argue that resource-based development places a priority on good macro-economic management, particularly sound fiscal policy. Turning to the institutional side, it is stressed that, for a number of reasons, the need for a non-corrupt and efficient state apparatus is particularly great in a resource-based economy and that the creation of such an institutional setting is facilitated by the presence of a strong civil society. Finally, to the degree that a more diversified economy is less prone to the risks enumerated above, diversifying a resource-based economy can also solve potential problems of resource dependence. This paper therefore also explores the possibilities for resource-based economies to accelerate the diversification of their economic structures.

3. The second part of this paper looks more specifically at the Russian case. Russia has in recent years been a prominent example of resource-based development. We examine briefly the main drivers of recent growth, and assess the underlying policies against the framework for successful resource-based development set out in the first part of the paper. We show that the role of the oil sector, and particularly privately owned oil companies, was crucial in driving economic growth during 2001-04. In fact, almost one quarter of growth during this period can be directly attributed to increased production by private oil companies. Looking forward, we argue that, given its current economic structure, Russia is bound to remain a heavily resource-dependent economy for some time to come. Taking this into account, and based on the normative framework developed in the first part of the paper, we provide detailed suggestions on how to manage successfully the Russian economy and to facilitate economic diversification over time.

2. The challenge of sustaining growth in a resource-based economy – main concepts

2.1 Resource-based economies

4. In a large number of low or middle income economies, industrial production or exports, and often both, are heavily biased towards natural resources. For example a majority of African, Latin American, and CIS countries are highly dependent on natural resource exports. Whether natural resources are an inevitable curse or whether they can be exploited to the benefit of the country and its citizens (and how) is thus a highly relevant question for a significant share of the world's population.

5. Resource-based economies are often – although somewhat arbitrarily – defined as economies in which natural resources account for more than 10% of GDP and 40% of exports. As commodity prices are often particularly volatile, a situation in which export revenues depend significantly on commodity price developments implies that resource-based economies are particularly vulnerable to external shocks.

6. Having a rich natural resource-base has, however, some obvious advantages. If exploited, natural resources provide a country with goods that can be traded, and hence can guarantee a certain revenue stream from exports. Especially for poor and less developed countries, natural resource revenues allow the import of a certain volume of crucial goods (*e.g.* medicines) they cannot produce themselves, and therefore – at least in theory – could be used to increase significantly the welfare of the population. From a practical point of view, natural resources also provide some shelter against competition. It is a banal point - but worth stating - that in order to compete in natural resources, a country needs to possess the relevant deposits, and neither highly advanced technology, nor an ultra-cheap labour force are going to change that.

7. On the negative side, it has been argued that the growth potential of natural resource sectors would be comparatively low. This would result from two features. First, natural resources are finite. Second, it is often claimed that natural resource extraction is a low-tech undertaking, and hence the potential for productivity increases in natural resource sectors is very limited[5]. The latter is also one of the

5. For a theoretical model with this prediction see e.g. Kim (1998).

most common economic explanations of why there might be a resource curse. Both of these arguments are, however, questionable, at least to some degree. Undeniably, natural resources are ultimately finite (at least when one thinks only about the planet earth). However, the total quantity of a natural resource is not particularly relevant at least until to the decades immediately prior its total depletion. What is important is the quantity of known natural resource deposits that can be exploited profitably at current technology levels and expected long-term average prices. Since there has been considerable technological progress in resource extraction, for most commodities the volume of exploitable deposits has not been falling in recent decades.

8. It is also untrue that a specialisation in natural resources inevitably implies low levels of technological know-how. Resource extraction – as it gradually moves to deposits that are more difficult to exploit – has become quite intensive in the use of specific high technology (*e.g.* oil platforms).[6] To the degree that one of the main economic explanations for a resource curse rests on the low-tech character of resource extraction, it is therefore doubtful whether there really is an inevitable economic resource curse. Poor economic performance may actually have been caused not by resource abundance as such but by the structures of ownership and control that resource-rich countries often choose for their resource sectors. In recent decades, many countries' resource sectors have been dominated by state-owned or -controlled enterprises. Given the ample evidence that private enterprises tend to be more efficient than state-owned ones in most sectors[7], it is not unlikely that the substandard growth performance of resource-based economies could have been brought about by state ownership of large parts of those economies, rather than by natural resources per se[8]. There has so far been little scope for testing this possibility, because most of the empirical work on the resource curse has focused on hydrocarbon and hard-minerals sectors during the period since the late 1950s or so – a period during which the vast majority of states that relied heavily on such sectors opted for a high degree of state ownership and control.

9. In any case, regardless of the desirability of being a resource-based economy, managing a resource-based economy well is a subject that is highly important on its own. Changes in the structure of an economy are necessarily relatively slow, which means that today's resource-based economies are bound to remain resource-based for some time to come – whatever their stance on further developing their resource sectors or their policies may be.

10. Moreover, resource-based development can also become a driver of modernisation. Further developing resource sectors - especially for exports - can be a strong driver for economic growth, as the Chilean example shows, and hence can significantly contribute to increasing incomes. Increasing incomes, in turn, usually leads to a strong expansion in a country's non-tradable sector, *i.e.* principally in services and construction. Growing resource exports will also allow a country to import more. Higher import potential not only contributes to higher living standards, as consumer choice improves, but in principle also allows the purchase of more investment goods. Developing a country's resource sectors, via increased import potential and an expansion in the service sector, can therefore also be helpful in modernising a country.

11. Nonetheless, it must not be forgotten that there are important potential risks in a resource-based economy that need to be addressed. These include the vulnerability to external shocks, "Dutch disease", and the "political economy" problems that often are associated with resource-based development. We address each of these in turn.

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6. See Wright/Czelusta (2002).

7. Megginson / Netter (2000)

8. On this see also Ross (1999), Aslund (2004) and Auty (2004).

2.2 Vulnerability in the case of external shocks

12. Crises in emerging market economies are most commonly caused by large terms-of-trade shocks arising from sharp falls in the prices of countries' main export commodities[9], and resource-based economies are particularly exposed to this kind of risk. The margin of error for resource-based economies is therefore much smaller than for economies with more diversified economic structures. Good macro-economic management thus becomes the *condition sine qua non* for any attempt to reduce the vulnerability of resource-based economies to external shocks, and hence for successful resource-based development. In this respect it is difficult to exaggerate the importance of fiscal discipline. Admittedly, good fiscal policy cannot eliminate the external vulnerability of a resource-based economy altogether, but it can go a very long way to mitigate it. Fiscal irresponsibility, in any case, will tend to magnify, rather than mute, the effects of commodity price movements, contributing to boom-and-bust cycles. In short, what is needed is a counter-cyclical fiscal policy with respect to commodity prices. In this respect, it is vital to keep the budget in balance across the commodity-price cycle.[10] Moreover, fiscal policy should always be based on conservative price assumptions for the major export commodities. If budgetary commodity price assumptions are above long-term averages, or if revenue assumptions implicitly take above-average prices for granted, then budgets should be drafted to achieve corresponding surpluses. In this respect it must be clear that a budget that balances thanks only to exceptionally high commodity prices is not in balance at all.

13. Given the importance of ensuring fiscal balance across the commodity-price cycle, the creation of a stabilisation fund is generally a very important issue. Such a stabilisation fund accumulates windfall government revenues. These revenues would ideally be managed by an entity that has no authority to spend the money (that is, an independent special institution or the central bank, but not the government, the ministry of finance, or any other ministry). The rules for when and which revenues should be accumulated, and when they may be spent should be very strict and transparent. Moreover, the accumulated revenues should be invested in fairly safe and liquid foreign currency denominated assets. Such a stabilisation fund generally serves a number of functions.

14. First, it helps to smooth government revenues – and thus government spending – over the commodity-price cycle. For this smoothing to work effectively, it is necessary that the stabilisation fund be large enough to insure the budget against several years of below-average commodity prices. In theory, such a smoothing could also be achieved by countries borrowing abroad when commodity prices are low, and repaying the money when they are high. In practice, however, resource-based economies risk finding that their access to international credit is severely constrained when prices are low. When commodity prices fall, they are likely to experience current account problems and any attempt to borrow at this stage risks being viewed suspiciously by financial markets. Moreover, if they are able to borrow on a sufficient scale, they risk paying a very high price to be able to do so. Hence accumulating some money in a stabilisation fund that can be used to finance government expenditure when prices are low is by far the preferred option.

15. Secondly, a stabilisation fund not only serves to smooth government expenditures, but generally also helps in smoothing growth. This is because the fund accumulates money when commodity prices are high, *i.e.* when the terms of trade of the country have been improving. The money is spent when commodity prices have been falling, i.e. following terms of trade deteriorations. As economic growth is likely to be partially driven by terms of trade changes, this means that a stabilisation fund reduces the risk of overheating when the economy is likely to be growing very robustly, and provides an additional stimulus when growth is likely to be below potential.

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9. See Narain *et al.* (2003).

10. Obviously with respect to those commodities that are most relevant for a given resource-based economy.

16. Third, a stabilisation fund can also serve to reduce exchange-rate fluctuations. This arises from the fact that the investment and spending pattern of the stabilisation fund described above contribute to capital outflows when commodity prices are high and to capital inflows when they are low. These flows can thus be an important mechanism to counteract current account pressure on the exchange rate, thus helping to shield the economy to some degree from potentially damaging sharp exchange-rate fluctuations.

17. Whatever the ultimate size of a stabilisation fund, it may at some point be sufficiently large that further accumulation would be unnecessary and might even become inefficient. The insurance provided by the fund comes, after all, at a price. A country will then need to decide what to do with any further windfall revenues arising from high commodity prices. The temptation to use them to finance tax cuts or higher non-interest spending should be resisted, as this would be strongly pro-cyclical and would thus increase the risk of overheating. It would also risk jeopardising the fiscal position as and when commodity prices eventually fell.

18. The urge to spend at least some windfall revenues – or to use them to reduce taxes - is, of course, understandable, given the many urgent calls on the public purse in low- and middle-income countries. However, if the authorities wish to use windfall revenues to finance sustainable tax cuts or expenditure increases, then the best strategy would be to use surplus revenues in the first instance for early debt repayment. This would reduce the government's future liabilities and thus allow for higher spending or lower taxation in subsequent years - without betting on continued high commodity prices. Using surplus revenues for debt repayment would also help to reduce the risk of currency crises and to limit the impact of such crises if they occurred.

19. Once the stabilisation fund has reached a size considered sufficient for stabilisation purposes, the authorities might also wish to consider accumulating additional commodity windfalls in a fully funded pillar of the state pension system – assuming of course that such a system exists. Apart from being a macro-economically responsible way of distributing the windfall to the population, this would help to raise the pension rights of those who, owing to age or income, would otherwise have little or no claim to a pension from the fully funded pillar.

20. Having low external debt also helps in reducing external vulnerability, both by decreasing the risk of currency crises and by limiting the damage from such crises if they do occur. In this respect, the need for low external debt applies equally to the public and private sectors. It is hence also important to make sure that private sector's external borrowing does not reach dangerous levels. Empirical work suggests that external debt above a certain level has a negative impact on growth.[11] To reduce a high external debt level, by the way, one need not necessarily reduce the public debt burden. A reduction in external debt may also be achieved by shifting more of it into domestic currency denominated debt. In any case, sovereign debt should ideally be predominantly in domestic currency, or at least indexed to a relevant commodity price or commodity price basket, so that debt service would rise or fall in line with commodity prices. So far commodity-price-indexed bonds have mainly been issued in the context of sovereign debt restructurings or by private companies, but there is no obvious reason that would prevent them from being used more widely for sovereign issues.[12] Such issues should be attractive to those needing a hedge against commodity price rises, especially given that possibilities for long-term hedging in commodity markets are relatively limited.

11. Patillo *et al*. (2002) show that, for developing and emerging countries, the average impact of external debt on growth becomes negative at about 35-40% of GDP or about 160-170% of exports. The marginal impact of debt would start being negative at about half of these values.

12. See UNCTAD (1998:41-5).

21. Resource-based economies also need a significant degree of exchange-rate flexibility in order to be able to accommodate shifts in their terms-of-trade. When commodity prices are rising, the problem is that currencies may become fundamentally overvalued – bringing the risk of especially large and painful exchange-rate depreciations as and when those prices fall. Hence there may be a place for efforts to avoid excessive exchange-rate appreciation, especially when the prices of major export commodities are high and there are large short-term capital inflows. Nonetheless, pursuing such exchange-rate goals may be costly in terms of inflation unless there is the political will for sufficient fiscal sterilisation, and the technical capacity for a good deal of monetary sterilisation. This reinforces the need for resource-based economies to have a stabilisation fund, but it also implies that their central banks need an especially large capacity for monetary sterilisation. Such economies should have a large market in domestic currency denominated government debt, and it may also be useful to allow the central bank to issue securities.

22. More generally, dollarisation (or euro-isation) of a resource-based economy as such should be avoided or low, with prices and contracts being in local currency as far as possible. Borrowing, saving, setting prices, or concluding contracts in an external currency may be rational and beneficial for individual households, enterprises, or banks. However, the widespread and generalised use of a non-domestic currency in economic transactions implies a large systemic risk to economic stability in the event of large exchange rate fluctuations, and should therefore better be limited or avoided in resource-based economies.

2.3 Dutch disease

23. Further developing a country's resource sectors usually also implies an increased risk of 'Dutch disease'. The term Dutch disease is usually used by economists to describe a situation in which a country suddenly discovers large quantities of natural resources and starts exporting them. However, "Dutch Disease" can also become a more pressing problem for a country if the weight of an existing resource sector in exports increases relatively fast. In either case, the increased resource wealth tends to raise the equilibrium exchange rate and/or general wage levels, thereby putting pressure on the competitiveness of the other tradable sectors in the economy.[13]

24. Having a stronger equilibrium exchange rate is not only bad news as it increases the purchasing power of the population (as imported goods become cheaper) and therefore raises living standards. The ensuing stronger consumption usually also boosts production in the non-tradable sector. The back draw, however, is that the competitiveness of the non-resource based tradable sectors comes under threat. To be able to continue exporting, or at least to withstand import competition, these sectors must therefore increase productivity sufficiently fast in order to keep their international competitiveness.

25. While productivity increases as such are obviously welcome, a potential problem is that the strong pressure from the appreciating exchange rate on the non-resource tradable sectors may ultimately affect equilibrium employment levels. The resource sector usually provides relatively little employment itself. Therefore, if resource-based currency strength leads to a more capital- and less labour-intensive production pattern in other industrial sectors, it risks contributing to reductions in industrial employment. This may not be a problem if growth in non-resource based activities is sufficiently strong top create the necessary jobs. An expansion of the service sector, in particular, could compensate for lost industrial jobs, but a significant part of the potential employment opportunities in the service sector may be of rather low productivity, which would imply comparatively low wages. This could therefore give rise to social tensions, or, in countries where large wage inequality is socially and politically unacceptable, the service sector may fail to generate a significant part of potential employment.

13. The name 'Dutch disease' is in fact rather unfortunate, as the Netherlands actually handled such a situation comparatively well.

26. The potential negative impact of the natural resource sector on the economy can, however, be mitigated by the right policies. The tax system, for example, can be instrumental in avoiding Dutch disease and in assisting the development of the non-resource sector. More precisely, direct taxation of the natural resource sector should be increased, though it must be assured that these sectors, which are often critical to growth, remain sufficiently profitable to allow for their further development. The proceeds of the increased resource taxes should then be used to lower overall tax levels in the economy and in particular, to cut non-wage labour costs. While lower non-wage costs might in certain sectors be wholly or partially offset by wage increases, they should at least lead to lower total labour costs in sectors with low productivity. Obviously, cuts in non-wage labour costs may cause shortfalls in social security or pension funds, but these could – if deemed important - be compensated by earmarking a certain portion of price-independent resource taxes. Moreover, taxing more of the resource rent away should also decrease wages in the resource sector and hence diminish the pressure on wages in other sectors. As this may allow lower wages for activities with lower productivity, this would also help to preserve employment that would otherwise be lost or create new employment opportunities that would otherwise not arise.

27. While orienting the tax system towards the resource sector can help to alleviate Dutch disease, it also increases the dependence of the budget on commodity prices. This potential risk, however, should not be seen as a deterrent to orienting the tax system this way; rather, it underlines the importance of having a sufficiently large stabilisation fund.

2.4 Political economy challenges

28. As pointed out in the foregoing paragraphs, many – if not most - of the potential macroeconomic problems arising from resource dependence can be resolved or at least significantly reduced by following appropriate macroeconomic policies and undertaking related structural reforms. The potential political economy implications may therefore be the toughest problem resource-based economies face. The economic literature suggests a number of reasons why resource orientation may complicate economic development. Among those, the incentives for rent seeking – and its negative effects on economic development - are quite prominent. First, the allocation of talent in natural resource economies may be biased in favour of the resource sector, as highly capable individuals focus on securing resource rents rather than building successful businesses in other sectors.[14] Secondly, countries with resource-based economies are also more likely to experience large-scale rebellions and civil wars – which to some degree is simply an unfortunate consequence of rent seeking pushed to the extreme.[15] Thirdly, it has been shown that a larger share of natural resources in exports is associated with more corruption,[16] which, in turn, is associated with slower long-term growth.[17] And finally, a higher natural resource share in the economy is often accompanied by greater inequality of incomes, which has also been shown to undermine long-term growth performance.

29. As rent-seeking or its consequences underlie most of these problems, part of the solution is simply to tax away a fair share of the resource rent. For example to the degree that inequality is driven by the fact that those active in natural resource sectors (owners, managers and workers alike) get their share of the resource rent, and hence are usually doing far better than those in similar positions in other sectors, taking away these rents – obviously in as corruption-proof a fashion as possible - goes a long way in solving the problem. The money thus collected can then be given back to the population through low general tax levels. To reduce inequality, using part of it for some increase in targeted social transfers may

14. See Acemoglu and Verdier (1998) for a related point.

15. See Collier/Hoeffler (2004) for empirical evidence and Ross (2003) for an overview on the issue.

16. See, *e.g.* da Cunha Leite and Weidmann (1999).

17. Mauro (1995).

also be useful in some cases, especially in countries where the social safety net already in place is small and insufficient. By providing the state with additional resources and reducing the risk of social tensions through greater income equality, this could also reduce the risk of rebellions and civil wars. A large reduction in resource rents going to individuals instead of the state would also help solve the problem of potential misallocation of talent to resource sectors. The main obstacle to achieving this is that it requires a fairly efficient and non-corrupt administration - otherwise resource rents are simply divided between resource companies and their bureaucratic counterparts, with only a minor share making it into state coffers. Hence having an effective and relatively corruption-free state apparatus becomes one of the key priorities to overcome the political economy challenges that may come with resource dependence.

30. There are various measures that can be taken to limit corruption. The first step is to create more corruption-resistant structures. Rules, if necessary at all, should be simple, transparent and standardised, with few exceptions and as little reliance as possible on bureaucratic discretion. However, while drafting corruption resilient legislation is important, it will not be sufficient on its own to reduce corruption levels as long as corruption goes largely unpunished because of a lack of monitoring. Cross-country research shows that both the efficiency of the rule of law and the development of civil society are strongly and negatively correlated with corruption levels.[18] The evidence also demonstrates that a lack of press freedom increases corruption.[19] An independent justice, a free press, and generally a strong civil society are hence not a luxury for the sake of itself, but are important in bringing and keeping down corruption, and thus to promote long term economic development.

31. Interestingly, all resource-based economies that have developed successfully had strong civil societies, relatively well functioning and independent judicial systems, high levels of press freedom and relatively low levels of corruption, whereas resource economies that failed to achieve adequate economic progress usually lacked most of these features. There is also evidence that resource-based development has generally been more successful when state ownership in the resource sectors has been absent or very limited. In this respect, the contrast between the mainly state-owned Russian gas sector, and the (until 2005) almost entirely privately owned oil sector is suggestive. While from 2000 to 2004, the latter was one of the main engines of Russian growth, the former continued to stagnate.

2.5 Diversification

32. Developing a successful modern economy based on natural resource exports is -in principle- feasible, given the right institutions and policies, as the examples of OECD countries such as Canada, Australia or the Scandinavian countries demonstrate. As stated above, there are, however, risks associated with being highly dependent on a limited number of resource-based sectors. Therefore a more diversified economic structure is something that in principle is desirable. It will, however, be important not to lose sight of what diversification policies can and cannot achieve. First, it must be clear that there is no miracle recipe to achieve diversification overnight. Fostering diversification will be a long drawn out process, and should hence be seen as a long-term goal. Second, there is no shortage of examples of failed diversification policies, and economists know fairly well on the basis of international experience what does *not* work. Fiscal irresponsibility as well as large-scale *state* investment in pet industrial projects ranks at the top of the list of what should be avoided. Unfortunately, there is less agreement among economists about what *does* work, as policies that work well in one place often fail dramatically elsewhere. Indeed, failures have been so common (and sometimes so spectacular) that, in recent years, economists have often preferred not to give any advice at all with respect to diversification policies.

18. Brunetti and Weder (1999).

19 . Ahrend (2002).

33. Nevertheless, there are some policies that are helpful in fostering diversification and that should be fairly uncontroversial. Broadly speaking, they consist of getting framework conditions for entrepreneurship right, making sure that the business environment is generally competitive and that there are sufficient incentives to invest in non-resource sectors. As such, they involve a large number of structural reforms typically advocated by mainstream economics. However, reasonable doubts have been voiced as to whether these policies would turn out to be sufficient to achieve the stated goal of diversification in a reasonable time span. While acknowledging the need for good framework conditions for business as a *sine qua non*, some economists therefore advocate the pursuit of "new style" industrial policies as a supplement to the structural reform agenda.

34. The most obvious conventional measure is to use the tax system to assist the development of the non-resource sector. As the type of tax policies required are similar to the ones needed to combat Dutch disease, and hence have already been discussed in detail in section I.3, we here only repeat that the guiding principle should be to make extensive use of taxes that specifically target the resource sectors, which in turn allows low general tax rates.

35. In addition to tax policy, there is also a large list of structural reforms, including financial sector and administrative reform, which would be particularly important for facilitating the diversification of economic activity. Mechanisms for efficiently allocating investment resources across - and not merely within - economic sectors are important. Setting up framework conditions so as to allow the banking sector to develop – while making sure that it remains in good health - is thus a key priority[20]. Facilitating the emergence of a venture capital industry would also be helpful, although mainly for those resource-dependent countries that have relatively advanced technological potential, especially for assisting start-ups in sectors at the technological frontier. At the same time, there often is a crucial need to improve basic framework conditions for business, particularly small and medium enterprises (SMEs). In many resource-based economies, there is large scope to reduce the burdens imposed by heavy regulation and an often corrupt bureaucracy, which in addition to strengthening the financial system, would help to create a more level playing field and decrease barriers to entry.

36. On the less conventional side, "new-style" interventions recommend the creation of programmes that would directly improve the productivity and competitiveness of selected enterprises, which would to some degree serve as an example for other entrepreneurs. The guiding features of such policies usually include that they be highly transparent, that participation in these programs be determined by private sector representatives, and that the period during which any single enterprise can participate in such a programme be strictly limited. Programmes should not involve significant transfers of resources to participating enterprises, but rather focus on the transfer of knowledge or skills, such as new production, management or marketing techniques, or the dissemination of specific information (*e.g.* about potential export markets). An extensive discussion of "new style" industrial policy is beyond the scope of this paper, but can for excample be found in Drebentsov (2004).[21]

20. Developing a sound banking sector is complicated by resource dependence, as it makes it more difficult for banks to achieve sufficient sectoral diversification of their loan portfolios. See Narain *et al*. (2003).

21. For a theoretical foundation of "new style" industrial policy and a survey of various international experiences in this field see also Rodrik (2004).

3. The challenge of sustaining growth in a resource-based economy – application to the Russian case

3.1 Sources of Russian growth 1999-2004

37. Russian real GDP grew at just under 6.8% per annum during 1999–2004, which has been much faster and more sustained than most observers thought possible in the wake of the 1998 financial crisis.[22] Given that there has been – and still is - considerable doubt about Russia's potential for sustained fast growth, a clear understanding of the factors and policies that have underpinned Russia's post–crisis economic performance seems crucial to any attempt to assess the conditions under which Russia could maintain high growth rates in the future.

38. The starting point for analysis must be an understanding of Russia's existing economic structure. Russian official data, though technically correct, present a somewhat distorted picture of the economy, because a large share of the value added generated by natural resource sectors is reflected not in the accounts of the extraction companies, but in the accounts of their affiliated trading companies. This practice is most common where output is exported, especially if the domestic and export prices of the goods involved differ substantially. As a result, export-oriented industries are under-represented in industrial production, and industry as a whole is under-represented in Russian national accounts. Trade, and hence the service sector, is over-represented.

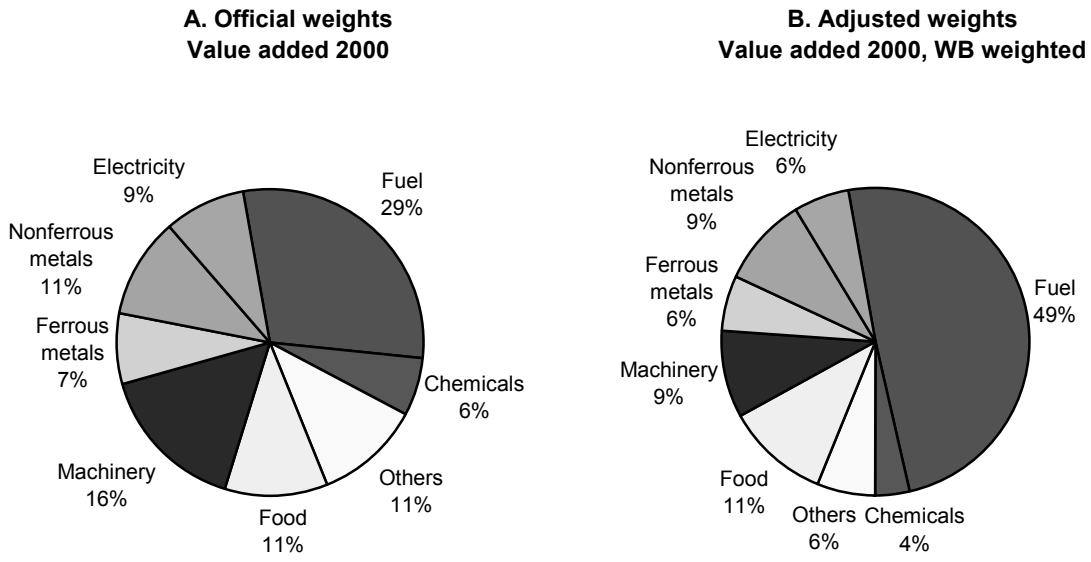
39. There have recently been several attempts to correct for these distortions, and this analysis relies on one of them – the recent World Bank (2004) estimates of the relative weights of different sectors in GDP.[23] Following these estimates the share of industry increases from 27 to 41%, and the oil and gas sector's share of GDP rises from around 8% in the Goskomstat data for 2000 to just above 19%. This is broadly in line with the estimates produced by the Economic Expert Group attached to the Russian Ministry of Finance, which suggest that the oil and gas sector's share of GDP was around 21% in 2000 and hovered at around 17% thereafter.[24] At the same time, the services share drops from 60 to 46% when employing the World Bank weights, which seems far more plausible. Figure 1 shows the structure of value added in industry by industrial sector under the official and adjusted weights. Its most striking feature is the vastly larger share of industrial value added that is attributed to the fuel sector.

22. For an exception to this view, see Ahrend (1999) and Breach (1999).

23. See also the estimated sectoral weights produced by Kuboniwa (2003) and Gurvich (2004).

24. Gurvich (2004).

Figure 1. **Structure of industrial value added**



Source : Russian Federal Service for State Statistics, World Bank and OECD calculations.

40. Using the above-mentioned adjusted weights to calculate relative contributions, we find that overall economic growth has been relatively broad-based. While immediately after the crisis it was overwhelmingly driven by industry and construction, the relative importance of service-sector growth has been increasing, especially in 2002-04, and even on the adjusted weights services still accounted for roughly one-third of economic growth during this period[25]. Industrial growth, however, has been highly concentrated, and the role energy has played in Russia's expansion is striking. Natural resource sectors[26] directly accounted for roughly 70% of the growth of industrial production in 2001–2004, with the oil sector alone accounting for just under 45% (see Figure 2). This implies that natural resource sectors directly contributed more than one-third of Russian GDP growth over the period, and the oil industry alone close to one-quarter[27]. It should be noted that this includes only the direct contribution of the oil sector to growth: taking into account the knock-on effects from oil-sector procurement and wages on domestic demand, the actual contribution of the oil industry to economic growth was greater still.

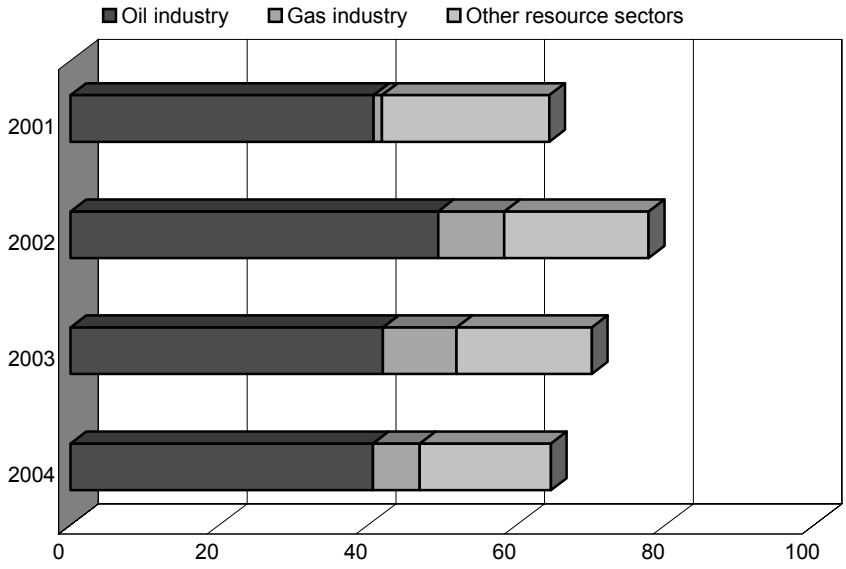
25. See Ahrend (2006) for details.

26. Fuel, non-ferrous metals and forestry.

27. Industry accounted for slightly below half of GDP growth in 2000-04 and the oil sector for somewhat below half of industrial growth. (Calculations made using the adjusted sectoral weights discussed above; contributions to industrial growth calculated on the assumption that the share of value added in production has been roughly constant in the short term).

Figure 2. **Percentage of contribution of resource related sectors to industrial production growth**

Per cent



Note: Calculation based on adjusted sector weights, see World Bank (2004).
Source: Russian Federal Service for State Statistics, World Bank and OECD calculations.

41. This contrasts somewhat with the economic developments in the immediate after crisis period.[28] Back then, Russian industry profited from a sharply devalued exchange rate and sharply reduced real energy prices, and these two factors were the major drivers of the industrial recovery in 1999-2000. However, as both the real exchange rate and energy prices recovered from exceptionally and unsustainably low levels, the boost to growth from the devaluation gradually disappeared.

42. Looking at growth from the supply side shows that it was almost certainly driven by strong increases in total factor productivity[29], while the main factor driving growth from a demand perspective was rapidly increasing private sector demand. [30] In this respect it is important to note that, especially in 2003-2004, fiscal restraint played a major role in preventing an unsustainable overheating of the Russian economy. Moreover, during 2001-2004, the unfolding consumption boom did not put the external balance at risk, as strong increases in imports were balanced by rapidly growing exports, mainly of oil[31]. In other words, while Russian growth was increasingly *driven* by consumption, it was largely *sustained* by rising oil exports.

28. For a more detailed discussion of the immediate post-crisis period see e.g. Ahrend/Tompson (2005a).

29. See OECD (2004), Box 3.

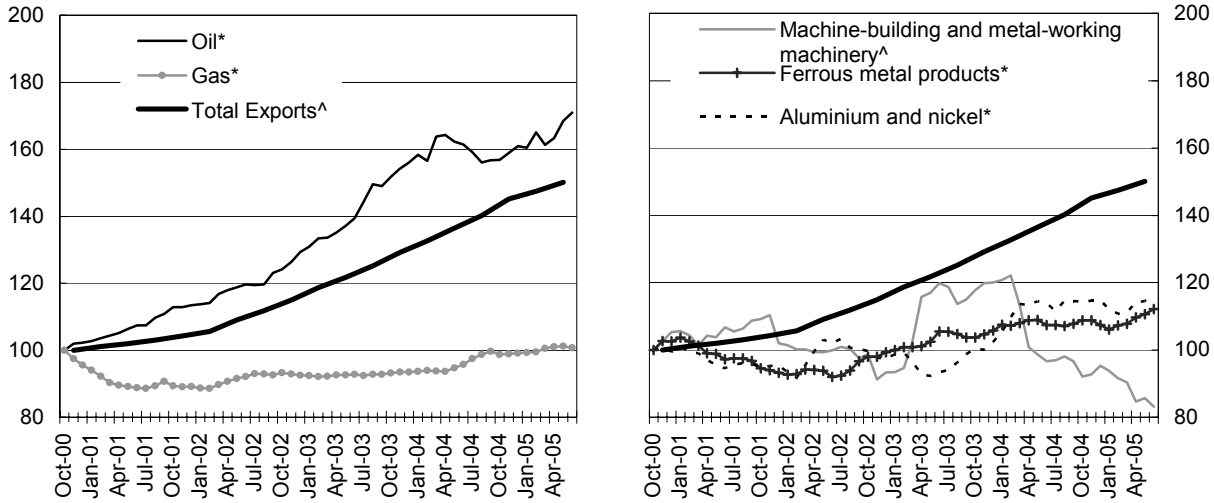
30. Private consumption grew by an average of almost 9% per annum from 2000-2004, driven by exchange-rate appreciation and especially strongly rising real disposable incomes (real wages increased by 82 per cent during 1999-2003, and were 28 per cent above pre-crisis levels at the start of 2004). Rapid growth in real incomes also led to even faster import growth, with import volumes increasing by an average of 21% per year between 2000 and 2003.

31. Price increases in Russia's major export commodities also contributed to push export revenues up.

3.2 The policies and developments underlying recent Russian growth

43. While the commodity structure of Russian exports was already highly concentrated during the nineties, it has become even more so since 2000. Figure 3 shows that the robust growth of export volumes in 2000–05 was driven overwhelmingly by the oil sector. In this respect it is striking to see the huge differences in export performance of Russia's main export sectors: While oil export volumes grew by more than 70%, growth of the ferrous and non-ferrous metals was slow (around 15%)[32], gas exports stagnated[33], and exports of the machine-building sector declined significantly.

Figure 3. **Export performance of main sectors (12 months moving average, index Oct 2000 = 100)**



* Physical volumes ^ Real roubles

Source: Russian Federal Service for State Statistics, OECD calculations and estimates.

44. Monetary policy in 2000-2005 was dominated by the pursuit of conflicting policy goals, and *de facto* was very loose. The Central Bank of Russia (CBR) followed a policy aimed at gradually reducing inflation while limiting the real appreciation of the rouble in order not to endanger the competitiveness of Russian industry[34]. Given the large current account surpluses and decreasing net capital outflows during most of the period[35], this determination to prevent overly rapid rouble appreciation increasingly compelled the CBR to intervene on the foreign exchange market.[36] In the absence of efficient large-scale sterilisation

32. The armaments sector apparently increased export volumes, but there are no official published statistics. In any case it is unlikely that these increases would have influenced total export performance substantially as the share of arms in exports is relatively small, probably somewhere around 5%.

33. While widely reported gas export volumes to non-CIS countries increased over the period, total gas export volumes (including to CIS countries) fell quite significantly.

34. In practice, some degree of priority was given to the latter goal of preventing rapid exchange rate appreciation. See Vdovichenko (2004).

35. Net private outflows increased again from mid-2003 as the so-called "Yukos affair" unfolded.

36. Fiscal sterilisation was able to absorb a significant, although insufficient, amount of the current account pressure, reducing the need for CBR intervention. Fiscal sterilisation was mainly achieved via budget surpluses. An increasing - though still small - share of fiscal sterilisation was also realised by shifting hard-currency denominated sovereign debt into rouble-denominated debt, reflecting the financial markets' renewed interest in such instruments. It should be noted that during most of the period the CBR's task was also made easier by significant net private capital outflows.

tools the accumulation of reserves led to very strong monetary expansion. This loose monetary stance also meant that starting mid-2000 rates for rouble lending to enterprises and individuals were very low, and real interest rates on deposits or government bonds were actually negative.

45. Prudent fiscal policy probably was the Russian government's single most important contribution to sustaining economic growth during 2000-2004. Due to deep structural cuts in spending, general government expenditures (including all levels of government and social funds) were about 10 percentage points of GDP lower after the crisis than before it, while revenues relative to GDP remained at roughly their pre-crisis levels.[37] As a result, following a decade of large deficits, the federal budget was in surplus from 2000. To be sure, fiscal responsibility was facilitated by growing revenues due to favourable terms of trade and strong growth. However, the government largely resisted the temptation to spend this windfall, instead using a significant part of it to repay debt[38]. The government also accumulated reserves, part of which, were used to set up a stabilisation fund. Indeed, during 2000-2004 federal budgets were drafted based on such conservative oil price assumptions that the federal budget would probably have remained in rough balance even had oil prices been at long-term average levels throughout the period[39].

46. In part this was achieved by the 2000-2004 tax reform which simplified the tax system, while increasing its efficiency.[40] At the same, the tax system was restructured so as to capture a larger share of natural resource rents, especially windfall profits from high oil prices. Together with a reduction in the profit tax rate and the introduction of a simplified unified social tax (regrouping several social payments), this was a first step in increasing taxation of the resource sector, while using the freedom this generated to cut the rates of the main general taxes for the whole of the economy.

47. A sound fiscal position also played a key role in reviving private investment. The fact that the government turned from a net domestic borrower to a net lender helped to bring domestic interest rates down, while declining sovereign foreign debt, together with improved perceptions of the Russian economy (at least until mid-2003), helped large Russian companies to borrow more – and at better terms - from foreign banks and international markets.

48. The perception that property rights had become sufficiently secure (even though - with hindsight - this perception turned out to be misguided in some cases) was one of the factors contributing to the recovery of investment in 2000 and especially 2001. This effect was particularly strong in the oil sector, where investment jumped from roughly 25% of industrial investment before the crisis to around 35% from 2000 onwards[41]. Strikingly, the growth of oil-sector investment was initially led by companies controlled by the state or by oil industry insiders: by 2000, their investment was already 70% above 1998 levels. This was in sharp contrast to oil companies whose owners' property rights were perceived as less secure, e.g. those owned by major financial groups. In these companies investment in 2000 was only marginally above

37. This reduction in the spending-to-GDP ratio has coincided with massive reductions in wage and pension arrears, and has not resulted in any substantial deterioration in the provision of public services. This suggests that the creation of a federal treasury, the reform of fiscal federal relations and the government's overall spending restraint have contributed to more efficient expenditure management.

38. There also was a 'virtuous cycle' with respect to debt, as debt repayment from budget surpluses and rouble appreciation led to sharp falls in the ratio of debt service to GDP. Federal interest expenditures fell from 3.4% of GDP in 1999 to 1.7 % in 2003. Lower levels of government expenditure also gave Russia room to reduce the tax burden, which was an additional stimulus for private investment and consumption, and hence economic growth.

39. See Kwon (2003) and Ahrend (2006).

40 . For an overview of tax changes in 2000-01 see OECD (2002), for 2002-2004 see OECD (2004), Box 1.4.

41. Clearly, high oil prices were another major factor.

1998 levels (Table 1). However, as perceptions of the security of property rights further improved, the latter group of companies began rapidly increasing investment in 2001, soon reaching levels comparable with the former group. This increase in investment of the private oil companies led to a sharp increase in oil production and exports in the following years.

Table 1. **Oil sector investment**

As a percentage of 1998 figures

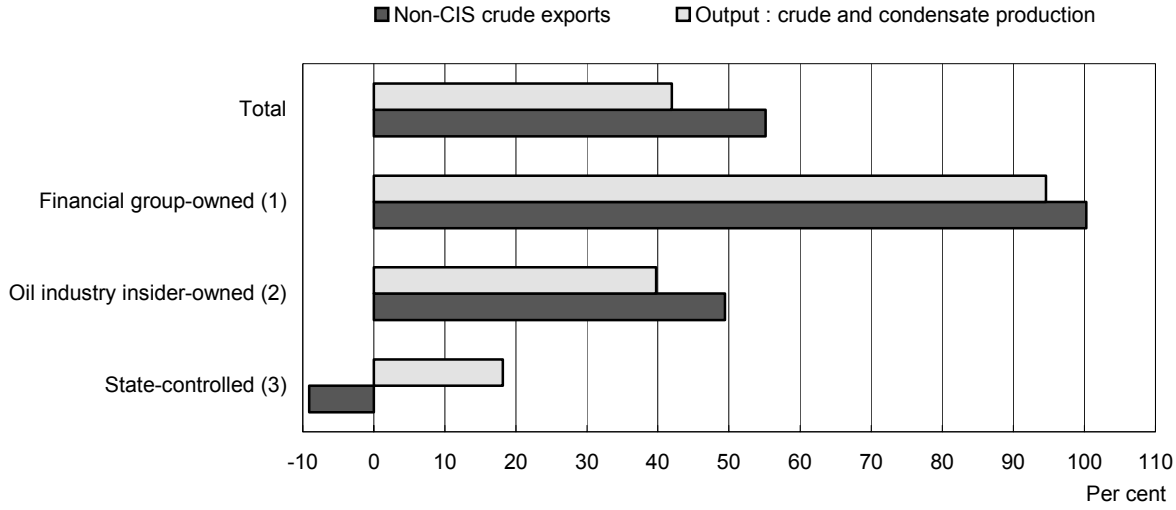
	Upstream capital spending					
	1999	2000	2001	2002	2003	2004
Total	**65**	**148**	**215**	**167**	**194**	**206**
Financial group owned (1)	35	122	225	202	260	226
Oil industry insider owned (2)	80	169	229	174	198	244
State controlled (3)	73	173	244	169	206	204

1. Sibneft, TNK, Yukos
2. Lukoil, Surgutneftegas
3. Bashneft, Rosneft, Tatneft

Source: Ministry of Energy, InfoTEK, Rennaissance Capital estimates, RIANTEC, OECD calculations.

49. The output and export growth of Russian oil companies was, however, very uneven during 2001-2004, as figure 4 clearly shows. Two points stand out. First, state-controlled companies barely increased output or exports. Russia's private oil companies accounted for almost all of the growth recorded over the period. This means that private oil producers directly accounted for somewhere between one fifth and one quarter of GDP growth, as well as the bulk of the indirect contribution referred to above. Secondly, the private companies that did the most to drive this growth were those controlled by major financial groups (the so-called *finansisty*) rather than those under the control of oil-industry insiders (the *neftyaniki*).

Figure 4. **Oil companies: relative performance**
Growth 2001-2004 inclusive



1. Sibneft, TNK, YUKOS. 2. LUKOIL, Surgutneftegaz. 3. Bashneft, Rosneft, Tatneft.

Source: Ministry of Energy, InfoTEK, Rennaissance Capital estimates, RIANTEC, OECD calculations.

50. As shown before it is unlikely that Russia would have been able to grow at anywhere near the rates it experienced in 2001-2004 had it not been for the oil sector. What is more, the examples of the state-controlled oil companies and of other important state-controlled companies[42] strongly suggest that Russia's

42. See Ahrend (2004), Ahrend/Tompson (2005b) and Tompson (2004).

leading private oil companies would not have achieved the growth performance of the last few years if they had remained under state control, implying that Russian growth would also have been significantly reduced in this case.

51. The above analysis, however, should not be taken to imply that there have been no positive developments outside the oil sector in recent years. Other industrial sectors have also grown, and many have recorded strong increases in labour productivity. There has also been a large amount of consolidation in the industrial sector in the aftermath of the crisis. Large industrial groups that have emerged were usually founded around some commodity exporting business, and have in recent years mainly pursued strategies of vertical integration. The privately held industrial groups - usually tightly controlled by a small number of core shareholders – have generally restructured the businesses they owned or acquired in recent years and most of them are fairly well managed. The productivity of many private industrial groups' enterprises has been increasing briskly, and often above the productivity increases achieved economy-wide.[43]

3.3 How to sustain Russian growth – looking forward

52. Having thoroughly discussed the required policies for successful resource-based development, as well as briefly examined the main sources of Russian growth in recent years, we can now investigate the question of whether, and under what conditions, Russia – being a resource-based economy - will be able to sustain its recent growth performance. This subject, however, necessitates another *detour*. First it must be understood that in the medium to long term, if Russia wants to sustain growth at current high rates, it must also be able to increase exports rapidly.

53. This is because imports, which consist to a large degree of consumer goods in which Russian industry is non-existent or, particularly uncompetitive will in all likelihood tend to increase in line with disposable incomes (Figure 5), as the experience of recent years shows.[44] Since one of the main aims and consequences of economic growth is to raise living standards, high growth rates will almost certainly imply a continuation of strongly increasing import demand[45]. The large current account surpluses for 2004 and 2005 could be interpreted as saying that Russia has ample space for increasing imports without a corresponding increase in exports. This, however, is probably not the case.[46] In 2004 and particularly in 2005 the terms of trade were extremely favourable, but they are likely to deteriorate at some point in the future, with a corresponding large negative impact on the current account.

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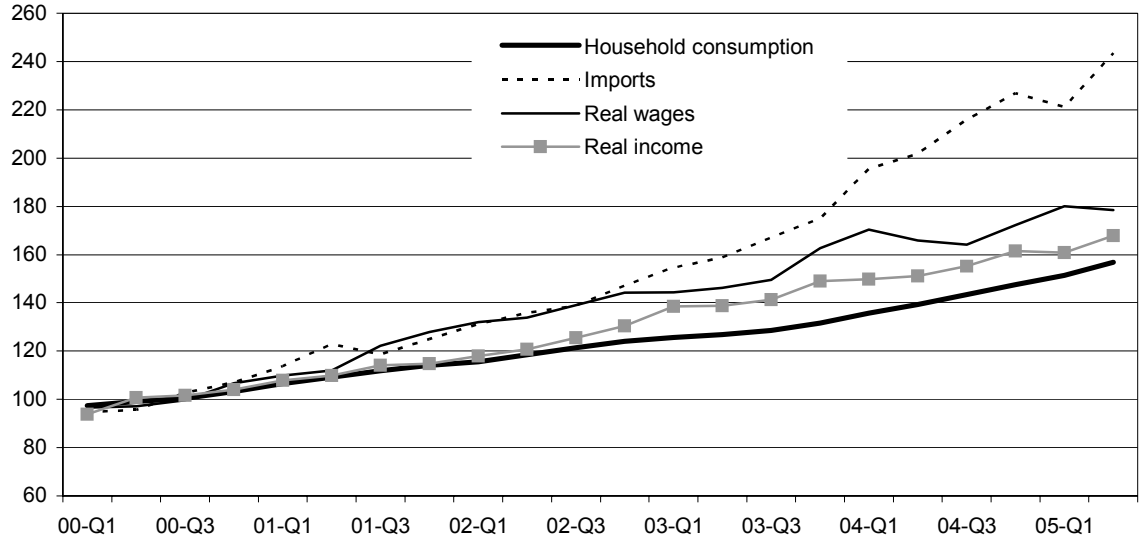
43. See also Boone and Rodionov (2002).

44. There may be somewhat more import substitution, but this is very unlikely to change the general trend.

45. Moreover, the continued real appreciation of the rouble will further increase demand for imported goods, for both consumption and investment.

46. Assuming that import volumes in dollar terms continue to increase at the average rate seen in 2000-2005, with growth in export volumes continuing at a respectable 5% from 2005 onwards, the current account surplus would disappear in the second half of 2007 even with Urals crude at around USD 40/bbl and non-hydrocarbon commodity prices staying at the high average levels seen in 2004/05. This should be seen in the light of long term average real Urals prices around US$ 25, as well as the fact that Russia has needed roughly US$ 20bn in recent years to finance estimated capital flight and pay for underreported imports. In theory, Russia might continue to enjoy a consumption boom and increase imports, even if the trade and current account balances were to swing into deficit. However, this would imply becoming structurally dependent on importing foreign capital—a highly risky strategy for a country that is as exposed to external shocks as Russia and that has so far had little success in attracting strong, stable FDI inflows. Such a policy would in all likelihood lead to balance of payment crisis further down the road.

Figure 5. **Income, consumption and imports**
Index 2000=100, Seasonally adjusted

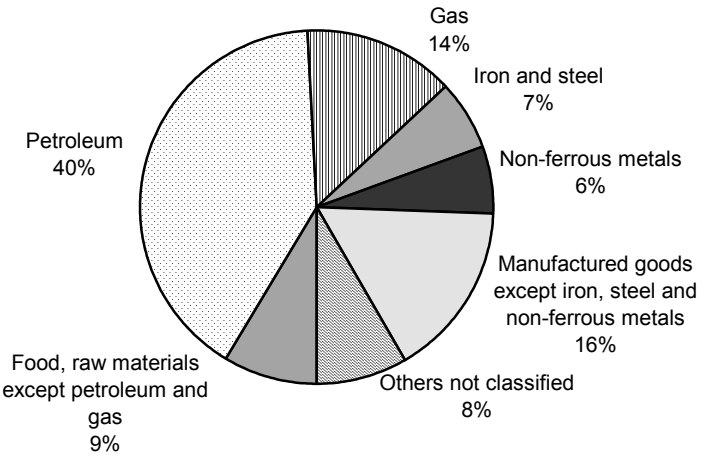


Source: Russian Federal Service for State Statistics, OECD calculations.

54. In short, if Russia wants to sustain high growth, it will have to be able to sustain rapid export growth. Russia's revealed comparative advantage (RCA) in recent years has been in natural resources, especially hydrocarbons, and energy-intensive basic manufactures (steel, aluminium, nickel, fertiliser), plus some other commodities. What is more, the RCA in oil has been growing strongly in recent years, and oil, oil products and gas currently account for over 55% of Russia's exports (see Figure 6). It is therefore clear that in the short and medium term these commodities will continue to dominate Russia's export bill, regardless of whether or not policies aimed at the diversification of economic activity are successful. Even if Russia manages to increase sharply its exports of more sophisticated manufactures, their contribution to total export growth will remain modest for some years to come, simply because they start from such a low base. This implies that robust export growth in the short-to-medium term will probably not be possible without further increases in mineral, and especially hydrocarbon, exports[47].

47. Basic manufacturing in energy-intensive sectors may also be able to make some contribution to future export growth. Recent experience suggests, though, that potential export growth in these sectors may be constrained by the threat of protectionist measures on the part of Russia's trade partners. According to the Ministry of Economic Development and Trade, Russian exporters in early 2004 faced 93 different restrictions on access to foreign markets, including 57 anti-dumping measures of various kinds. Roughly 60% of these applied to steel exports, with a further 25% affecting the chemicals sector.

Figure 6. Structure of Russian exports, 2003



Source: United Nations, *Commodity Trade Statistics Database (COMTRADE),* SITC Rev 3.

55. Achieving continued growth in hydrocarbon exports will necessitate investment in the transport infrastructure, especially pipelines. Moreover, as Russia's own energy consumption is likely to rise further in coming years, assuming there is significant economic growth[48], increasing export potential will require quite substantial production increases which will at some point necessitate the development of new fields. It will hence be important that fiscal and regulatory policies are such that they encourage the development of new oil fields to replace production from those currently in decline. A healthy business climate and especially clearly assigned and secure property rights are therefore a *sine qua non* for private enterprises' willingness and capacity to finance the large projects.

56. Unfortunately the investment climate has suffered serious damage as a result of arbitrary actions on the part of the authorities, particularly the tax service, the prosecutors and the courts.[49] Since mid-2003, the privatised oil company Yukos has been at the centre of a complex legal and political campaign directed by the state against its main shareholders. The onslaught against Yukos has been the most visible such case, but it has not by any means been the only one. Similar legal campaigns have been directed at other businessmen in conflict with the authorities at both federal and regional levels[50]. What makes the Yukos case different is the size of the company, and the fact that its main shareholder chose not to surrender his assets and leave the country as others had done before, but is instead facing the courts and prison.

57. The results of the negative shifts in the business climate were not hard to see. While GDP growth was an apparently respectable 7.1% in 2004, growth slowed through the year as the growth of both oil extraction and general investment slowed, and capital flight rose sharply. Moreover, the growth slowdown occurred in spite of a very significant fiscal stimulus and sharply improving terms of trade. Other factors contributed to the slowdown, but it clearly owed much to a policy-driven deterioration in the business climate.

48. See Milov (2005).

49. In the first nine months of 2004, the Federal Tax Service collected more than Rb470bn in tax claims for past years, as compared with Rb150bn for the whole of 2003. This reflected a dramatic increase in the service's propensity to reopen tax cases from past years, often penalising taxpayers for practices that it had previously approved.

50. See OECD (2004), p. 71.

58. Though much of the 2004/2005 slowdown in oil production growth was a consequence of the policy induced deterioration in the business climate, oil exports would probably have slowed somewhat anyway. Oil cannot remain the chief driver of Russian export growth indefinitely anyway, as Russian oil reserves are comparatively limited.[51] Given that world demand for gas will probably continue to increase and that Russia has the world's largest proven gas reserves, the obvious candidate to step in as oil export growth slows would be gas. Undoubtedly, much of the gas is in areas that are difficult to develop, but Russia's gas monopolist, OAO Gazprom as well as its smaller gas producers, have exhibited real technical excellence in extracting it.

59. Unfortunately, the gas industry is arguably Russia's least-reformed major sector and undoubtedly one of its least efficient. Put simply, the sector in its current highly monopolised and heavily regulated configuration is unlikely to deliver sustained output and export growth, as indicated by its decidedly lackluster performance in recent years. Gas production has grown by around 1.5% per annum over the last five years, as against an all industry average of over 6.7%, and the gas sector's record with respect to productivity and unit labour costs since 1998 has been by far the worst of any major sector in Russia.

60. The oil sector has shown that with the correct incentive structures - including multiple privately owned production companies and fair access to export infrastructure - production increases on a totally unexpected scale have been possible. Milov (2005) makes the interesting observation that two of Russia's hydrocarbon sectors were predominantly in private hands during the last decade (oil and coal), and two others were dominated by state controlled monopolists (gas and electricity). Whereas the two former sectors flourished, the two latter performed extremely poorly. Therefore, if private gas producers were given fair access to the trunk pipeline network and some access to export markets, these producers could increase investment and output very rapidly indeed. And that would probably help stimulate better performance on the part of Gazprom itself.[52] Unfortunately, developments in 2004-2005 have seen the Russian state moving to tighten its grip anew on key "strategic" sectors, especially resource sectors. It seems therefore that we are more likely to see the structure of the oil sector evolving in the direction of the one prevalent in the gas sector, than the other way round[53]. Yet, greater state control over resource-exporting industries will most likely lead to less efficiency, more rent-seeking and slower growth in the very sectors that have been driving the Russian expansion in recent years.

61. Another driver of long term growth could be an increase in the service sector. With Russia becoming a richer country, demand for services will increase (banking, insurance, restaurants, travel, hotels, etc). As the Russian service sector is still largely underdeveloped once the huge part of it that results from trading gas and oil is stripped out, there is ample scope for growth there[54]. The service sector, however, will not develop very strongly if there is not a general increase in living standards – *i.e.* Russia will need increases in industrial production and exports to some degree.

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51. At least those for which development is commercially viable at current technology levels. Though in the current high price oil environment this may appear a remote possibility, continued rapid Russian export growth could at some point also risk a price war with OPEC. There is increasing agreement that the oil price collapse of 1986 was one of the key factors in triggering the terminal crisis of the Soviet system; see Tompson (1999) and Kotkin (2001).

52. See Ahrend / Tompson (2005b).

53. The *de facto* re-nationalisation of YugansNefteGaz is a prime example, as are the acquisition of Sibneft by Gazprom, as well as the Russian State's re-establishment of formal control over Gazprom (it *de facto* was the controlling shareholder already).

54. Part of the increasing weight of services in GDP will also come from a shift in relative prices. Domestic prices for non-tradables will be increasing faster than for those for tradables with the Russian currency appreciating.

62. As noted in the first part of this article, a strategy of further developing resource-sector exports is not without risks. More precisely, we identified three important types of potential dangers that policy-makers need to address: external vulnerability, Dutch disease, and specific institutional weaknesses. Fortunately, the risks related to resource-based development should remain manageable if accompanied by the right policy choices. General recommendations on these choices have been outlined in sections 2.2-2.4, and in the following we will look how they translate into concrete measures in the specific context of the Russian economy.

63. It is important to stress that we are not making a normative recommendation that Russia *should* follow a resource-based development path. We merely note that resource-based development is the course Russia has been following for several years now and - given the structure of the Russian economy - it is difficult to see how this could change in the short-to-medium term without causing major disruptions. Even if policies favouring economic diversification were highly successful, Russia's performance would continue to depend on its resource sectors for quite some time to come. Therefore, if Russia wants to achieve sustainable strong growth in the short and medium terms – which is one of the major policy prerogatives of the Russian authorities - it is hard to see how this could be achieved without further developing its resource sectors. In any case, even if Russia decided to constrain significantly development of its natural resource sectors - with the implied negative implications for overall economic growth - Russia would still remain a resource-based economy for some time to come. This results simply from the fact that Russia's current industrial and export structure is heavily resource-based, and changes in the economic structure of a country take time. Therefore, the issue of managing a resource-based economy well is a highly important topic for Russia, whatever one's view of the desirability of further developing Russia's resource sectors or trying to pursue economic diversification.

64. Consequently good macro-economic, and especially fiscal policy, are particularly vital for Russia. Improving the quality of institutions that enhance the sustainability and political feasibility of responsible macroeconomic policies is therefore a critical priority. The recently established stabilisation fund plays a crucial role in using fiscal policy as a stabilisation tool over the oil-price cycle, but there are some problems with its organisation. To understand these problems, we must first consider briefly how the stabilisation fund works. The primary purpose of the fund is to shield the budget from the potential consequences of a drop in oil prices.[55] By law, the Russian stabilisation fund accumulates automatically the surplus revenues from the natural resource extraction tax and the crude oil export duty that are generated if the price of Urals crude averages more than $20 a barrel (this cut-off price has been raised to $27 from the beginning of 2006). If the federal budget ends the year in surplus, most of the surplus may be also be transferred to it in the early months of the following year. The law stipulates that the first Rb500bn accumulated in the fund can only be spent to cover the budget deficit arising when the Urals price falls below the cut-off price. Everything above that amount can be spent for other purposes, at the discretion of the authorities.

65. If the stabilisation fund is to fulfil its main purpose – fiscal stabilisation – then it is needed to be large enough to insure the budget against the risk of several years of low oil prices. On that criterion, Rb500bn – around 2.5% of projected GDP for 2005 – is not enough, especially given that the higher the cut-off price the greater the potential for dramatic revenue shortfalls (it is interesting in this respect that the finance ministry's initial proposal was to accumulate the equivalent of around 8.7% of GDP in the fund). Rb500bn would probably not be sufficient to offset the revenue losses to the federal budget for much more

55. In this, the fund differs from some other oil funds, most notably that of Norway. Norway's much larger Petroleum Fund aims not only to smooth short-term fluctuations in oil revenues but also to act as a mechanism for transferring the wealth derived from the current exploitation of a non-renewable resource to future generations.

than a year[56]. Worse still, the Rb500bn target figure is not indexed to inflation, or to the growth of either federal spending or real GDP – given current inflation and growth rates, it is falling relative to GDP by 15–20% per year.

66. Of course, there is nothing to stop successive governments from holding more than Rb500bn in reserve. The stabilisation fund held roughly two and a half times this amount by the end of 2005, which was a far more adequate size than the legal minimum target of Rb500bn. Hence it could be argued that the size of the legal minimum target of the fund doesn't really matter. However, international experience shows that it is very difficult for governments to keep a reserve if political will is the only thing preventing them from spending it. Unless there are institutional rules to safeguard the stabilisation fund, it is therefore likely that the sums accumulated above the target level enshrined in the law will almost certainly be spent – if not by the current government then by one of its successors.

67. The straightforward solution would be to raise the Rb500bn threshold very substantially. The new target level should also be set in relative terms – for example, as a percentage of GDP – rather than as an absolute sum. It could likewise make sense to adopt a cut-off price that is linked to a 10- or 15-year moving average of the Urals crude price. The government's ability to raise spending, as oil prices rose would thus increase only gradually, but the impact of falling prices would also feed through only gradually, making fiscal adjustments less painful and abrupt.

68. As mentioned earlier, keeping external debt low can also help to reduce external vulnerability. Recent empirical work suggests that the optimal external debt level for Russia would probably be somewhere below 40% of GDP.[57] The fact that Russia has been reducing its external sovereign debt in recent years is thus positive, as is the (albeit slow) shift from external to internal sovereign debt issues.

69. As pointed out in the general section, there may also be some scope for efforts to avoid excessive exchange-rate appreciation in periods of high oil prices that are often also characterised by major short-term capital inflows. However, in Russia the pursuit of exchange-rate goals with the monetary policy tools that were available in the past (mainly unsterilised exchange-rate intervention) incurred significant costs in terms of inflation. In this respect, it would also have been helpful if the CBR had been given a wider range of sterilisation instruments earlier in order to reduce the trade-off between inflation and rouble appreciation[58]. Gradual disinflation may have been necessary and desirable in order not to allow an overly rapid real appreciation of the exchange rate which could have negatively affected economic growth. The crucial priority, however, should be to keep inflation on a downward trajectory in order to manage inflation expectations, and especially avoid expectations that inflation will increase.

70. If Russia continued on a resource-based development path with the mineral sector maintaining or increasing its share in the exports, this would also increase the risk of 'Dutch disease'. In this respect it must be understood that for Russia – as well as most other resource-based transition countries- the discovery of natural resources as such is not the main source of the risk of "Dutch Disease". Natural

56. The Economic Expert Group estimates that an oil-price drop from the new cut-off price of $27 a barrel to the old cut-off price of $20, this would reduce federal revenues by around 1.6% of GDP. In addition, there would also be significant further losses as a result of slower economic growth.

57. Using the estimates from Patillo *et al*. (2002) would suggest that, for Russia, optimal external debt levels would be somewhere in the range of 15-40 per cent of GDP.

58. In the aftermath of the 98 crisis monetary sterilisation was difficult because of limited demand for rouble debt instruments. This is no longer the case, as witnessed by the fact that in 2004 interest rates on rouble instruments were very low and often negative in real terms. The market for Russian domestic currency-denominated fixed income securities remains nonetheless too small. It is therefore to be welcomed that late in 2004 the CBR finally obtained the possibility to issue Central Bank securities for sterilisation purposes.

resource extraction already loomed large in these countries even in communist times. However, the full weight in the economy was felt only at the start of the transition. Relative prices of primary raw materials, which had been held at artificially low levels under central planning, soared, as did resource exports. As a result the large differences in productivity between sectors finally became visible. The export-oriented energy sectors turned generally out to be highly competitive and profitable. In contrast, many enterprises, especially in the manufacturing sector, were already barely competitive even at relatively weak exchange-rates, and their situation further deteriorated when exchange rates started to appreciate as a result of surging resource exports.

71. Applied to Russia, this means that the relatively strong exchange rate puts a premium on the need for productivity increases in the non-mineral tradable sector. So far, this seems to have led to an increased effort to restructure, and therefore a large part of Russian industry seems to have withstood the increasing competitive pressures relatively well. While industrial production growth slowed in 2001-02, it recovered to around 6-7% in 2003 and 2004. The main reason for this resilience appears to be significant labour productivity increases in a large majority of sectors[59]. However, much of the increase in productivity, especially in sectors with very low initial productivity levels, has been achieved via what is often described as 'passive' restructuring - a drastic reduction in the labour force with relatively little investment and stagnant or declining output.[60] Ironically, the extreme inefficiency of many Soviet enterprises has actually facilitated productivity gains with little or no investment – manufacturers would have found it far more difficult to maintain competitiveness had they been very efficient to begin with. However, the easy gains have probably by now been realised to a substantial degree, and there are natural limits to how far passive restructuring can go. Further *active* industrial restructuring, including private investment to modernise production capacities, is thus the *sine qua non* for continuing strong growth, implying that sustaining competitiveness in the face of mounting cost pressures may turn out to be increasingly difficult.

72. As pointed out beforehand, the tax system is also an important lever that can be used simultaneously to avoid "Dutch disease" and assist the development of the non-resource sector. In this respect the abolition of turnover taxes in Russia during 2001-03 was a welcome development (as these taxes were relatively heavier on manufacturing industries)[61], as were those measures undertaken in 2003/04 that increased in an equitable fashion the tax burden on the oil sector. However, instead of focusing on the oil industry alone there should also be a broader attempt to increase taxation of other resource or related sectors – obviously in a fashion that does not harm their future development.

73. There are also some Russia-specific measures that can be taken to limit institutional weaknesses that may be aggravated by resource-based development. For example, we pointed out the importance of a strong civil society and a free press in the fight against corruption. We also stated previously that rules and regulations should be simple, transparent and standardised, with few exceptions and as little reliance as possible on bureaucratic discretion. Many recent legislative changes in Russia seem to be at least partly motivated by this kind of reasoning, including changes to fiscal federal relations and measures to curb bureaucratic interference in commercial activity by, for example, curtailing officials' inspection powers, simplifying business registration and reducing the range of activities subject to licensing requirements.[62]

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59. See Ahrend (2004).

60. Output growth has been concentrated in those sectors that restructured actively, not only increasing productivity but also investing. Investment alone, though, was insufficient. Some industries, like gas and electricity, largely failed to restructure, recording no significant increases in labour productivity. Such sectors contributed little to output growth despite significant investment. See Ahrend (2004).

61. See OECD (2004), Box 1.4.

62. In this context, recent proposals to vary effective tax rates in the oil sector on the basis of the quality of deposits exploited should be viewed with caution. Such an approach would in theory be more efficient, as

74. With respect to diversification, Russia is probably a somewhat special case. While a more diversified economic structure is something that in principle is desirable for economic reasons, a significant part of the Russian political elite – given the global ambitions they see for the Russian state – would also consider a resource-based development path as politically unacceptable. Hence Russia should – and will – pursue policies to foster diversification in coming years. Given the political context it is, however, especially important to have a clear understanding of the limits of diversification policies as discussed in section 2.5 and it must be recognised that diversification is bound to be long term process.

75. In addition to the standard recommendations with respect to diversification made in the aforementioned section, there are a couple of points that are specifically worth stressing for Russia. First, in spite of rapid growth in lending to the private sector in 2002-2004, Russia's financial sector remains underdeveloped. Further reform of the banking sector, in particular, is thus a key priority. Given Russia's potential in a number of high-tech sectors, Russia is a resource-dependent economy where the emergence of a venture capital industry could actually be very helpful. In Russia, reducing the burdens imposed by heavy regulation and an often corrupt bureaucracy could play an especially important role in creating a more level playing field for business (especially SMEs) and decreasing barriers to entry. In this respect, a more active competition policy would also be needed. This is especially true for sectors such as natural gas and electricity, where large, state-controlled monopolies should be restructured, while creating legal and regulatory frameworks that combine robust competition with effective regulation[63]. Finally, streamlining burdensome custom procedures could be helpful for potential Russian exporters (especially for SMEs) by facilitating their access to international markets. However, none of the above can be achieved without substantial improvements in the probity, efficiency and accountability of the courts, the bureaucracy and other state institutions.

76. On the less conventional side, proposed 'new-style interventions' beyond those mentioned above include programs that could help to establish links and networks. In this spirit there have, for example, been proposals to create research parks and technology transfer centers attached to the leading educational and research facilities.[64] Many of these "new-style interventions" will, however, require the intervention of some part of the Russian administration in one way or another, so increasing the quality of the state administration will therefore be crucial to their prospects for success.

4. Conclusion

77. The first part of this article argues that while natural resources are sometimes seen as a 'curse' for longer-term economic development, many of the potential problems can be avoided, or at least significantly mitigated by good macro-economic policies and a sound institutional framework. It draws attention to a new line of argumentation that sees not resources as such, but rather the fact that most resource-based economies have relied heavily on state ownership and intervention as responsible for their disappointing economic performance. The examples of economies with strong private entrepreneurship in

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it would not only favour the exploration of less profitable fields but would also prolong the life of declining fields beyond what would be commercially viable under the current tax system. However, it will be critical to ensure that any such system of taxation relies on a small number of variables that are easily collected and monitored and that it be implemented in a manner which does not give much discretion to bureaucrats. In Alberta, for example, the royalty system takes into account three basic variables - the age of the field, the depth of the oil and the flow rate - all of which are easy to monitor. Though the adoption of such a relatively simple system may be advisable in the medium term, given widespread corruption and transfer pricing in the sector, it probably makes more sense at present to tax natural resources mainly through excise and similar taxes, as well as export taxes.

63. See Ahrend/Tompson (2005b) and Tompson (2004) for details.

64. See Kim (2004).

resource sectors, such as, Australia, Canada or the Scandinavian countries, demonstrate that, given the right institutions and policies, developing a successful modern economy based on natural resource exports is feasible. The article then discusses in detail the necessary policies for successful resource-based development, focussing specifically on how to deal with the potential problems of external vulnerability, Dutch disease, and resource-connected institutional pathologies. In this context possibilities to actively further a more diversified economic structure are also considered.

78. The second part of this article looks at Russia, a prominent resource rich economy, in light of the normative framework set up in the first part, and adapts the general recommendations to the Russian case. It argues that while diversification is an important long-term goal for Russia, even if diversification policies are relatively successful, its economy is bound to remain resource-based for some time to come. At least for the short and medium term and until diversification has borne significant fruit, Russia should therefore make sure that, while avoiding the pitfalls so often associated with resource-dependent growth, it follows policies that will allow it to make the best of its resource endowments.

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