Oil funds for oil blessings?

The performance of non-renewable resource funds in combating the resource curse: The cases of Azerbaijan and Kazakhstan

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Content

Foreword

After six years of studying, the final proof of the knowledge and skills that I have obtained throughout this period is finished. While starting with a study in International Relations and International Organizations, I soon found out that the economic aspects of the international world are what interest me most. I therefore decided to also do a master in the field of international economics.

This thesis has been a perfect way in combining the insights that both studies have given me. The political economy of oil is one of the best subjects to combine both fields, and the former Soviet Republics are of additional interest because of their unique characteristics in transiting from centrally planned economies to market economies. I am very grateful to my supervisor, professor Hoen, for stimulating me to do research in this region, as well as for giving me the freedom to write my thesis in this not completely conventional manner, with more emphasis on economic aspects than the studies in International Relations normally require.

I would like to use this opportunity to thank my father for all the support that he has given me, not only for helping me with the English in this paper, but for all the discussions we have had throughout my studies.

Erica Ross

List of graphs and tables:

Graphs:

Tables:

List of abbreviations

ACG	Azeri-Chirag-Gunashli
ADB	Asian Development Bank
APF	Alaska Permanent Fund
ASRK	Agency of Statistics of the Republic of Kazakhstan
BP	British Petroleum
CIS	Commonwealth of Independent States
CV	Coefficient of Variation
DNB	De Nederlandsche Bank
EITI	Extractive Industries Transparency Initiative
EIU	Economic Intelligence Unit
FDI	Foreign Direct Investment
FSR	Former Soviet Republics
GDP	Gross Domestic Product
IMF	International Monetary Fund
KMG	KazMunayGaz
NBRK	National Bank of the Republic of Kazakhstan
NFRK	National Fund of the Republic of Kazakhstan
NGO	Non-Governmental Organizations
NGPF	Norwegian Government Petroleum Fund
NEER	Nominal Effective Exchange Rate
NRF	Non-renewable Resource Fund
PSA	Production Sharing Agreement
PPP	Purchasing Power Parity
REER	Real Effective Exchange Rate
SOCAR	State Oil Company of Azerbaijan
SOFAZ	State Oil Fund of Azerbaijan
TCO	Tengiz Chevron Oil
TOT	Terms of Trade
UNCTAD	United Nations Conference on Trade and Development
WDI	World Development Indicators

Introduction

If you would have asked an average student of International Relations to point Azerbaijan or Kazakhstan on a globe a couple of years ago, he or she would probably have looked very puzzled indeed, despite the excellent education he or she without doubt receives. But the field of International Relations has always found itself in a rapidly changing environment, and the countries around the Caspian Sea and other Central Asian countries are 'the new Middle East'. No doubt Sacha Cohen chose Kazakhstan as his 'glorious nation', where anti-Semite, homophobe, sexist and racist Borat came from, because nobody had ever heard of the Central Asian country with the size of western Europe. But only a few years later Kazakhstan is known for its huge economic growth, its large oil and gas reserves, occasional scandals surrounding these oil fields, and even its own cult-movies, like 'Tulpan: Spring in the Steppe' illustrates. Azerbaijan is less well-known, but also very important for its oil reserves. So important that the pipeline from the Azeri oilfields, through Georgia to the Mediterranean city of Ceyhan in Turkey has been linked to the bombing of Lebanon by Israel in 2006 (Chossudovsky, 2006), and the war between Russia and Georgia in 2008 (Francis, 2008). And through this pipeline, Azerbaijan has also had its own movie-coverage, in the James Bond movie 'The World is Not Enough'.

Until 1991, Azerbaijan and Kazakhstan were part of the Union of Socialist Soviet Republics, and now they are members of the Commonwealth of Independent States (CIS), a regional organization whose participating countries are all former Soviet republics (FSRs). After the fall of the Soviet Union, the economies of the FSRs collapsed, and this was also the case for Azerbaijan and Kazakhstan. Azerbaijan and Kazakhstan managed to climb out of the vicious circle of economic decline, however, and experienced impressive economic growth over the last decade. The exploitation of their oil fields, and the foreign direct investment (FDI) that has made this possible, has largely contributed to this economic growth. Both countries claim parts of the Caspian Basin as their Exclusive Economic Zones, and therefore can exploit its hydrocarbon wealth. The Caspian Basin has been an important source of hydrocarbon wealth ever since the thirteen century, when the oil was only, as Marco Polo reported it, "good to burn" and "useful for cleaning the mange of camels", but "not good to use with food" (Yergin, 1992). From the 1820's, a primitive oil industry started to develop around Baku, now

the capital of Azerbaijan. By the 1870's, the Caspian Basin was one of the most important oil sources for Europe (Yergin, 1992).

After a decline in oil production during the Soviet Era, a "second oil boom" took place in the Caspian Basin in the second half of the 1990s, and the economies of Azerbaijan and Kazakhstan profited from this oil boom. Average annual Gross Domestic Product (GDP) growth in Azerbaijan and Kazakhstan for the period 2003 to 2007 was 19.8% and 10.0% respectively (IMF 2005; IMF 2008a; IMF 2008b).

Even though Azerbaijan and Kazakhstan have definitely profited from their oil production in some ways, many scholars see the large-scale production of oil and other natural resources as possibly harmful for an economy, especially in the longer term. Sachs and Warner (1995) have argued that countries that are abundant in natural resources have a lower economic growth compared to resource-poor countries. Some of the explanations for this 'resource curse' are an appreciation of the real effective exchange rate (REER) which can lead to de-industrialization, volatility of the price of natural resources in the world market which can lead to government expenditure volatility, and rent-seeking behaviour, which can lead to corruption.

An often proposed solution for this resource curse is the establishment of a Nonrenewable Resource Fund (NRF). In this research the definition of an NRF, derived from the IMF (2007), is "A government investment vehicle which is funded by foreign exchange assets obtained through the exports of nonrenewable resources, which manages these assets separately from the official reserves of monetary authorities, and which invests these assets mainly abroad". The last ten years have seen an increase in the number of NRFs: From 1999 onwards, 10 countries have already established an NRF, and other oil-producing countries are expected to follow suit. Azerbaijan and Kazakhstan were among the 10 countries that have set up a fund recently: In 1999 the State Oil Fund of Azerbaijan (SOFAZ) was set up; the National Fund of the Republic of Kazakhstan (NFRK) followed one year later.

This research will analyze the degree of influence that the NRFs of Azerbaijan and Kazakhstan have had in reducing the resource curse. The question that is sought to be answered is:

To what extent have the SOFAZ and the NFRK been able to reduce the impact of the phenomenon of the 'resource curse', as described by Jeffrey Sachs and Andrew Warner, in Azerbaijan and Kazakhstan, since their establishments in 1999 and 2000 respectively?

To answer this question, chapter 1 will firstly explain the theoretical framework, as it has been established by Sachs and Warner. The three reasons for economic decline under the resource curse, the Dutch disease, volatility of prices and deterioration of terms of trade, and rent-seeking behaviour, will be explained. Chapter 2 will discuss the characteristics of NRFs in more detail, and will analyze how NRFs can have a positive impact in combating the 'curse'. Chapter 3 will begin with a short introduction of Azerbaijan and Kazakhstan since their independence, and will continue with a discussion of their funds, based on the framework of Bacon and Tordo (2006). Bacon and Tordo have sought to characterize NRFs based on their objectives and roles, their legal foundation, the transfers into and out of the fund, and the management and governance of the fund. In chapter 4 the extent to which the resource curse has been prevalent in Azerbaijan and Kazakhstan since the beginning of the oil boom will be analyzed. To what extent has the Dutch disease been prevalent in Azerbaijan and Kazakhstan will be analyzed by examining the appreciation of the real effective exchange rate, and by looking of GDP growth or -decline in other sectors than the extractive one. To find an answer to the question whether volatility of prices and a deterioration of terms of trade have been a problem in the two countries, this section will look at the volatility of the exchange rate and government expenditure, as well as at the terms of trade of oil since the establishment of both funds. Rent-seeking behaviour will be analyzed using the methodology of Åslund (2002), who has classified all former Soviet republics into three types of states, based on the degree of reform that has taken place in each country. Furthermore, the opportunities for rent-seeking in Azerbaijan and Kazakhstan will be analyzed, and the degree of corruption that takes place in the countries will be compared to other countries in the region. Lastly, chapter 5 gives an analysis on how the SOFAZ and the NFRK have helped combating the resource curse, and how they could do so in the foreseeable future.

A study on the performance of NRFs can be of large importance for other oil-producing countries, as well as for International Financial Institutions, which have recommended them to developing countries and even made them a condition to receive loans. This was the case with Chad, for example, when the World Bank made the establishment of a fund one of the conditions for obtaining a loan that could pay for the pipeline necessary to transport oil (Gary and Reisch, 2005). Or with Sao Tomé en Principe, where the IMF recommended establishing a fund in 2003 before the actual export of oil took place. And even in the relatively small energy-producing country The Netherlands (which does not export oil but natural gas) NRFs

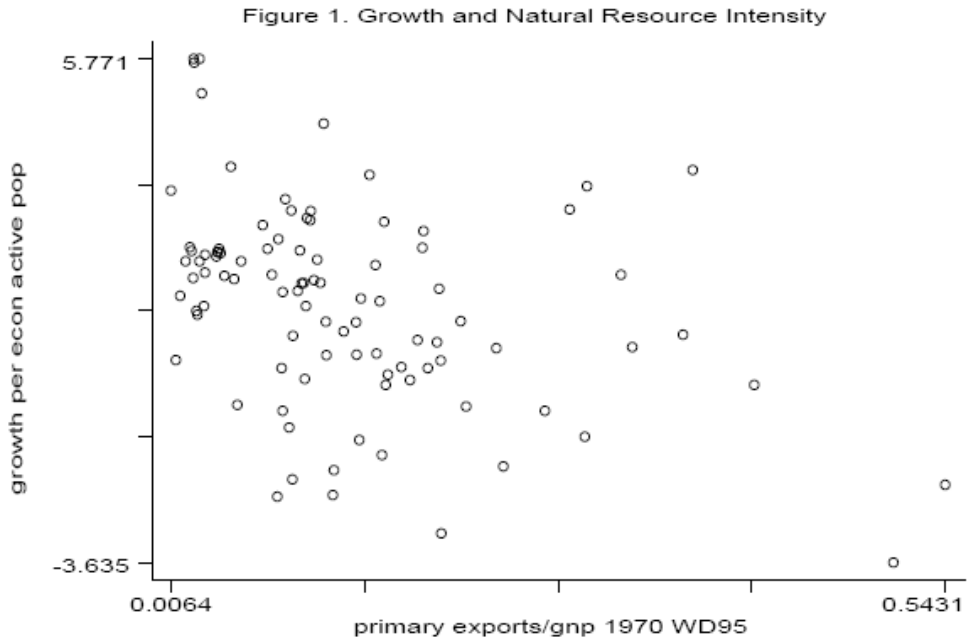
were high on the political agenda after the Nederlandsche Bank (DNB) recommended to study in more detail the introduction of a fund to make sure that not all government revenues of natural gas are spend by the ruling cabinet (De Nederlandsche Bank, 2008).

This research will be of particular relevance for other FSRs that are dependent on the exports of natural resources but do not have an NRF, most notably Turkmenistan and Uzbekistan. As we will see, FSRs, which are all in transition from centrally planned economies to market-based economies, have certain characteristics that are also very typical for oil-producing countries, and that can be harmful for economic growth. The combination of oil and a past of Soviet legacy could enlarge these characteristics, making a solution, which an NRF could possibly be, desirable.

Chapter 1: The resource curse; a theoretical framework

In 1995 Jeffrey Sachs and Andrew Warner published a research paper on the economic growth of a sample of 95 developing countries. They found that countries that had a high ratio of natural resource exports to GDP tended to grow more slowly over the 20 years studied than countries with an economy based on trade, manufacturing or agriculture. This economic deprivation of resource abundant countries has become known as the resource curse.

GRAPH 1: NATURAL RESOURCE ABUNDANCE AND GDP GROWTH



Source: Sachs and Warner (1997).

Graph 1 shows the correlation between natural resource abundance, measured by the exports of natural resources in 1970, and the yearly real GDP growth per capita between 1970 and 1989. It is evident that for this dataset, the more abundant a country is in natural resources, the lower its economic growth.

In this chapter, the mechanisms that according to Sachs and Warner might lead to this deteriorated economic performance will be explained. These mechanisms are the Dutch disease, the terms of trade and volatility of prices of natural resources, and rent-seeking behaviour and corruption. After explaining each mechanism, a short explanation of how it will be measured for Azerbaijan and Kazakhstan in chapter 4 will be given.

§1.1 The Dutch disease

Sachs and Warner were not the first scholars that studied the negative economic impacts of resource abundance. In 1977, the magazine The Economist was the first to dub the decline of economic growth in the Netherlands, which in their opinion was caused by the discovery of natural gas in the sixties, the Dutch disease. The discussion of this phenomenon was further developed in the 1980s, most notably by Corden and Neary (1982) and Van Wijnbergen (1984).

Corden and Neary sought to explain the consequences of a booming export sector for a small, open economy. As in the Netherlands gas-sector, this booming export sector is usually of an extractive kind. In this chapter it will be assumed that the booming sector is the oil-industry. Apart from this oil-sector, in their framework the economy is divided in two other sectors: The non-booming export sector and the non-traded goods sector, which supplies domestic residents and includes services and construction. Corden and Neary show that through the mechanisms of the Dutch disease, the non-booming export sector gets crowded out by the two other sectors. When the booming export sector is a natural resource and the non-booming sector is manufacturing the Dutch disease will lead to de-industrialization.

The mechanisms of the Dutch disease are as follows. When a country experiences a sharp increase in oil exports or in the price it receives for its oil, this initially raises national income, because of the foreign exchange that flows into the country. The assumption is that not all new foreign exchange is spent on imports, so that the oil-boom has a direct impact on the country's money supply and demand for domestically produced goods and services.

Because of the increase in income, there will be an increase in demand for services and other non-traded goods. This in turn will lead to an appreciation of the real exchange rate, both with fixed and floating exchange rates: With fixed exchange rates, the prices of non-traded goods will increase, but the price of the non-booming export sector cannot change because this price is set internationally. Therefore, the non-traded goods will become more expensive in terms of traded goods. With floating exchange rates, the increased supply of foreign currency drives up the value of the domestic currency. This causes an appreciation of the real exchange rate through a rise in the nominal exchange rate.

In either way, the appreciation of the real exchange rate weakens the competitiveness of the tradable (manufacturing) sector, causing it to shrink.[1] This process is called the 'spending

[1] Even though the term real exchange rate appreciation is not exactly correct when discussing the effects for fixed exchange rates, it is used by other scholars in the field. For the sake of clarity and following Ebrahim-Zadeh (2003) I will continue to use this terminology.

effect' of the Dutch disease. Another effect is the 'resource movement effect', which means that resources like capital and labour will shift from the manufacturing sector into the oil-sector or into the non-traded service industry that faces a higher demand. This too causes the production of the manufacturing sector to shrink.

In principle, a shift away from the manufacturing export sector should not be seen as a 'disease' for an economy. Since the publications of David Ricardo in 1817, trade economists on comparative advantage have defended the idea that it will be profitable for all countries involved to export the products in which they have a comparative advantage, which is oil in the country of the example above. Most of the oil-exporting countries face a depletion of their oil reserves, however. This means that at some point in the future they will have to go back to exporting other goods, so it is not considered a good idea to give up all other industries, which might not be so easy to set up again after the depletion of reserves.

Moreover, some economists argue that production in the manufacturing sector comes with certain advantages for an economy and future economic growth that are not on hand in the oil-sector. New Growth Theory, a view on the economy and economic growth which has become popular in the 1980s, puts emphasis on technological progress and the accumulation of knowledge. It is a reaction on the neoclassical economic growth models of among others Robert Solow, who argues that technological progress is important for economic growth, but that it is exogenous: It is not determined by other parameters and variables in the model of the economy, but set externally and any changes to it come from external forces. Therefore, economic growth is mostly caused by the accumulation of labour and capital. The ratio of savings to GDP is crucial, because the higher this ratio, the higher will investments in capital be, and the higher the growth. Because technology is exogenous, policy to improve growth by improving technology will be fruitless.

New Growth Theory challenges this view. It sees technology as endogenous and tries to explain what can cause technology to improve over time (Romer, 1986). It therefore puts more weight on the influence that governments can have on growth. Government can stimulate production in which most technological progress takes place, subsidize essential research and set up institutions that enable production to thrive.

This has been clearly demonstrated in relation to a booming oil-sector by Van Wijnbergen (1984). He states that the Dutch disease is definitely a disease, because technological progress is faster in the tradable sector than in the non-traded service industry and in the oil-sector. He argues that technological progress is mostly caused by learning-by-doing, the capability of

workers to increase their productivity because they get better in what they do over time. When a sector in which a lot of learning-by-doing takes place seizes to exist, this can have long-term negative consequences for human capital development and thus for economic growth.

Sachs and Warner also point to the work of Alfred Hirschman (1958) to explain why the Dutch disease can be a real disease. Hirschman was the first to discuss forward and backward linkages within an economy. He claimed that in the manufacturing sector, in contrast to the primary goods sector, there will be many linkages to other sectors in the economy. In manufacturing, the increase of production in a certain sub sector will increase production in other sub sectors as well. For example, an increase in the production of cars will increase the demand for navigation systems that can be placed in these cars. This is the forward linkage effect, where an economic activity that does not yet satisfy the final demand of consumers will stimulate economic activity that utilizes its products as inputs. The opposite is the backward linkage effect, which will induce activity that produces the input necessary for an industry that flourishes. For example, an increase in the production of cars will increase the demand for steel that is necessary to produce these cars.

Regarding forward and backward linkages, the interest in 'local content' is relevant. Policy-makers in oil-producing countries understand the advantage of forward and backward linkages of their dominating industry, and therefore try to increase the degree of local content. Local content can be defined as 'the amount of local or indigenous inputs employed or utilized in carrying out all the operations of exploration, development and production of oil and gas' (Kalyuzhnova, 2008).

To determine to what extent the Dutch disease has occurred in Azerbaijan and Kazakhstan the appreciation of the real exchange rate, the crowding out of the non-booming tradable sector, and forward and backward linkages in both countries will be analyzed.

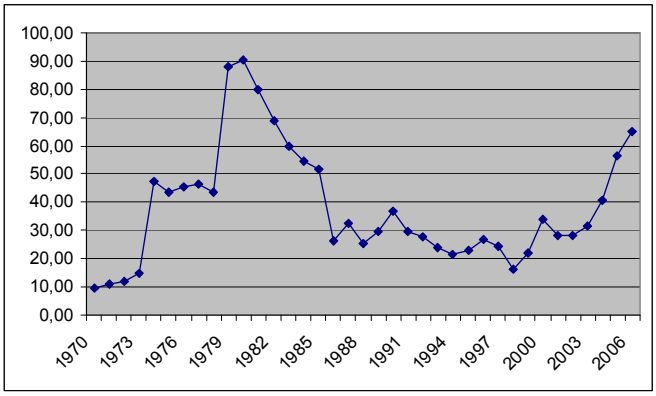
§ 1.2: Terms of trade and volatility

In their discussion on the reasons for slow economic growth in resource abundant countries, Sachs and Warner also argue that it might be that the resources per se are not the problem, but that their prices in the world market are. According to the Prebisch-Singer thesis, for example, the terms of trade (TOT) between primary products (food and natural resources) and manufactured products tend to decline over time (Viotti and Kaupi, 1987). This means that for the same amount of exports of primary products, over time less imports of manufactured products are possible to obtain. The main reason for this is that the income

elasticity of demand for primary products is lower than the elasticity for manufactured products. When the world income rises, the demand for manufactured products rises more than the demand for primary products. For manufactured products, because of technological improvements more and more value is added over time, whereas for primary products this value adding does not take place.

If the Prebisch-Singer thesis is correct for all primary products, then when a country is highly dependent on primary products the economic growth will be lower than in manufacturing countries, because the products that are produced will relatively lose value over time. When looking at the real oil price between 1970 and 2006 in graph 2, at first sight the Prebisch-Singer thesis does not seem to be correct. During the oil crises of 1973 and 1979 the price of oil increased dramatically, only to fall again after 1980. 2001 to 2008 witnessed another huge increase in the oil price, after which it fell once more.

GRAPH 2: OIL PRICE (2004 US$)



Source: BP statistical review of world energy, available at www.bp.com

Overall, the price did not fall below the real price of 1970. For oil producers, the fall in oil prices over the last year has had a large impact, though. Oil prices have gone down massively, from the peak of $147,25 a barrel in July 2008, to the lowest price of the last year of $33,87 a barrel in December 2008, to $69.41 a barrel on the 23rd of June 2009.[2]

From graph 2 it also becomes evident that the oil price did not follow a straight line, but instead its price tended to be very volatile. Research done on this topic suggests that oil prices do not have well-defined time-invariant averages (Engel and Valdés, 2000). Engel and Valdés

[2] Energy Information Agency, Weekly Brent spot price, available at <http://tonto.eia.doe.gov/dnav/pet/hist/wepcbrentw.htm>, lastly accessed on 24-06-2009.

used time series models to try to forecast future oil prices between 1957 and 1999. They found that none of the models performed significantly better than a simple random walk model. This means that the best prediction for the oil price in all future periods is the current oil price. The standard deviation grows over time, so the further one wants to predict in the future, the more difficult it will become to say anything sensible about the price.

This volatility is a problem for the prices of natural resources in world markets in general. Because of this it is difficult to predict what the revenues of the natural resources will be in the future. Not only does this cause the revenues of government to be uncertain, the real exchange rate can become unstable too.

When the revenues of government are uncertain, it becomes difficult to spend the right amount on public services. It is very costly and inefficient to reduce government expenditures suddenly, when revenues collapse. For governments that face volatile revenues it will be more difficult to develop educational programs, to give a straightforward example, because it is not certain whether the salaries for teachers and other expenditures can still be paid in the future.

Bleaney and Greenaway (2001) are among the many scholars that have found evidence for a negative relationship between exchange rate volatility and the growth in investment. For oil-exporting countries, when the oil price is low and it is profitable for the traded goods sector to expand production, this contains a high risk because it is likely that in the near future oil prices will increase. This will cause an appreciation of the currency, resulting in losses for the sector and making the investment unprofitable (Devlin and Lewin, 2004). Investment is necessary for future expansion of industries and for future economic growth, making exchange rate volatility possibly harmful.

In chapter 4, an answer will be sought to the question how volatility of oil prices has influenced the volatility of the exchange rate and government expenditure in Azerbaijan and Kazakhstan. Furthermore, the extent to which the worsening of terms of trade has influenced both economies will be analyzed.

§ 1.3: Rent-seeking behaviour

An alternative approach to explain the disappointing economic growth of resource abundant countries lies in the area of political economy. Natural resources generate high economic rents, which will be defined as high profits that more than cover the opportunity costs (Brealey and Myers, 1991). For oil, this means that the payments the owner gets for the oil exceed the payments that would have been necessary to persuade the owner to exploit the oilfields. These economic rents are this high because the costs of production are in most cases

very low compared to the price. Therefore the government, who is the owner of the oil, receives payments in excess of the investments it has made, with relatively little effort.

The high economic rents of oil can lead to rent-seeking behaviour. Rent-seeking behaviour is 'The expenditure of resources in order to bring about an uncompensated transfer of goods or services from another person or persons to one's self as the result of a "favourable" decision on some public policy' (Johnson, 2005). The risk of rent-seeking is large in societies with high economic rents available, because of the large gains that can be made.

Often, special interest groups will come into existence because of the gains possible from rent-seeking. Mancur Olson (1971) describes how people with a common interest within a society will organize and lobby to serve their particular interest and to obtain a larger share of the total income in an economy. He states that often it is very difficult for a group with common interests to organize. It will nonetheless be likely that these people will organize when the group with a common interest contains only a small number of people, and when people face very large incentives to join a group. This can be the case when there are large gains possible from public decision-making. In a private correspondence with Jeffrey Sachs and Andrew Warner, Olson argued that special interest groups can become especially powerful and are likely to be numerous when they can obtain government revenues from easily taxed natural resources (Sachs and Warner, 1997).

Rent-seeking can be harmful for the economic performance of a country through a number of channels. Firstly, the rents reorient economic behaviour from productive activities (which increase economic growth) towards competing for access to these rents (Eifert, Gelb and Tallroth, 2002). Successful lobbying for access to rents does not increase total production or the welfare of a country; it only increases welfare of the interest group. The resources that are being used for the lobby for access to rents are therefore wasted in terms of economic growth.

Furthermore, Olson argues that the interest groups that come into existence because of possible rents are likely to impede innovation (Olson, 1982). Because decision-making is done more slowly by interest groups that engage in rent-seeking than by the individuals and firms of which they are comprised, it becomes difficult to adapt to the ever-changing economic environment. As an example Olson gives the case of the International Air Transport Association, which for considerable time was only able to change decisions on relatively peripheral matters such as motion picture fees. The by-laws of the Association required that fare changes had to be approved unanimously, which resulted in a perpetuation of the status quo.

Another impediment of rent-seeking interest groups, Olson continues, is that they have an incentive to lobby for protectionist measures. When assuming monopolistic competition with high entry costs, domestic firms that want to enter an industry with above-normal profits will often face capital constrains. Foreign firms that are already active in the industry will find it easier to penetrate into the market, however. Foreign entry will reduce the monopolistic profits and the dead weight loss for the society as a whole, increasing economic growth.[3] The protectionist lobby by firms that are already active in the market will therefore benefit this specific group, but harm the society in total.[4] Sachs and Warner (1997) found that it is indeed the case that resource-intensive economies liberalized later than resource-poor economies.

The theory of rent-seeking behaviour is of particular relevance for countries that were part of the former Soviet bloc, like Kazakhstan and Azerbaijan. This is strikingly illustrated by Anders Åslund, for example in his book 'Building Capitalism: The transformation of the former Soviet bloc' (Åslund, 2002). Åslund discusses the transformation processes in different FSRs after the collapse of the Soviet Union and the choices that their new governments had to make. The crucial question was how to transform to a capitalist market economy: through radical reform or through gradual reform. Åslund is of the opinion that the countries where liberal revolutionaries gained power and where radical reform took place have succeeded best in building democratic and dynamic market economies and increasing economic growth.

When liberal revolutionaries failed to gain power, it was usually seized by state enterprise managers, state officials, and new entrepreneurs who made money on the very transition from a regulated economy to the market economy. These rent-seekers benefited from a gradual reform to a market economy, which in most cases eventually stagnated. Rent-seeking is still very evident in this type of society, even though the early rents of the first stage of the transition period do not exist anymore. Because the rent-seekers that made money on the transition accumulated this money very rapidly, they have been able to "buy" politics more recently, thereby still being able to influence the allocation of rents. For some countries, gradual reform was even rewinded into a reestablishment of state despotism. In terms of political and economic freedom, this was the worse process possible.

[3] For a more detailed, mathematical explanation of monopolistic competition with high entry barriers, see Martin (2001).
[4] For the argument that protectionist measures harm economic growth much evidence is provided, including Sala-i-Martin (1997) and Sachs and Warner (1995).

Åslund also finds that drawbacks of rent-seeking in FSRs were rising income differentials, as well as expanding corruption. This last finding is an observation of Sachs and Warner for resource abundant countries too. They found evidence that resource abundant countries have poorer scores on a variety of measures of institutional quality, including corruption. This can have a bad influence on economic growth, for example by worsening the investment climate in the country.[5]

When the hypothesis of the resource curse is correct, one would expect that the problems of rent-seeking that are evident in a lot of FSRs, are particularly problematic in resource abundant countries, like Kazakhstan and Azerbaijan. The high economic rents of their oil would pave the way to rent-seeking, radical reform would be seen as less necessary, and corruption would be more prevalent compared to resource-poor countries. Using the framework of Åslund the extent to which this is correct will be examined in chapter 4.

§ 1.4: Conclusion

This chapter has sought to provide a theoretical framework in which the difficulties that oil-producing countries have regarding the growth of their economies can be analyzed. Following Sachs and Warner, three different streams of thought have been discussed. The Dutch disease, which focuses on de-industrialization and real exchange rate appreciation, can be harmful because it can reduce technological progress and forward and backward linkages. Terms of trade deterioration, secondly, has not been a very relevant problem for oil-producing countries until one year ago, but the volatility in revenues has definitely impacted oil-producing countries over time. Oil prices are very hard to predict, which makes government revenues and the exchange rate uncertain. This can harm the investment necessary for future economic growth. Lastly, scholars in the area of political economy have focussed on the effects which the high economic rents that come with the production of oil have on rent-seeking behaviour. Rent-seeking can reduce economic growth through a number of channels, including a reorientation of economic activity toward obtaining the rents, impediments on investment, trade barriers and corruption.

Oil-producing countries have sought ways to overcome the problems related to the resource curse. One of the proposed solutions has been the establishment of Nonrenewable Resource Funds. The functioning of these NRFs will be discussed in the following chapter.

[5] See for example Mauro (1995) and Leite and Weitman (2002) for evidence of the effects of corruption on economic performance.

Chapter 2: The rationale for Nonrenewable Resource Funds

As early as the 1950s, oil-exporting countries started to accumulate foreign reserves in Nonrenewable Resource Funds. Kuwait was the first in 1953 and in the years that followed other oil-producing states like Abu Dhabi and the state of Alaska followed suit. The last ten years have seen a huge rise in the number of NRFs and in the amount of reserves that they hold. Nowadays, there are over 25 NRFs and the estimations are that they hold over 1 trillion US Dollars (Truman; 2007).

The countries that set up NRFs did so in order to overcome some of the problems that are related to the large-scale export of non-renewable resources. The central question addressed in this chapter will be to what extent a Nonrenewable Resource Fund can be a suitable solution to face the problems of the resource curse. To answer this question, firstly a short summary on the different forms of NRFs will be given. Afterwards, the extent to which an NRF can help to overcome the mechanisms that lead to deteriorated economic performance, as explained in the previous chapter, will be investigated.

§ 2.1: An overview of Nonrenewable Resource Funds

NRFs have become a popular fiscal policy tool in oil-exporting countries. However, there is no such thing as a 'typical' NRF, and the funds differ as much as the political systems of the oil-producing countries. To give an indication of the policy options that governments have available when setting up an NRF, a number of possibilities will be analyzed in this section, using the framework of Bacon and Tordo (2006). Bacon and Tordo examined the institutional and financial aspects of four NRFs looking at the differences in the objectives of fiscal policy and the role of a fund therein, the legal foundations of funds, rules concerning transfers into and out of the fund, the management of the fund and the governance and oversight of a fund. This framework will be used to analyze the funds of Kazakhstan and Azerbaijan in the following chapter.

Objectives of fiscal policy and the role of funds

Policymakers in oil-producing countries must make important decisions regarding the usage of revenues. Not only must they try to keep the economy growing, despite possible problems that often come with oil revenues as explained in the previous chapter; they also have to take future generations and the depletion of oil-reserves into account. In most

countries, oil reserves are seen as belonging to the nation, and it can be a priority to achieve intergenerational equity and save an amount of the income in order to ensure that future citizens will also benefit. Takizawa et. al. (2004) on the other hand argue that when a country has little capital to begin with, it might be wiser to invest in infrastructure, health, education and capital formation upfront. They argue that in a lot of developing countries it might not be so wise to save the revenues for future generation. Investing will have a positive impact on productivity and private investment, thereby benefiting both future generations and the present population.

Even when it is decided that oil revenues do not have to be saved for future generations, an NRF can be a useful tool to limit current government expenditure when the economy cannot absorb all the revenues immediately. When inflows are quite sudden and large, often the projects that are chosen will not give the best returns to the investments. The economy might benefit more when some expenditure is delayed until capacity to absorb has increased.

An NRF can also exist without any savings purpose at all, but just to stabilize the flows of oil-revenues into the economy. In this case, an NRF is set up to prevent the problems that come with the volatility of the price of non-renewable resources. Most of the funds that exist, however, are a combination between a savings- and stabilization fund.

The legal foundation of funds

When it is decided to set up an oil fund, choices about the legal framework of a fund must be made. Questions that arise include whether the existence of a fund has to be included in the constitution, or whether a new law or regulation will suffice. A constitutional amendment is most drastic, and will mean that a fund is more firmly entrenched in the political system, because a lot of support is needed. This will also mean, however, that it will take longer for an amendment of rules to be passed by parliament, making it less flexible.

An alternative option is to establish an oil fund by an act of parliament, which is an option that has a little more flexibility. However, when changes of operation are required, this will still need parliamentary debate. A last option is an executive decree, which does not require the approval of any other body than the executive. This is a fast way of establishing a fund, and gives space to change operations, but may not be sufficient to control the actions of the executive.

Another question that arises regarding the legal framework of an NRF is the status of the fund. Some funds are legally separate entities, so they are autonomous of any other

government entity. In other cases, the fund is a division of the ministry of finance, and is managed by the central bank.

Transfers into and out of the fund

When setting up a fund, it must be decided what amount of the oil revenues will be spend immediately and what amount will be transferred to the fund. There are two different approaches used by countries that have set up a fund to deal with this dilemma. Some countries have defined certain categories of oil revenues in the legislation beforehand, which are to be paid into the fund. Most of them have also set up rules regarding the increase of transfers when the price of oil goes up unexpectedly. Other countries pay all revenues first to the treasury, and then afterwards the authorities determine the amount that will be transferred to the fund. This is done on a yearly basis.

It must also be decided for what purposes and under what conditions the money can be withdrawn. This of course depends on whether the main purpose of the fund is to stabilize or to save for future generations. The withdrawals can be fully specified beforehand, it can be decided on a yearly basis without any conditions, or the rules can lie somewhere in between these two options.

The management and governance of the fund

An important question is what has to be done with the money that is accumulated in the fund. It can be invested in the home country or abroad, and it can be invested in more or less risky assets. Investments can be made by the personnel of the NRF, or external investment advisers can be hired. The investment strategy followed can be flexible or defined beforehand, by law or on a yearly basis. Targets of the return on assets can be published, or it can be decided to keep this information confidential.

In general, it will not be wise for small or developing countries to invest the accumulated money in the domestic economy. Just like the government cannot absorb all the revenues of oil, the domestic economy will not be able to do this either. Investing domestically would mean that the volatility of revenues would be imported into the domestic economy, which is something most funds want to avoid to begin with.

All other choices that have to be made regarding the management of an NRF depend on the preferences of the government. When it is decided that the assets will also be invested in riskier assets, an additional advantage compared to keeping revenues as foreign reserves or spending revenues will be that the assets are likely to generate more revenues. Traditionally,

foreign reserves are invested with low credit risks, usually in government bonds or other securities issued by governments. An NRF gives a country the opportunity to invest in company shares and real estate, for example, with higher expected returns.

Most funds, including the funds of Kazakhstan and Azerbaijan, have a supervisory board that decides on how to invest the accumulated sums. This board makes strategic choices on asset classes, asset managers, and the degree of risk averseness. It is therefore responsible for the general performance and strategy of the fund. This board reports its findings and explains its actions to the ministry of finance or any other government institution that has the final responsibility of the fund. Another aspect of the governance of the fund is the annual report with evaluation of performance and strategy choices and the extent to which this is made publicly available.

§ 2.2: NRFs and the Dutch disease

Already in his paper in 1984 Van Wijnbergen has argued that the best prevention of the Dutch disease is not to spend all revenues straight away, but to save some of these revenues as foreign reserves, or to use them in order to pay back foreign debt. If a government does not use all of the revenues during boom periods, but sterilizes it by investing abroad, exchange rate pressures will be reduced, so that the real exchange rate will not appreciate as much (Bacon and Tordo; 2006). This will decrease the spending effects of the Dutch disease, keeping the non-booming traded sector competitive.

By saving some of the revenues during boom periods of oil prices the resource effect of the Dutch disease is reduced, because there will be less demand for the products of the non-tradable sector. This means that less capital and labour will move from the tradable to the non-tradable sector. Resources will still move from the manufacturing sector to the oil industry however. Nonetheless, Sachs and Warner (1997) suggest that this will not have a very large impact on the economy in the case of oil-producing countries, because the amount of labour that is employed in this sector tends to be rather small. The industry is very capital intensive, and a lot of this capital comes from foreign firms. The extent to which this is the case for Kazakhstan and Azerbaijan will be investigated in chapter 4.

Davis et al (2001) point out that even though a fund might dampen the effects of the Dutch disease, the establishment of a fund is neither a necessary condition nor sufficient to save foreign reserves or deposits. It could just as well be done by the central bank of a country. Moreover, when the savings policy of the fund is separated from the rest of the government budget, in theory the government could even borrow money to finance the

budget, thereby reducing the amount of saving that actually takes place. This is also an observation of Le Borgne and Medas (2007), who did research on NRFs in Pacific Island countries. They found that in some cases the total government savings went down, despite the accumulation of assets in a fund. So even though the savings objectives of an NRF are important to limit the Dutch disease, the form of an NRF is not a condition at all; NRFs cannot replace overall sound fiscal policy and can only function in a decent fiscal framework.

§ 2.3: Terms of trade and volatility

Despite of what is claimed by Singer and Prebisch about natural resources in general, for oil it is not the case that terms of trade have deteriorated over the last forty years. Nonetheless, sudden decreases of revenues can be painful for a country, and the savings in NRFs can be a useful buffer for such occurrences of price decrease. NRFs can also generate extra revenue for the country, like in the case of the fund of Norway, which has generated returns on the invested oil revenues of approximately 6 percent (Bacon and Tordo, 2006). This can make a fund an interesting mechanism to accumulate even more foreign reserves.

The more problematic part of oil prices is their volatility, and a lot of NRFs have been set up to reduce the impact hereof. A fund with a stabilization purpose accumulates foreign reserves in times of a boom in oil prices and releases these reserves into the domestic economy in times of a bust. This keeps both the government budget and the real exchange rate constant.

Usually, thresholds of a "high" oil price or amount of oil export revenues when revenues should be saved and a "low" price for when accumulated revenues should be paid out is preannounced. This has the advantage that it gives confidence to investors in the stability of the real exchange rate and that government knows beforehand what amount it can spend. However, as oil prices do not have a 'normal' level to which they return, but instead face persistent shocks (see § 1.2), it is difficult to determine what these thresholds should be. This explains why stabilization schemes of some oil-producing countries collapsed in the 1980s, when the oil price decreased suddenly and dramatically (Davis et al., 2001). Nonetheless, stabilization remains crucial for these countries and attempts to face this problem are still very important.

Some research has been done on the extent to which NRFs have reduced the volatility of government expenditure. Davis et al. (2001) studied the behaviour of governments of five countries with an NRF and compared them to seven countries without an NRF, for the period

1965 to 1999. They concluded that countries with an NRF have a more prudent fiscal policy and less volatility in government expenditure than countries without an NRF, but they immediately added that the evidence was not very convincing. Davis et al. did not find any evidence for a change in fiscal policy after the introduction of an NRF. Therefore, they concluded that countries that had more prudent fiscal policy to begin were the ones that set up an NRF, but that an NRF would not lead to more prudent fiscal policy.

Fasano (1998) has reviewed the experience with oil and copper funds in Chile, Norway, Venezuela, Alaska, Oman and Kuwait. He did find that the funds contributed to enhancing the effectiveness and stability of fiscal policy by making budget expenditure less driven by revenue availability.

Just like with combating the Dutch disease, as discussed in § 2.2, an NRF is not a panacea for stabilizing revenues. Overall fiscal policy must regulate foreign reserves, and a fund can only be a tool for this regulation. When the rules regarding thresholds that are set up by a fund are widely seen as decisive, this can nevertheless be important for the confidence of investors.

§ 2.4: Rent-seeking behaviour and corruption

An NRF can be a very important tool to combat rent-seeking and corruption in a society, but the impact of a fund highly depends on the way in which it is set up. The choices that are made, as explained in § 2.1, influence the extent to which an NRF can actually have an impact.

Rent-seeking can be avoided when many checks and balances are apparent, and when the decision-making is transparent. Stevens (2003) argues that the two most important options to reduce rent-seeking in resource abundant countries are firstly to incorporate controls in political behaviour, and secondly to de-politicize the allocation of the rents. Both will decrease the opportunities for government officials to spend resource rents on projects that will not use them efficiently, and both can at least partly be achieved by funds that are managed well.

When the legal foundations of a fund are such, that parliamentary debate is required in order to change the operations of a fund, it is plausible that the reallocation of resources will be debated more widely after a fund is established than before. The same story holds for the governance structure of a fund: when governance is transparent and many checks and balances exist, this will increase the debate on the reallocation of resources. These controls in political behaviour will help to contain rent-seeking. Rent-seeking will further be contained

when the fund's decisions are independent from any government organ that is influenced by political decisions. If the final control over the fund is the responsibility of an elected official, or by an institute that is (in rule or in practice) ruled by such an official, opportunities for rent-seeking will be larger then when final control is the responsibility of fund managers themselves, or of an independent central bank.

In practice, very few countries decide to completely de-politicize the allocation of withdrawals of assets that are accumulated in the fund. In Norway, for example, it is the elected parliament that approves the non-oil government budget deficit, which is automatically withdrawn from the Norwegian Government Petroleum Fund (NGPF) (bacon and Tordo, 2005). The only fund that is completely de-politicized is the Alaska Permanent Fund (APF), where every Alaskan citizen receives an equal annual portion of the income of the Fund (Bacon and Tordo, 2005).

Regarding the transfers into and out of the fund, it can be argued that strict rules on what part of the revenues should be kept in the fund and on what condition money can be withdrawn de-politicizes the allocation of resource rents. A management-structure in which the money is not invested domestically but abroad also makes political decisions on investment in domestic industries much less influential, and can therefore reduce rent-seeking behaviour.

Very closely related to the reasoning above is the argument of Humphreys and Sandbu (2007). They are of the opinion that there is no purely economic need for NRFs, but that the impact of an NRF depends on the extent to which they alter the incentives facing political actors. If a fund does not affect political incentives, they can be ignored by governments, and a country will be no better off than it was before the establishment of the fund.

Humphreys and Sandbu show that there normally are large incentives for politicians against the accumulation of revenues. Most of politics involves power rivalry and a struggle between competing interests. The risk that in the future power is taken over by a party representing a rival interest-group is existent in every political situation. This party might spend the accumulated resource revenues on projects that are only in the interest of this particular group, and that makes it attractive not to wait for this moment and spend the revenues straight away. When a fund is established where withdrawal decisions are clear-cut, decisions are made by bodies representing the interests of the different groups or by decision-makers that are independent from political influences, and the levels of transparency regarding the status and operation of the fund are high, these incentives are reduced. The

reason for this is that the ruling party will have more reason to believe that if a change of power takes place its voice will still be heard in determining resource allocation; this makes their losses when loosing power less significant.

§ 2.5: Conclusion

We have seen that Nonrenewable Resource Funds can come in varying shapes and colours, making the question to what extent an NRF can combat the resource curse somewhat complicated. The framework of Bacon and Tordo which focuses on a number of financial and institutional aspects of funds is therefore very useful to discuss to what extent a specific fund can do good for a country; therefore the oil funds of Kazakhstan and Azerbaijan will be put into this framework in the proceeding chapter.

Even though NRFs can be different from one another, there are some general observations that can be made on their effectiveness in reducing the resource curse. Regarding the Dutch disease, the saving of revenues abroad can be very useful in reducing its harmful effects. Exchange rate volatility and government uncertainty can be reduced when a fund with the purpose of stabilization is set up.

Davis et al, however, argue convincingly that the establishment of an NRF is nor a necessary condition neither a sufficient one to save foreign reserves or stabilize the flows into the country. It is the fiscal policy of a country that really matters. However, the fact that an NRF exists can contribute to the prudence of fiscal policy. Humphreys and Sandbu are also of the opinion that there is no purely economic need to set up an NRF, but they do think that some NRFs are designed in a way that can reduce rent-seeking behaviour. When the fund is transparent, the rules are strict and the political incentives to accumulate reserves improve, a fund could have a very positive impact indeed.

Chapter 3: The National Oil Funds of Azerbaijan and Kazakhstan

In this chapter, the oil funds of Azerbaijan and Kazakhstan will be discussed and compared. The funds will be described in two separate sections, after which in § 3.3 a comparison between the two funds will be made. For each fund the discussion will start with an overview of the context in which the fund has been set up. An analysis of economic government policy and of economic performance since independence will be made to give a broader understanding of the importance of the funds. Afterwards the framework of Bacon and Tordo will be used to analyze the characteristics of both funds.

§ 3.1: The State Oil Fund of Azerbaijan (SOFAZ)

Economic policy and performance

The small country of Azerbaijan is located in the Caucasus, in between Eastern Europe and Western Asia, with the Caspian Sea, where the oil fields are located, in the east. It became an independent state on the 30th of August 1991, and the former communist leader Ayez Mütallibov was elected as president of the new republic in September. Mütallibov's presidency soon got overshadowed by the war with the ethnic Armenian minority, backed by Armenia, in the Azerbaijani enclave of Nagorno-Karabakh. This ware became known as 'the bloodiest and most intractable dispute to emerge from the break-up of the Soviet Union (Luecke and Trofimenko, 2008). The war had already started in 1988, but became more severe after independence (King, 2006). Mütallibov was forced to resign and Abülfaz Elçibay was elected as the second president of the independent republic. Elçibay and his government were not able to solve the conflict either, however, and the economic situation in Azerbaijan deteriorated. This lead to a military coup in June 1993, after which Heydar Aliyev, former member of the KGB, seized power. Aliyev was able to arrange a cease-fire with Armenia in mid-1994, which caused 20% of Azerbaijan's pre-war territory to be wrested out of Azerbaijani control, and over 800.000 citizens to become dislocated from their homes (Hoffman, 2000).

Heydar Aliyev is not only credited for returning stability in Azerbaijan, but also for bringing economic prosperity by signing the US$ 7.8 billion 'contract of the century' for the development of the Azeri-Chirag-Gunashli (ACG) oil fields with 11 international oil-companies (Luecke and Trofimenko, 2008). This was the start of what has been called the

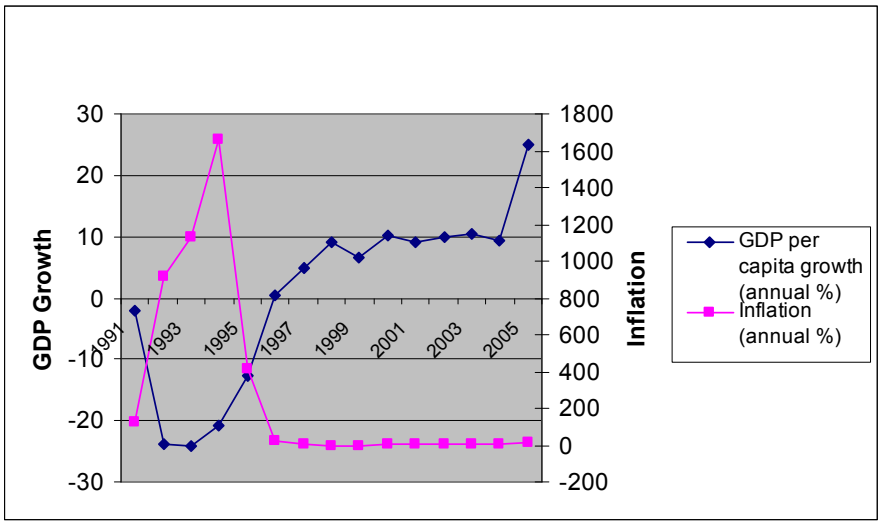
"second oil boom" of Azerbaijan. Azerbaijan has had a long history of oil production; it is said to be the first area of Europe where oil was exploited (Yergin, 1992). In 1900, Azerbaijan accounted for half of the world's production of crude oil (Raballand and Genté, 2008). Nevertheless, mainly because Soviet priorities in the Siberian oil fields, during the Soviet era the oil production in Azerbaijan slowly declined.

After the 81-year old Heydar Aliyev was admitted into hospital in 2003, he handed over the power to the then premier, his son Ilham in presidential election. Ilham Aliyev has been re-elected in October 2008 for another five-year term.

Little effort has been made to put democratic reforms into place in Azerbaijan since independence. Azerbaijan knew democratic governance from 1918 to 1920, but the seventy years of Soviet rule make that democracy is not embedded into the Azerbaijani mindset (Ismayilova, no date). Organizations like the Organization for Security and Co-operation in Europe (OSCE) and Transparency International have criticized the lack of free and fair elections and the efforts to combat corruption, and the constitutional referendum of 2009 that approved the lifting of presidential term limits has caused international uproar (Muradova, 2009).

Regarding economic reforms, little change happened between 1991 and 1994. The war and the political chaos caused a political stalemate, with little possibilities for adjustment towards a market economy. Meanwhile, the economic situation deteriorated rapidly, although it was comparable to other former Soviet republics (Åslund, 2002). Between 1991 and 1995 national GDP fell by more than 60% and consumer prices increased by approximately 850% annually. Foreign direct investment (FDI), which Åslund sees as an indicator of the success of economic reforms, increased drastically in the years that followed, however. Between 1996 and 1999 Azerbaijan obtained on average 22 percent of GDP in FDI (Åslund, 2002). The economy started growing again, up to 9000 US$ per capita in 2008, and the inflation fell to 2% per year.

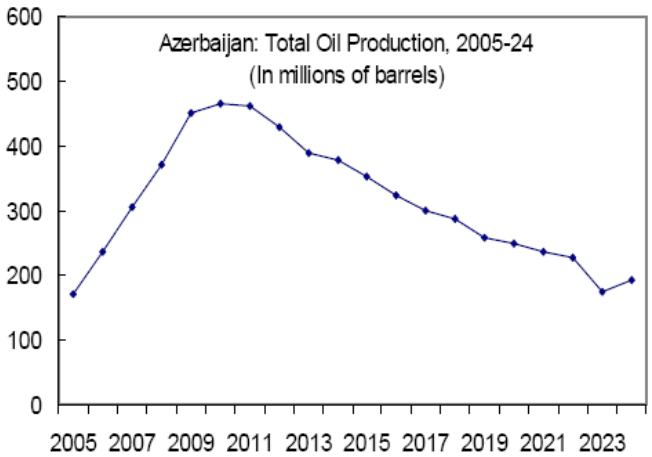
GRAPH 3: INFLATION AND GDP GROWTH: AZERBAIJAN



Source: World Development Indicators (WDI).

Since the second oil boom of Azerbaijan, the country has become very dependent on oil revenues in terms of GDP, exports and government revenues. In 2006, oil revenues accounted for 53.8% of GDP, 93% of total exports and 93% of government revenues (IMF, 2008a). One of the problems with this dependency is that the oil is expected to be depleted very rapidly. Estimations for the ACG oil fields are that they will peak already in 2010, after which oil production and revenues will decline again. This puts pressure on government to accumulate assets quickly for future generations.

GRAPH 4: EXPECTED OIL PRODUCTION AZERBAIJAN



Source: IMF (2008a)

Apart from the oil and gas sector, Azerbaijan has a large potential in agriculture and food processing industries; the latter contributes 90 per cent of the total industrial output excluding mining (Luecke and Trofimenko, 2008). Azerbaijan lies on the most direct route between the Black Sea and the Caspian Sea, and onwards to the Central Asian republics. Its geographical location gives it the potential to become a transport hub between Europe and Central Asia (World Bank, 2003).

Objectives of fiscal policy and the role of the fund

In 1999, during the rise in oil revenues, the SOFAZ was set up. According to the statute of the SOFAZ 'the main responsibility of the fund is to ensure collection and effective management of foreign currency and other assets that are generated from the implementation of agreements signed in the field of oil and gas exploration, and development, as well as from the Fund's own activities, in the interest of citizens of the Republic of Azerbaijan and their future generations'.[6] This responsibility is rather vague, and fund is rather unusual in that it does not have a clear stabilization or savings function. The rules of the fund are flexible enough to use it for both purposes, but practice of the fund shows that it is mostly used to save revenues for future generations, which is a logical choice considering the forecasted decline in oil revenues (Tsalik, 2003).

The legal foundations of the fund

The SOFAZ is set up by a presidential decree, which is the quickest way to set up a fund and implement a policy, but is also the simplest to reverse again. The operations of the fund are also under direct control of the president. Parliament has the power to approve or disapprove of the budget, which includes approving or disapproving transfers from the Fund to the state budget. Also, parliament can comment on the annual external audit, which is carried out by an international accounting company and made publicly available. The supervisory board, whose members are appointed by the president, reviews the Fund's draft annual budget, annual report and financial statements, and gives its opinion on these documents to the president. The formal checks and balances for parliament and the supervisory board are very limited, with most of the final decision-making of SOFAZ in hands of the president.

[6] *Regulations of the State Oil Fund of the Republic of Azerbaijan*, Decree of the President of the Republic of Azerbaijan no. 434, 29 December 2000. Available at <www.oilfund.az>, last accessed 11-05-2009.

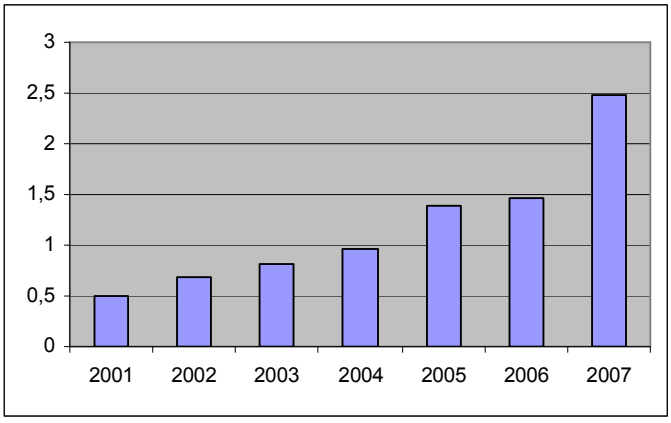
Transfers

All revenue flows from oil go directly to the SOFAZ, with the exception of taxes paid by foreign oil companies and the State Oil Company of Azerbaijan (SOCAR), which go directly to the state budget. In 2003, these taxes accounted for 10% of all oil related revenues (Tsalik, 2003). The fund's rules on transfers into the fund are different from funds in countries like São Tomé de Príncipe, Chile and Oman, where parliament decides what percentage of oil revenues goes to the fund and what percentage is spent through the budget.

Regarding withdrawals out of the fund, the statute of the fund stated that total expenditures from the fund in any one year cannot be more than the revenues obtained in that year. Furthermore, Presidential Decree 128 rules that once revenues have reached their peak, which most likely will be in 2010, a maximum of 75% of revenues obtained in the year can be spent.[7] In practice, spending has been even lower than this 75%, causing the fund to accumulate assets rapidly. In 2007, 55% of revenues was retained in the fund (SOFAZ Annual Report 2007).

The actual outflow of the fund, within the prescribed ranges, is mostly to cover the state budget deficit. Apart from that there can be special expenditures determined by presidential decree. At this moment there are five such decrees that have been authorized by the president: One is to spend on refugees from the war over Nagorno-Karabakh with Armenia; one is on the further development of the ACG oil fields; one on a railway project; one on an irrigation system project and one on a water pipeline project. The following graph shows the assets that have been accumulated by the fund between 2001 and 2007:

GRAPH 5: ASSETS HELD BY THE SOFAZ (BILLIONS OF US$)



Source: SOFAZ Annual Report 2007

[7] *Long-term strategy on the management of oil and gas revenues*, Decree of the President of the Republic of Azerbaijan no. 128, 27 September 2004. Available at <www.oilfund.az>, last accessed 10-05-2009.

In 2007, an additional US$ 1.02 billion was saved in the fund. This is 5% of the value of total oil exports, and 28% of total government oil revenues (IMF, 2008a).

Much of the decision-making power of the fund's transfers lies with the president. A large advantage of the fund, however, is that all the decision-making happens in a very transparent manner. All inflows and outflows are published on the fund's website, as are the presidential decrees, the audit reports and the fund's portfolio. For a Nonrenewable Resource Fund, this transparency is rare. Azerbaijan is one of the initiators and the first country of the world to comply with all the standards set by the Extractive Industries Transparency Initiative (EITI). The EITI is a coalition of governments, civil society groups, companies, investors and international organizations, striving to set a global standard for extractive companies to publish what they pay and to governments to disclose what they receive. Not only does Azerbaijan comply with the EITI rules to publish what it receives, it also publishes the way in which the fund's money is spent. It is for these reasons that the Nongovernmental Organization (NGO) Revenue Watch has called the SOFAZ 'the government's most transparent body'.[8]

Management and governance

The SOFAZ is an independent legal entity and has its own administrative structure. It is operated by the executive director, who is appointed by the president. The fund invests in very low risk assets, mostly bonds and securities of financial institutions which are backed by governments and international financial institutions. Presidential Decree 511 from 2001 specifies that all assets have to be held abroad.[9]

As mentioned, the ultimate control of the fund lies with the president of Azerbaijan. The supervisory board, which is appointed by the president, recommends to and controls the daily management of the fund. The executive director is ultimately responsible to the president, to whom he reports directly. This means that the ultimate supervisor is a political person, making the independence of the fund questionable. The annual report with an evaluation of performance and strategy is publicly available, making governance of the fund very transparent.

[8] Revenue Watch, *Azerbaijan: Transparency Snapshot*, available at <http://www.revenuewatch.org/our-work/countries/azerbaijan-transparency.php>, last accessed 10-05-2009.
[9] *Rules on holding, placement and management of foreign currency assets of the State Oil Fund of the Republic of Azerbaijan*, Decree of the President of the Republic of Azerbaijan no. 511, 19 June 2001. Available at <www.oilfund.az> last accessed 11-05-2009.

§ 3.2: The National Fund of the Republic of Kazakhstan (NFRK)

Economic policy and performance

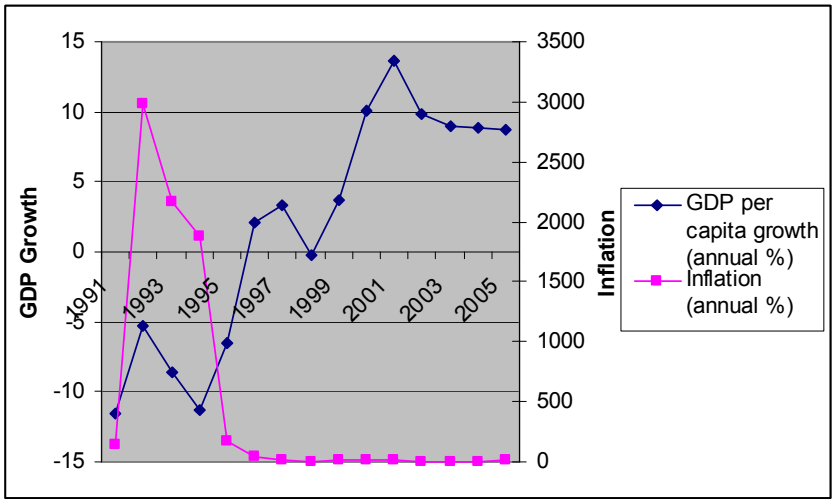
Situated in central Asia, Kazakhstan is the largest landlocked country in the world, and the largest former Soviet republic only after Russia. Kazakhstan declared itself an independent state on December 16, 1991, the last Soviet republic to do so. Kazakhstan has known a less tumultuous political history after independence than Azerbaijan. Nursultan Nazarbayev, the head of the communist party in Kazakhstan from 1989 to 1991, became the elected president in 1991, a position he has held until this day.

After initial efforts to change Kazakhstan politically into a more democratic and pluralist country, politics have become more restricted and centred around the president and his family over the last fifteen years (Brill Olcott, 2002; Marat, 2007; Jones Luong, 2000). President Nazarbayev was elected for a third term in office in 2005, and in 2007 the constitution was amended in order for Nazarbayev to be able to stay in power for life (Lillis, 2008). The president's family and family in law are very influential, both in the political and the economical area, creating an elite circled around Nazarbayev. Martha Brill Olcott (2002) has published a partial list of the Nazarbayev family holdings and reputed holdings, which include companies as various as oil and gas companies, the railway system, Kazakhstan's largest bank, various television and radio channels, newspapers, investment groups, hotels and the national air carrier. The family is said to hold millions or billions of US Dollars in foreign accounts, making it possibly one of the ten richest families in the world (Brill Olcott, 2002).

After the Soviet era, Kazakhstan initially took large steps to reform towards a market economy. Privatization got much focus, especially regarding the small and medium enterprises, as did controlling inflation and exchange rate policy. Just like for many other FSRs, economic policy development was not an easy task. GDP fell after the collapse of the Soviet Union, while inflation skyrocketed, with an average of 1470% annually between 1991 and 1995. Kazakhstan managed to get out of this economic deterioration, however, and over the period 2001-2008, Kazakhstan managed to have a GDP growth of 10% annually (IMF, 2008b) which increased the GDP per capita to US$ 11.500 (PPP) per year in 2008. Meanwhile, inflation was reduced to an average of 8% annually. Despite this improvement, Kazakhstan has not managed to climb back to its pre-independence ranking on the Human

Development Index. In 2006, Kazakhstan ended 71st of all countries that participated, 17 places lower than in 1993.[10]

GRAPH 6: INFLATION AND GDP GROWTH: KAZAKHSTAN



Source: World Development Indicators (WDI)

Even though the economic situation improved, reform towards a complete market economy slowed down. The privatization of the largest factories did not proceed as scheduled and when some large firms did eventually get sold corruption was large (Brill Olcott, 2002).

Kazakhstan is very richly endowed with natural resources. Apart from oil and natural gas, it has large reserves in chromium, lead, wolfram, copper and zinc, amongst others. Kazakhstan's industry, which accounted for about 40 percent of GDP in 1991, is largely dominated by the mining and processing activities of these natural resources (World Bank, 1993). Apart from this, heavy machineries and tools are produced, as well as agro-processing industries. The agro-industries exploit the large variety of agricultural products of Kazakhstan, mainly wheat, maize, livestock products, cotton and wool. Agriculture accounted for about 34 percent of GDP in 1991.

Especially after independence, the production of oil and natural gas became a very large part of the economy of Kazakhstan. In 1990, Kazakhstan produced only 500.000 barrels a day, compared to 1.5 million barrels a day in 2008.[11] This makes Kazakhstan the largest oil producer in the Caspian Sea region, the 19th largest oil producer in the world, and in terms of proven reserves even the 11th worldwide. Just as in Azerbaijan, foreign investments in the oil

[10] Human Development Index, UNDP, available at <http://hdr.undp.org/en/statistics/>, last accessed 26-05-2009.
[11] "Kazakhstan Country Analysis Brief, Energy Information Administration", available at <http://www.eia.doe.gov/emeu/cabs/Kazakhstan/Full.html>, last accessed 11-05-2009.

industry started flowing in during the second half of the 1990's. Kazakhstan depends largely on its oil revenues, even though it does so to a lesser extent than Azerbaijan. In 2006 oil accounted for roughly 30% of GDP, 61% of exports, and 37% of government revenues.[12] Unlike Azerbaijan, Kazakhstan does not have to worry about the quick depletion of proven oil reserves; they are expected to last until at least 2050 (IMF, 2004).

Objectives of fiscal policy and the role of the fund

The NFRK was set up in 2000, when the world oil prices were recovering, the oil production was growing and more and more foreign currency entered the country.[13] The founding document of the NFRK describes its mission as "stabilizing the socio-economic development of the country, accumulating savings for future generations, and reducing the country's vulnerability to external factors".[14] In this mission, clearly both a stabilization and a savings function are present, and the fund's payments are made into two separate portfolios to reflect this. A referent price for oil is determined every five year (currently US$19 a barrel). When the actual oil price is above this referent price, the additional money goes to the stabilization account. Similarly, when the actual price is below the referent price the deficits are withdrawn from the stabilization account. Of the budgeted oil revenues 10 percent is paid into the savings account, while the remaining 90% is retained for the state budget.

The legal foundations of the fund

Like the SOFAZ, the NFRK was set up by presidential decree, which means that the president has the power to dissolve the fund at any moment in time. And similar to the SOFAZ, the operations of the NFRK are under control of the president as well. Only he can propose spending from the NFRK and he has exclusive rule making for the fund (Bacon and Tordo, 2005). Parliament has very little power and can only approve or disapprove on expenditures from the fund. Unlike in Azerbaijan, parliament cannot comment on the annual external audit, which is done by the ministry of finance and of which ultimate responsibility lies with the president. The oversight committee is largely appointed by the president and also chaired by the president. Formal checks and balances for the oversight committee are limited, with officially only a consultative function.

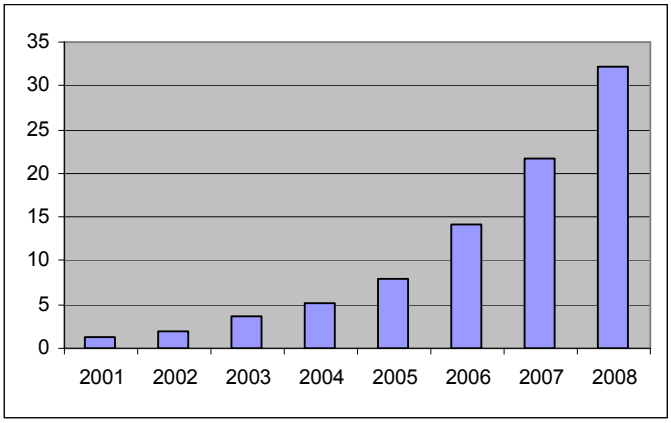
[12] Source: IMF (2008b) and EIA official statistics.
[13] The first account for oil revenues was already set up in 1996, but this was done in a secret Swiss bank account tied to President Nazarbayev personally, which caused international uproar when it came to light in 2002 (Tsalik, 2003).
[14] "On the National Fund of the Republic of Kazakhstan", Presidential Decree no. 402, August 23, 2000. In Tsalik (2003).

Transfers

The NFRK is basically an account of the government held at the national bank. Oil revenues first go to the ministry of finance, and then according to the formula explained above, a percentage goes to the fund. The revenues from oil paid partly into the fund are based on the returns of six hydrocarbon companies. It used to be based on revenues of eight additional companies, but the number was reduced by the president in 2004. Unlike the SOFAZ, taxes are also paid into the fund, next to royalties, bonuses and money that comes from petroleum Sharing Agreements (PSA's). Additionally, discretionary payments, determined by the president, can be paid into the fund. This is for example money that the government receives from privatizations of hydrocarbon companies.

In December 2008, the assets held by the NFRK held a value of approximately US$ 32 billion (IMF, 2008b). Of these assets, US$ 5 billion is held in the stabilization account; the rest is held in the savings account. The assets accumulated rapidly, as in 2001 the value of assets was only US$ 1.2 billion. Graph 7 below gives an overview of the accumulation of assets:

GRAPH 7: ASSETS HELD BY THE NFRK (BILLIONS OF US$)



Source: IMF (2004) and IMF (2008b).

In 2008, an additional US$ 11.2 billion was saved in the fund. This is 23% of the value of total oil exports, and 53% of total government oil revenues (IMF, 2008b).

The president can decide on the money that is transferred back to the government budget, in addition to any money that will flow back for stabilization reasons. No money was being transferred back until 2007, when US$ 2.14 billion was transferred to government. This increased in 2008, when already from January to May US$ 2.35 had been transferred back.[15]

[15] The National Fund of the Republic of Kazakhstan, available at <www.nationalfund.kz>, last accessed 09-05-2009.

This money was not for stabilization purposes, as the price of oil did not decrease as far as US$19 a barrel, the point when the stabilization mechanism of the NFRK starts working.

Most decision-making power of the fund's transfers lies with the president, and these transfers are not as transparent as in Azerbaijan, even though transparency is improving. Since 2006, the fund publishes transfers on its website, but audit reports and the fund's portfolio are not made publicly. Kazakhstan is a candidate country of the EITI initiative, but needs to comply with additional transparency requirements before it can become a full member. The candidate membership does show the willingness of Kazakhstan to start publishing what they pay and receive, however.

Management and governance

Similarly to the Norwegian Government Petroleum Fund (NGPF), from which the NFRK received substantial technical advice on investment strategies, the NFRK is managed by the National Bank, the NBRK. The fund uses several Western portfolio managers to invest its assets. The stabilization portfolio is invested in liquid short-term debt securities, so they may be used quickly for stabilization purposes. The savings portfolio is invested in bonds, and also in stocks rated A or higher. It has therefore a slightly higher risk profile than the fund of Azerbaijan. All assets are being invested abroad.

Ultimate control over the fund lies with the president, with the oversight council having only a consultative role. Day to day operations of the fund are done by the NBRK department of monetary operations, which reports to the ministry of finance. The fund is therefore ultimately governed by political bodies and persons, which makes it not independent of political influences. The annual reports, performance and investment strategies are not made publicly available, making the fund not very transparent.

§ 3.3: A comparison

Kazakhstan and Azerbaijan are both former Soviet states that have known dramatic falls in GDP and dramatic rises in inflation in the early years after independence. Both have managed to climb out of this economic downturn with the help of their oil revenues and have comparable levels of welfare now. The countries are very dependent on the export of oil, where Azerbaijan is the more dependent state in terms of GDP, exports and government revenues.

The funds of Azerbaijan and Kazakhstan are very different in some and strikingly similar in other aspects. For the NFRK it is stipulated in its mandate that it has both a savings and a stabilization function, even though this stabilization function has not been used up to this date. Strict formulas apply to determine what amount of money flows into the fund based on these functions. For the SOFAZ, rules are much vaguer, and therefore also much more flexible. The SOFAZ does not have any defined stabilization function, but completely focuses on the savings aspect. This makes sense when considering the fact that the oil reserves in Azerbaijan will be depleted in the near future.

Both funds were set up by a presidential decree, which is a very quick way to establish a fund, but also means that a lot of power regarding the fund is in hands of the president, including the power to liquidate the fund. In practice, power is very centralized for both funds, with very little influence for parliament or the supervisory boards.

Kazakhstan has managed to accumulate more assets in its fund than Azerbaijan, both in terms of US Dollars and as a percentage of oil exports and government revenues from oil. The SOFAZ is a much more transparent body than the NFRK, Azerbaijan being the only country that has already met all the requirements to become a full member state of the EITI. Kazakhstan does not give its citizens as much account of the payments and performance of its fund, even though transparency is improving. The funds are similar in the respect that they invest all of their assets abroad, which is a good way to avoid flooding the domestic economy with petrodollars.

Chapter 4: the resource curse in Azerbaijan and Kazakhstan

To determine what influence the oil funds of Azerbaijan and Kazakhstan have in combating the resource curse, the most important question that has to be addressed firstly is to what extent Azerbaijan and Kazakhstan have faced the challenges that come with the resource curse since they started producing oil on a large scale. Therefore, this chapter will focus on the characteristics of the resource curse in these countries, from the start of the increase in oil production. For both countries, this increase started in the second half of the 1990's, making 1995 the most appropriate year to start the comparison.

In this chapter, the three most important characteristics of the resource curse (the Dutch disease, volatility of oil prices and worsening terms of trade, and rent-seeking behaviour) will be discussed in separate sections for both Azerbaijan and Kazakhstan. Section 4.4 will give an overview of the conclusions that can be drawn.

§ 4.1: The Dutch disease

As discussed in chapter 1, through the mechanism of real exchange rate appreciation the non-booming export sector gets crowed out by the oil-industry and the non-traded goods sector, which leads to deindustrialization. This can be harmful for an economy in the long run, because the non-booming export sector is responsible for production in which most technological progress takes place, and leads to most forward and backward linkages.

This section focuses on the extent to which the bon-booming export sector has gotten crowded out by the other two sectors for both Azerbaijan and Kazakhstan. It will look at real effective exchange rate appreciation, GDP growth in the three different sectors, and forward and backward linkages from the oil industry.

Real Effective Exchange Rate appreciation

The real exchange rate is the nominal exchange rate adjusted for relative prices between countries under consideration (Pilbeam, 2006). It is normally expressed as an index form:

$$S_r = S\frac{P}{P^*} \tag{4.1}$$

Where S_r is the index of the real exchange rate, S is the nominal exchange rate in index form, P the index of the domestic price level (the inflation in the country) and P^* the index of the foreign price level. The real effective exchange rate is the real exchange rate weighted not

against one currency, but against a basket of foreign currencies. Normally, it is weighted against the largest trading partners of a country, with the weight of each currency depending on the amount of trade that takes place.

Relative Purchasing Power Parity (PPP) theory suggests that the nominal exchange rate will adjust by the amount of the price level differential between countries. According to this theory therefore, the real exchange rate between two countries would remain the same, and one unit of a currency would buy you exactly the same amount of goods in its home country and in a foreign country, when converted into the currency of the foreign country.

One of the models contesting this view is the Balassa-Samuelson model. Balassa (1964) and Samuelson (1964) both argued that labour productivity in rich countries is higher than in poor countries, so the amount of labour needed to produce one unit of goods is higher in poor countries. Wages are assumed to be the same in both sectors, but higher in the more productive country. The productivity differential occurs predominately in the tradables rather than in the non-tradables sector. This makes logical sense, as a Sierra Leonean barber might be able to be just as productive as his Dutch counterpart, but might not be able to produce the same amount of cars in the same amount of time. Balassa and Samuelson assume that PPP holds in the tradable sector, but they argue that it will not hold in the non-tradable sector, because of lower wages with similar levels of productivity. Therefore, the REER of countries will fluctuate.

An extended version of the Balassa-Samuelson model is used to explain the Dutch disease. Not only productivity differentials can explain divergence from PPP, but so can terms of trade fluctuations, for example changes in oil prices. When the oil price rises, in fact the productivity in this booming tradable sector increases: The same amount of labour or capital is needed to produce a higher amount of goods in terms of money, as the good has become worth more.

Detailed research on the extent to which REER and nominal effective exchange rate (NEER) appreciation have taken place in Kazakhstan since the oil boom has been done by Kutan and Wyzan (2005) and Égert and Leonear (2008). Kutan and Wyzan find a REER appreciation in Kazakhstan for the period 1996 to 2003. They then seek to explain whether this has been caused by the increase in oil prices and oil production in Kazakhstan. In order to do this, they use the extended version of the Balassa-Samuelson model described above, including not only productivity and inflation data, but also oil prices. Using quantitative data-analysis by employing autoregressive conditional heteroskedasticity models they find that an increase of

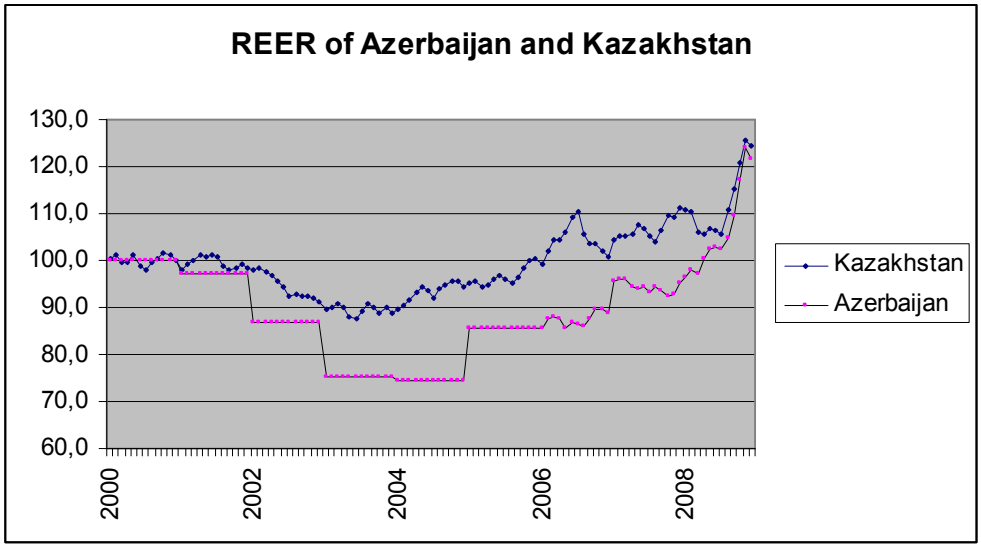
the price of oil has had a large and significant impact on the REER appreciation of the Kazakh Tenge. Therefore, they conclude that symptoms of Dutch disease effects in Kazakhstan have been apparent.

Égert and Leonear (2008), however, argue that the concept of Dutch disease used by Kutan and Wyzan is too narrow, as it does not include important explanatory variables like the relative price of non-tradable goods to tradable goods, public debt to GDP ratio, public expenditure as a share of GDP, the openness ratio of the country and the terms of trade. Égert and Leonear do use these control variables to examine what the change in competitiveness of the non-oil manufacturing sector has been in the wake of oil price changes. For the period 1995 to 2005 they notice that the NEER has appreciated, the REER has appreciated, and that there are some indications that the rise in the price that Kazakhstan receives for its oil might be linked to this appreciation. Nevertheless, when dividing the Kazakh economy in an oil and a non-oil –sector and looking at the REER for each separate sector, they find that the appreciation of the NEER has not had any statistically significant effect on the non-oil sector's REER. They conclude that Dutch disease effects have thus far not taken place in Kazakhstan.

To my best knowledge, similar research has not been done for the REER of the Azerbaijani Manat, and it does not lie in the scope of this paper to examine the extent to which REER appreciation in Azerbaijan has been influenced by oil prices and other explanatory variables. Therefore, the research for the Azerbaijani Manat will be restricted to an analysis of the REER appreciation or depreciation. This will also be done for the REER of the Kazakh Tenge.

The REER analysis is made by using data from the Central Banks of Azerbaijan and Kazakhstan for the period 2000 to 2008, which are all the years available from the Central Banks. The Tenge REER is a weighted average of the Tenge against a 24-countries currency basket, adjusted for differences in inflation. Trade turnover to these countries is approximately 90% of total registered trade turnover. For the Azerbaijani Manat, similar information is not available. The REER for Kazakhstan is calculated on a monthly basis. The REER of Azerbaijan is calculated on a yearly basis for the period 2000 to 2005, and on a monthly basis for the period 2006 to 2008. For both currencies, a decrease in the index means an appreciation of the currency.

GRAPH 8: THE REER OF AZERBAIJAN AND KAZAKHSTAN



Source: Central banks of Azerbaijan and Kazakhstan. Indices are 100 for the average of 2000

From the graph it becomes evident that both currencies appreciated for the period 2001 to 2003, at the height of the oil boom, stayed stable for two years and depreciated after that. Both currencies depreciated sharply in the second half of 2008, which makes sense considering the sudden decrease in oil prices in from July 2008 onwards. In the light of the Dutch disease it is harder to explain why both currencies depreciated between 2005 and 2008, as oil prices kept increasing and production kept growing during this period. It also becomes clear that the Azerbaijani Manat has fluctuated more heavily than the Tenge, with a larger appreciation during the oil boom and a larger depreciation in 2008. This can probably be explained with the fact that Azerbaijan is far more dependent on oil, in terms of GDP and export earnings, as discussed in the previous chapter.

Kazakhstan and Azerbaijan are not the only FSR's that experienced an appreciation of their REER, but this has been a widely seen phenomenon for transition economies. In centrally planned economies, there existed a preference for the production of tradable goods over non-tradable goods: The central plan put more emphasis on the heavy industries than on the services for consumers (Coricelli and Jazbek, 2004). Therefore, the production of tradables was set to be larger relative to the production of non-tradables, regardless of market demands. This means that in a market economy, the cost of tradable goods would be lower relative to non-tradable goods, as the price is determined by supply and demand of the particular good. In a centrally planned economy, supply and demand conditions did not affect pricing, which meant that the price of non-tradable goods was undervalued. If the measure of

the real exchange rate is taken to be the relative price of tradables in terms of non-tradables, the real exchange rate for centrally planned economies was undervalued. For this reason, when the transition process towards a market economy started in the FSR's, many of the real exchange rates of the new currencies appreciated (Halpern and Wyplosz, 1997; Coricelli and Jazbek, 2004).

We can conclude that for Azerbaijan, there are some characteristics of the Dutch disease when examining the REER of the Manat. It has to be taken into account, however, that for a transition country like Azerbaijan it was natural to experience REER appreciation, regardless of the Dutch disease. The fluctuation of the Tenge, and additional research on the REER of the Tenge, shows less evidence of a systematic REER appreciation, but symptoms of the Dutch disease might still have been apparent.

GDP growth

The theory of the Dutch disease suggests that output in times of an oil boom increases in the booming sector and the non-tradables sector, while it decreases in the non-booming tradable sector.

To see to what extent this has happened in Azerbaijan and Kazakhstan, it is first important to look at the export statistics of both countries. Data from the United Nations Conference on Trade and Development (UNCTAD) show the following:

TABLE 1: TRADE STRUCTURE BY PRODUCT GROUP: EXPORTS

Azer-baijan	Total value		All food items		agricultural raw materials		Fuels		Ores, metals, precious stones and non monetary gold		Chemical products		Machinery and transport equipment		other manufactured goods	
	%	Millions of US$	%	Millions of US$	%	Millions of US$	%	Millions of US$	%	Millions of US$	%	Millions of US$	%	Millions of US$	%	Millions of US$
1995	100%	631	4,4%	27,8	8,3%	52,4	66,4%	419,0	1,2%	7,6	6,5%	41,0	7,6%	48,0	5,6%	35,3
2000	100%	1745	4,2%	73,3	2,4%	41,9	85,1%	1485,0	2,9%	50,6	2,0%	34,9	3,6%	62,8	0,9%	15,7
2006	100%	6372	5,0%	318,6	0,7%	44,6	84,6%	5390,7	3,8%	242,1	2,1%	133,8	1,9%	121,1	1,7%	108,3

Ka-zakh-stan	Total value		All food items		agricultural raw materials		Fuels		Ores, metals, precious stones and non monetary gold		Chemical products		Machinery and transport equipment		other manufactured goods	
	%	Millions of US$	%	Millions of US$	%	Millions of US$	%	Millions of US$	%	Millions of US$	%	Millions of US$	%	Millions of US$	%	Millions of US$
1995	100%	5227	9,9%	517,47	2,8%	146,4	25,0%	1306,8	24,1%	1259,7	10,3%	538,4	6,0%	313,6	21,9%	1144,7
2000	100%	8789	6,8%	597,65	1,4%	123,0	52,0%	4570,3	21,7%	1907,2	1,1%	96,7	2,1%	184,6	13,2%	1160,1
2006	100%	38244	2,8%	1070,8	0,6%	229,5	68,7%	26273,6	16,8%	6425,0	2,7%	1032,6	1,7%	650,1	6,6%	2524,1

Source: UNCTAD (2008) and the author's own calculations

Looking at the statistics, it becomes evident that for the period 1995 – 2006 the percentage of export coming from the non-booming tradables sector has drastically decreased for both Azerbaijan and Kazakhstan. In terms of total volume measured in US$, however, exports of the non-booming tradable sectors have actually increased, from US$ 204.44 million to US$ 726.41 million for Azerbaijan, and from US$ 2660.54 million to US$ 5507.14 for Kazakhstan. The decrease in percentage of exports does mean, on the other hand, that the diversification of trade has deteriorated. The diversification index, ranging from 0 to 1 with a higher value indicating less diversification, increased from 0.692 to 0.747 for Azerbaijan, and from 0.740 to 0.760 for Kazakhstan.[16]

Given the changes in economic structures in former communist countries over the last 20 years, it does not come as a surprise that exports of all tradable goods increased in Azerbaijan and Kazakhstan. The economy suffered immensely in the period 1990-1995, and previous to

[16] The diversification index reveals the extent of the differences between the structure of trade of the country and the world average. It is computed by measuring absolute deviation of the county share from world structure. In formula: $S_j = \frac{\sum_i \left[h_{ij} - h_i\right]}{2}$, where h_{ij} is the share of commodity i in the total exports and imports of country j, and h_i is the share of the commodity in total world exports and imports. Source: UNCTAD (2008)

1995 exports to non-Soviet states were virtually non-existent (Åslund, 2002). Therefore, the value added in the non-booming tradable sector from 1990 onwards will provide additional interesting results. There it becomes clear that for agriculture, which is the most valuable sector to look at as it is not linked with the oil sector like the industrial sector, output has not returned to its 1990 or 1992 levels:

TABLE 2: AGRICULTURE, VALUE ADDED (BILLIONS OF CURRENT US$)

Agriculture, value added (billions of current US$)	1990	1992	1994	1996	1998	2000	2002	2004	2005
Azerbaijan	2,35	1,30	1,07	0,79	0,81	0,85	0,87	0,97	1,16
Kazakhstan		5,81	3,18	2,56	1,90	1,48	1,97	3,07	3,61

Source: World Development Indicators (WDI)

For Azerbaijan, in 2005 value added in the agricultural sector was only half of the value in 1990; for Kazakhstan in 2005 it was 62% of the value of 1992, and it is likely that it is even worse compared to 1990. Effects of the Dutch disease are definitely apparent for this sector in both countries.

Azerbaijan and Kazakhstan are definitely not the only FSR countries that have seen their GDP's in certain sectors decline after the fall of the Soviet Union. Åslund (2002) has predicted that on average, GDP in CIS-countries has fallen by 35% between 1989 and 1998. One important reason for this is that the economies of all countries were very intertwined. Virtually all enterprises were links in a production cycle that stretched outside the own country, to various other countries in the Soviet Union (Brill Olcott, 2002). The same was true for most transportation and communication systems, which were not set up to serve the domestic demand, but to guarantee good links with the other republics, mostly Russia. Another reason for the fall in GDP was the struggles in the transition towards a market economy, with new currencies and many necessary privatisations.

The theory of the Dutch disease also predicts that the non-tradable sector will increase in a country following an oil-boom. The increase in income, generated by the booming sector, will increase the demand for services and other non-tradable products. This has also been the case for Azerbaijan. The employment in services increased from 31.1% of total employment in 1990 and 35.8% in 1996 to 48.6% in 2005.[17] These data are not available for Kazakhstan. Data of the Agency of Statistics of the Republic of Kazakhstan (ASRK) do show that in the

[17] Source: WDI

peak of the oil boom, between 2000 and 2004, total volume of services in millions of tenge more than tripled, which indicates that also this effect of the Dutch disease is evident in both countries.

Forward and Backward linkages

Sachs and Warner (1995) state that the Dutch disease can be harmful for a country, amongst others because oil production does not lead to large forward and backward linkages. To increase forward and backward linkages, or 'local content' as it is called when discussing the gas and oil industries, is often a major concern of policy-makers, also in Azerbaijan and Kazakhstan. Sachs and Warner predict that local content will be limited, and observations from various scholars also lead into this direction. Saulesh Yessenova (2008), who conducted fieldwork at Tengiz, the largest oilfield of Kazakhstan, draws attention to the way in which Tengiz Chevroil (TCO) controls all related industries to the exploitation of oil, including all (living) facilities of employees, construction, and imports of materials. Najman et al. (2008) did a household survey analysis on the way in which oil revenue is redistributed in Kazakhstan. They found that the oil boom has not resulted in higher average living standards in the oil-producing regions in Kazakhstan, but that it has been associated with higher living standards in the metropolitan centres where the country's elite lives. This suggests that the oil industry has not generated other industries to evolve around it, so that the local population has not been able to profit from the oil industry.

Kalyuzhnova (2008) also agrees that at this point local content is limited in the Caspian region, and that the dominance of foreign over local oil and gas companies, and their service sector, is evident. However, she also points to the steps that governments in Azerbaijan and Kazakhstan have taken in order to improve this, and to some examples that illustrate that there is a certain degree of forward and backward linkages. Kazakhstan is the only country where serious attempts have been made to increase local content, with policy measures including the Programme on Industrial Development from 2004. Through laws, degrees, labour quotas, and by obliging companies to invest in social projects nearby their sites, Kazakhstan tries to force oil companies to invest in the areas through which Kazakhstan can benefit in the long term. Azerbaijan is not as far yet, but Kalyuzhnova states that the government is employing a soft approach related to the impact of the major operating companies on 'sustainable growth in Azerbaijan'. Interviews with British Petroleum (BP) in Azerbaijan, and several oil companies in Kazakhstan, also suggest that the oil companies themselves try to improve the forward and backward linkages, and try to develop domestic companies for their needed supplies.

§ 4.2: Volatility and terms of trade

Oil prices are volatile and hard to predict. In chapter 1 the implications for oil-producing countries have been discussed: Countries have the risk of copying this volatility to the government expenditure pattern and the real exchange rate. This section will research to what extent this has been the case for Azerbaijan and Kazakhstan. To determine whether the volatility in government expenditure and real exchange rate was really severe, a comparison with the non-oil-producing CIS-countries will be made.

Government expenditure volatility

The volatility of government revenues obtained through the production of oil can translate into volatility of government expenditure. In theory, government expenditure volatility does not necessarily have to be harmful for the growth in a country. Keynesian economic theory recommends that policy makers should increase spending during a recession in order to stimulate demand and employment during times of recession. For oil-producing countries, this would mean that government would increase spending in times of low oil prices, and cut spending when prices are high. In his tax-smoothing model Barro (1979) on the other hand argues that fiscal policy should remain essentially neutral over the business cycle and respond only to unanticipated changes that affect the government's budget constraint.

Keynesian fiscal policy, where spending is increased during a recession, is called countercyclical fiscal policy, and naturally leads to volatility of government expenditure. Alan Gelb, however, has argued that in oil-producing countries fiscal policy has actually been procyclical, or spending increased during high prices and was cut back during low oil prices (Gelb, 1989). Gelb did research on six oil-producing countries from the first big oil-price rise in 1973 up to the mid 80's, when prices were low again, and found that procyclicality in these countries was large. All countries increased spending in the windfall-period 1974-1978, and two out of the six countries even managed to run budget deficits, despite the huge increase in revenue. Table 3 shows a summary of the results of Gelb

TABLE 3: USE OF WINDFALL GAINS

		% of windfall gain			
Country	**% of GDP from oil**	**Private expenditure**	**Public consumption**	**Public investment**	**Savings**
Algeria	27.1	13.3	5,2	97,4	-15,9
Ecuador	16.7	17.4	32,9	28,7	21.0
Indonesia	16.0	2.5	15.0	49,4	33.1
Iran	36.9	-0,8	27.6	27,1	46,1
Nigeria	22.8	-16,2	18.4	85,5	12.3
Venezuela	10.7	48.6	15.0	45,8	-9,3

Average	**21.7**	**6.2**	**19.4**	**56.5**	**17.9**

Source: Talvi and Végh (2000), based on Gelb (1989)

Gelb argues that the price fluctuations and the procyclical fiscal policy that followed have been very harmful for the producers of oil, and argues that the volatility of oil prices should not be copied into volatility of government expenditure. Furceri (2007) is among the many scholars that did research on the impact of government expenditure volatility on economic growth. Furceri also found that government expenditure volatility is harmful for an economy: A 1% increase in government expenditure volatility causes a decrease of 0.78% in the long-run rate of growth.

To examine the degree of government expenditure volatility of Azerbaijan and Kazakhstan, we compare the standard deviation and coefficient of variation of the indexed yearly government expenditures between 1995 and 2005 with the other CIS-countries. The standard deviation shows the average of the total distance between each observation and the mean, and can be expressed as

$$\sigma = \sqrt{\frac{\Sigma\left(x_i - \mu\right)^2}{N}} \qquad (4.1)$$

Where σ is the standard deviation, μ is the mean, and X is each individual observation. The coefficient of variation (CV) is

$$CV = \sigma / \mu * 100\% \qquad (4.2)$$

The CV is useful for comparing data with different means, as it adjusts for the scale of units in the population. The results are found in the table below:

TABLE 4: GOVERNMENT EXPENDITURE VOLATILITY (1995 = 100)

Country	Mean	Standard deviation	Coefficient of variation	Minimum	Maximum
Armenia	107,3	14,1	13,2	95,9	139,3
Azerbaijan	150,7	39,9	26,5	96,4	192,3
Belarus	123,3	19,8	16,1	99,1	150,9
Georgia	167,8	41,8	24,9	100,0	224,8
Kazakhstan	91,2	17,1	18,7	66,9	117,7
Kyrgyzstan	116,5	12,3	10,6	100,0	133,4
Moldova	79,8	20,2	25,3	55,8	110,5
Russia	113,0	11,2	9,9	100,0	132,7
Tajikistan	93,0	21,9	23,5	65,8	129,1
Turkmenistan	182,0	61,0	33,5	91,3	253,2
Ukraine	102,5	13,6	13,3	85,6	130,6
Uzbekistan	113,0	13,2	11,7	100,0	138,4

Source: Penn World Tables.

The average of the standard deviation for all 12 countries is 23.8. Azerbaijan has a far higher standard deviation, while Kazakhstan scores slightly better than average. Looking at the coefficient of variation, Azerbaijan scores the worse of all CIS-countries only after Turkmenistan, which is also an oil and gas exporting country (in 2007, the oil and gas sector accounted for 55% of GDP and 76% of total exports of Turkmenistan (Kalyuzhnova, 2008)). Kazakhstan is the 7th from below.

Azerbaijan seems to have very volatile government expenditure, which can be bad for economic growth, but this is not the case for Kazakhstan. A limitation of this analysis, however, is that oil prices have not been very volatile for the period studied, as they only dropped during one year, and apart from that year just kept rising. It would be interesting to see to what extent the volatility of government expenditure will increase following the sharp drop in revenues due to the drop in oil prices over the last year. The Economist Intelligence Unit (EIU) does not expect the expenditure to decrease sharply in both countries up to 2010, however, because of stimulation packages, social spending commitments and ongoing infrastructure projects (EIU, 2009a; EIU, 2009b). Additional analysis on the response of the countries to the decrease in oil prices can be found in the sub-section on terms of trade below.

Real exchange rate volatility

Another channel through which the volatility of oil prices can affect the domestic economy is the real exchange rate of the currency. When the real exchange rate becomes volatile, this can lead to an increase in insecurity for investors. When investing in the tradables sector, it is a large advantage to know what the consuming market will be like a couple of years onwards. When insecurity regarding the price of similar foreign products

exists, because the price of foreign tradables is hard to predict, this translates into insecurity of rates of return. It therefore does not come as a surprise that uncertainty, especially in combination with irreversibility of the investment, yield an option value of delaying and possibly cancelling investments (Dixit and Pindyck, 1994). Bleaney and Greenaway are among the scholars that have found a statistically significant negative effect of exchange rate volatility and investment.

Edwards (1989) has done research on the movements of exchange rates in 33 developing countries for the period 1965 – 1985. He finds, not surprisingly, that real exchange rate volatility is larger in the period 1972 – 1985 than in the period 1965 – 1972. The end of the Bretton Woods period, where the currencies of the majority of countries were pegged to the US Dollar, has caused this increase in volatility. In the post-Bretton Woods era, from 1972 until now, most countries have flexible exchange rates or, especially in developing countries, managed floating nominal exchange rate systems. The averages of the basic statistical properties of REER indices of the 33 countries calculated by Edward are as follows:

TABLE 5: AVERAGE OF REER-INDICES FROM EDWARDS

(Quarterly data 1972 – 1985)

	Average of 33 countries (1972 = 100)
Mean	94,61
Standard deviation	12,23
Coefficient of variation	13,22

We compare the standard deviation and the coefficient of variation with the quarterly data of the REER from Kazakhstan and Azerbaijan. Quarterly data are available for Kazakhstan for the period 2000-2008, and for Azerbaijan for the period 2006-2008. This leads to the following statistical properties:

TABLE 6: REER-INDICES FOR AZERBAIJAN AND KAZAKHSTAN

	Azerbaijan (2006 = 100)	Kazakhstan (2000 = 100)
Mean	96,09	100,05
Standard Deviation	9,85	7,69
Coefficient of variation	10,25	7,69
Minimum	86,67	88,44
Maximum	121,03	123,51

Source: Central Banks of Azerbaijan and Kazakhstan

Both the standard deviation and the coefficient of variation are lower for Kazakhstan and Azerbaijan than for the averages of the countries studied by Edwards. The exchange rate volatility for the Azerbaijani manat is larger than for the Kazakhstani tenge.

The comparison between Azerbaijan and Kazakhstan on the one hand, and the countries studied by Edwards on the other hand is weak for a number of reasons. Firstly, the period studied is entirely different. Even though the data from the Bretton Woods period have not been taken into account, there is a difference from more than twenty years. Secondly, developing countries in Europe, Africa and Latin America can not be so easily compared with transition economies like Azerbaijan and Kazakhstan.

It would give additional insights to look at the difference in REER volatility between Azerbaijan and Kazakhstan and other CIS-countries. A problem, however, is that REER data from these countries are not easily available. Of only three additional CIS-countries, REER data are provided by the central banks of the countries. The table below provides the basic statistical properties of the yearly REER for Azerbaijan, Kazakhstan, Armenia, Belarus and Georgia between 2000 and 2008.

TABLE 7: REER VOLATILITY OF SELECTED CIS-COUNTRIES

(2000 = 100)	Armenia	Azerbaijan	Belarus	Georgia	Kazakhstan
Mean	95,02	89,73	77,75	97,19	99,65
Standard deviation	11,40	10,86	9,60	6,09	7,18
Coefficient of variation	12,00	12,10	12,35	6,27	7,20
Minimum	79,83	74,20	66,73	87,34	89,44
Maximum	114,99	106,47	100,00	108,47	112,32

Source: Central Banks of the selected countries

Kazakhstan does not seem to have a more volatile real exchange rate than other CIS-countries. Azerbaijan does have quite a volatile exchange rate; in terms of the CV only Belarus performs worse.

Terms of trade

Terms of trade are the relative prices of a country's exports to imports. As described in chapter one, historically oil prices have not gone down, thereby improving the TOT for oil-exporting countries. Over the last year, however, the oil prices did decrease sharply. This, of course, has influenced the revenues of oil-exporting countries like Azerbaijan and Kazakhstan and has affected their economies.

Both Azerbaijan and Kazakhstan have been hit by the decline in oil prices and the crisis in the financial world. Because of the instability, investors are wary to invest in developing countries, and this in combination with low oil prices has led to a huge outflow of foreign capital (Abbasov, 2008b; Hugh, 2008). This has especially been a problem for the banking sector in the two countries.

The outflow of capital has led to a shortage of capital to invest in Azerbaijan, which has caused the interest rates to rise. People and companies in general do not have any difficulties with paying their debts, but are not able to finance their consumption or investments. Additionally, the decline in oil prices and the outflow of capital has forced the government to interfere to keep the manat exchange rate stable. The commitment of government to keep the financial sector healthy has forced the National Bank to finance domestic banks to make sure they are able to meet the debts owed to international creditors. Together this has cost Azerbaijan approximately US$166 million (Abbasov, 2008a).

The crisis has also had its effects on the real economy, in particular on the non-energy related sectors. In the chemical industry production dropped with 72.5% between February 2008 and February 2009 (Abbasov, 2009). Steel production has been hit hard, as sales volume fell by half in November, and the prices decreased by 20 to 50 percent. Also the real estate sector has taken a severe hit. Apartment sales in the capital Baku fell by 20 percent in September to November 2008, compared to June to August 2008 (Abbasov, 2008a).

All the financial turmoil has caused the growth of the economy to decline sharply. The EIU estimates that the Azerbaijani economy contracted by 2.6% year on year in January 2009. Real GDP is expected to return to positive growth later in 2009, but will total to just 2.5% in 2009 and 4.5% in 2010, compared to 10.8% in 2008 (EIU, 2009a).

Kazakhstan has been hit even harder than Azerbaijan. In this country foreign capital has left the country too, and among FSR's only Ukraine was classified as a larger risk by RBC Capitals because of excessive reliance on short-term foreign borrowing (Hugh, 2008). In contrast to Azerbaijan, the government has not been able to keep the exchange rate stable. Kazakhstan was forced to devaluate the tenge in January 2009, after spending US$6 billion supporting the currency since October (Lillis, 2009). This has led to higher prices for consumers, when buying foreign goods. The banking sector has been hit hard, being very reliant on external financing, with external liabilities making up about 45 percent of the aggregate balance sheet (Lillis, 2009). This forced the government to take a 75 percent stake

in the two banks that have been hit hardest, Alliance and BTA Bank. Other banks are expected to follow (Lillis, 2009).

Also in Kazakhstan the financial crisis has had its impact on other sectors. The cement sector was down 26 percent year on year in January 2008, copper production went down 17.5 percent year on year for the period January to April, and industrial production in Astana went down 15.2 percent for the same period; property prices in Almaty went down by 40% (Hugh, 2008).

The EIU stated that the economy contracted year on year in the fourth quarter of 2008. Growth prospects for 2009 are a mere 0.7 percent, which is expected to rise to 3.3% in 2010. (EIU 2009b).

The decline in oil prices and the overall deterioration of TOT certainly play a role in the decline of economic growth in Azerbaijan and Kazakhstan since July 2008. This does not seem to be the only, or even the most important reason, however. What also plays a large role is the worldwide economic downturn, causing the investments in developing countries to shrink. As Azerbaijan and Kazakhstan are linked towards the rest of the world financially, this meant that the domestic banks got into trouble, more so than the oil industries. The problems of domestic banks caused constrain in other industries, but the oil industry again did not seem to be severely hit. Firm conclusions of the consequences for the oil sectors cannot be drawn yet, and it remains to be seen how strong both countries will come out of the worldwide recession.

§ 4.3: Rent-seeking behaviour

As explained in chapter 1, rent-seeking behaviour is 'the expenditure of resources in order to bring about an uncompensated transfer of goods or services from another person or persons to one's self as the result of a "favourable" decision on some public policy' (Johnson, 2005). This section will seek to find an answer to what extent this is the case for Azerbaijan and Kazakhstan, and to what extent this is caused or aggravated by the high economic rents that are available from the oil industries.

Regarding the first question, an important source of information is Åslund (2002). Åslund has classified all former Soviet bloc countries into three types of states, based on the degree of reform that has taken place in the country. Radical reformers are the first category. These countries have pushed hard and severe in the first years of independence, and now have reasonably successfully operating market economies. The second category is gradual

reformers, who quickly turned back into state despotism, with minimal economic and political reforms. The third category is the rent-seeking state, who were also gradual reformers, and lie somewhat in the middle between the liberal countries and the despots. Their economies are definitely no true market economies, but not state controlled either.

Åslund categorizes Azerbaijan in the least reformed category, although he states that the despotism in Azerbaijan is not as bad as in Belarus and Turkmenistan. Other countries similar to Azerbaijan are Uzbekistan and Tajikistan. He categorizes Kazakhstan as a rent-seeking state. He does mention Kazakhstan's large initial efforts, especially in the area of privatization, but argues that reform got stalled to be dominated by rent-seeking quickly. Regarding rent-seeking behaviour, Kazakhstan can be compared to Ukraine, Russia, Moldova, Romania and Bulgaria.

Post-soviet countries in Central Asia and the Caucasus can in general be characterised by strong centralised authoritarian regime, with weak and fragmented societies (Amineh, 2003). Dismantling the Soviet power structures has proved to be a large challenge, and in the process of doing so both the old Soviet elite and a newer business elite have been able to profit from the large rents that were available. These rents were used to replace lost subventions from Moscow to consolidate political power (Auty, 2006a) Patronage networks are very important in Azerbaijan and Kazakhstan. President Aliyev and president Nazarbayev are the most influential persons in the countries, not only in the political area but also in business. Surrounding them are the elites of the two countries, who are powerful in the both politics and business, but are disgraced if they become too powerful (Auty, 2006b).

In Kazakhstan, president Nazerbayev has a large patronage base surrounding him, consisting of a network of kin, clients and cronies who have been rewarded for loyalty and compliance (Dave, 2007). The success of this patronage system has made an alternative for the ruling president and the actual system unlikely (Franke et al. 2009). Concepts of professionalism are often disregarded in favour of concepts of personal loyalty and blood ties (Satpaev, 2007). The president stands in the top of the pyramid, with his "inner circle" and "outer circle" surrounding him (Satpaev, 2007). The most important part of the inner circle consists of the president's family and family in law. President Nazarbayev's oldest daughter, Dariga Nazerbayeva, and her husband Rakhat Aliev have their power concentrated in the state services, especially in the media. The president's middle daughter, Dinara Nazarbayeva, and her husband Timur Kulibaev are mostly powerful in the oil and gas sector, as well as in other areas of economic interest, like industries, banking, and communications. Apart from these two groupings, there are several groupings of Nazarbayev's protégé's, who control assets in

the financial, economic and political spheres. Many industrial groups have sought to convert their financial power into political power, thereby seeking to actively participate in the process of reaching government decisions.

Regional elites are relatively weak in Kazakhstan, making it a very centralized state (Satpaev, 2007). Reasons for this are that the president himself appoints regional leaders, and that the financial dependence that the regions have on the centre of the state is large. The people that are able to influence political behaviour and to engage in rent-seeking are a relatively small group, and civil society and NGO's are not able to get their opinions and interests heard. Others than the circles surrounding the president do not get access to political information and are not part of the political system (Satpaev, 2006).

Much less has been written about the political structures and the abilities to engage in rent-seeking behaviour in Azerbaijan. Similar to Kazakhstan is the powerful elite surrounding the president (Rasizade, 2003). The fact that Heydar Aliyev was being replaced by his son after his death is seen as prove that the country is moving to the direction of a 'political dynasty' where family ties, clans and patronage are more important social constructions than legal institutions to determine political and financial influence (Franke et al., 2009). There is no alternative to the political elite, and civil society is weak.

However, there are also characteristics of the system that distinguish Azerbaijan from Kazakhstan. Pluralism, opposition parties and civil society movements exist, even though it is only to the extent that it does not menace the existing regime (Guliyev, 2005). Another difference is that the elite system in Azerbaijan is more based regional groups, and therefore less centralized (Franke et al., 2009).

In both countries, but especially in Kazakhstan, rent-seeking does not originate from civil society and non-elite based interest groups, but from small and powerful elites surrounding the president. In theory, this type of rent-seeking is more efficient for a society than rent-seeking where large groups of lobbies and other interest groups are involved. Rent-seeking mostly takes place in the top layers of government, and the elites have much more opportunities than the non-elite population. When rent-seeking options are centralized and only a small number of policy-makers and business officials are involved, rent-seeking will be less costly for the society as a whole (Tullock, 1980a). When, for example, rent-seeking is about obtaining necessary permits to start a business, for the society it is less costly when only a small number of people try to obtain the permits, instead of a lot of people of whom many will be turned down: Competition among rent-seekers results in a larger dead-weight loss. On

the other hand, when the number of people that can engage in rent-seeking activity is small the best candidates for a certain job, like running the business from the example above, may be eliminated (Tullock, 1980b). Additionally, when rent-seekers know that their business finds itself in a privileged, semi-monopolistic position, the incentives for cost-reduction and innovation are reduced, posing another cost on society.

Azerbaijan and Kazakhstan are definitely rent-seeking states, but it is less clear to what extent this is caused or aggravated by the oil industry. Theory would suggest that rent-seeking is larger than it would be if no oil was being produced, because of the high economic rents that can be obtained. According to Åslund (2002), however, Azerbaijan and Kazakhstan are not particularly worse off regarding the degree of rent-seeking than other countries in Central Asia. This is especially the case for Kazakhstan, which performs better than countries like Uzbekistan, Tajikistan, Belarus, Turkmenistan, and Ukraine. There are some indicators, however, that suggest that the oil industry has aggravated rent-seeking behaviour in both countries.

Because of the large rents that are available from the oil industry, the necessity to develop a properly functioning tax system is small. Government receives sufficient resources from the extractive industries. Therefore, the elite and the state bureaucracy feel removed from society and there is the temptation for political leaders to act in an individualistic, rent-seeking manner, ignoring welfare demands (Moore, 2004): As the British colonists in the Thirteen colonies and their government in Great Britain already found out, taxation and representation go hand in hand. Furthermore, because of the very large rents from the oil industry, the elite is provided with opportunities for patronage, since they are able to reward supporters with privileged access to lucrative business transactions (Franke et. al 2009). It is for this reason that now the oil prices have gone down and less rents are available for the elites of Azerbaijan and Kazakhstan, the EIU has warned that instability in both countries can occur, because the presidents are not able to satisfy the elite any more, and the elite cannot hand out privileges as easily as before (EIU, 2009a; EIU, 2009b).

The most important elite of Kazakhstan is widely represented in the oil industry, as the grouping of Dinara Nazarbayeva and Timur Kulibayev demonstrates. Kulibayev occupied the position of vice president in the national oil and gas company, KazMunayGas (KMG). It is estimated that he has made a personal profit of around $1 billion because of this position and his sales of stock in different oil companies (Satpaev, 2007). Recently, the elites have successfully lobbied for a more nationalistic approach regarding the oil and gas industry. In

2002, the Kazakh national oil company JSC NC KazMunaiGaz was formed by a presidential decree. Since 2004, it has become clear that a key objective of the government has been to increase the participation of KMG, by requiring a minimum of 50 percent participation of all new contracts. This has allowed KMG to become the largest oil and gas producer in Kazakhstan (Kalyuzhnova, 2008). The increased attention on local content in Kazakhstan, as described in section 4.1, is also a sign of rent-seeking of the elites in the oil sector (Kalyuzhnova, 2008).

In the international area, the presidents of both Azerbaijan and Kazakhstan have been accused of enriching themselves and their patronage networks through oil money, and putting the money aside on bank accounts in Switzerland: The so-called Kazakhgate and Azergate (Duvanov, 2002). There have been no national consequences arising from these accusations. Internationally, however, individuals who have been involved in the two 'gates' face trials, mostly in the United States. The best known trial is against James Giffen, who has been accused of paying $84 million in bribes to Kazakh officials to obtain the best oil deals (Franke et al., 2009).

Corruption

One of the causes of rent-seeking behaviour is large scale corruption, and this is one of the reasons why rent-seeking can be so harmful for the economic growth in a society. Azerbaijan and Kazakhstan are definitely corrupt countries, but again, it is difficult to determine the extent to which this is caused by oil revenues.

According to the Corruption Perception Index composed by Transparency International, which measures the perceived level of public-sector corruption based on expert and business surveys, Azerbaijan ranks 158th of 180 countries. It shares this rank with Angola, Burundi, the Republic of Congo, Gambia, Guinea-Bissau, Sierra Leone and Venezuela. Kazakhstan performs slightly better, even though still very poorly, being the 145th country. This place is shared with Timor-Leste, while Cameroon, Iran, the Philippines and Yemen share the place above Kazakhstan. The following table gives an overview of all CIS-countries.

TABLE 8: CORRUPTION IN CIS-COUNTRIES

Country	Corruption Perception Index Rank (2008)	Bribe tax (2002; % of sales)
Georgia	67	2,70%
Armenia	109	0,90%
Moldova	109	NA
Ukraine	134	NA
Kazakhstan	145	2,10%
Russia	147	NA
Belarus	151	NA
Tajikistan	151	2,60%
Azerbaijan	158	2,70%
Kyrgyzstan	166	3,70%
Turkmenistan	166	NA
Uzbekistan	166	1,50%

Source: Transparency International Corruption Perception Index and Johnson and Auty (2006)

Azerbaijan performs poorly, even compared to the other CIS-countries. It should be noted that two of the countries ranked lower than Azerbaijan, Turkmenistan and Uzbekistan, are also resource-rich countries. Kazakhstan, on the other hand, ranks 5th out of 12 countries, and is the least corrupt country in the Central Asian region. No firm conclusions can be drawn from the average bribe taxes as a percentage of sales either. The resource-rich countries do not perform worse on average than the resource-poor countries.

Treisman (2003) did empirical research on the causes of corruption in post-communist countries. He found that 75 to 85% of the differences between countries can be explained by economic development and history of democracy. Only a small percentage can be attributed to natural resource abundance: The coefficient for mineral exports as a percentage of total exports is -0.04 and significant only at the 10% level. As a comparison, the logarithm of GDP per country is significant at the 1% level and has a coefficient of 1.34. The years of democracy since 1950 are also significant at the 1% level and has a coefficient of 0.76.[18]

§ 4.4: Conclusion

In this chapter, we have seen that Azerbaijan and Kazakhstan have many of the characteristics that are typical for countries that suffer from the resource curse. It has become evident that these characteristics are less clear for Kazakhstan than for Azerbaijan, which could have been expected as Azerbaijan is far more dependent on oil than Kazakhstan.

[18] A higher coefficient indicates that the higher the variable is, the better is the score in the World Bank corruption index of 2001

The Dutch disease, to begin with, is evident as the REER appreciated during the first years of the oil boom, even though it did depreciate again after 2005. The REER appreciation of the Azerbaijani manat was a lot larger than the appreciation of the Kazakhstani tenge. Exports of other tradable goods in real terms did actually increase for both countries between 1995 and 2006, but when comparing the output of a sector like agriculture in 2005 it shows that output has not adjusted to the pre-independence levels. The non-tradables sector, on the other hand, did experience a large growth spur, which is in line with what the model of the Dutch disease predicts. The degree of forward and backward linkages between the oil sector and other sectors of the economy has been small, making the Dutch disease a harmful disease. The effort that especially the Kazakhstani authorities have made to increase these linkages, however, must be noted.

Regarding volatility and terms of trade, secondly, again Kazakhstan has performed better than Azerbaijan. Government expenditure volatility in Azerbaijan has been high, which was far less so for Kazakhstan. The same goes for REER volatility. Terms of trade have not decreased, as the theory predicts, until July 2008, and little can be said on the problems for the long term that the decrease in oil prices has caused for the two countries.

Rent-seeking, lastly, is also more apparent in Azerbaijan than in Kazakhstan, even though both countries suffer severely from it: Both countries are among the most corrupt in the world. Åslund sees Azerbaijan as a country that actually returned to state despotism, while he is somewhat milder about Kazakhstan. Both presidents have immense power, and so do their families and the elites surrounding them. Rent-seeking comes largely from these groups, and not as much from civil society or other lobby groups, as these groups are not very apparent.

Even though the characteristics of the resource curse are apparent in Azerbaijan and Kazakhstan, it is difficult to argue that the problems are solely caused by the oil industry. When comparing the countries to other countries in the region, especially Kazakhstan does not seem to perform any worse in terms of GDP growth in the non-booming tradables sector, government expenditure and REER volatility, and corruption. Azerbaijan, however, is always among the least performing CIS-countries, but also here the Soviet legacy and the struggles since independence seem to have had their impact. Rent-seeking behaviour does seem to have been aggravated by the oil industry in both countries. The other characteristics of the resource curse are definitely apparent, and as we have seen in chapter 2, can be reduced by properly functioning NRFs. The extent to which this has taken place for Azerbaijan and Kazakhstan will be discussed in the following chapter.

Chapter 5: The performance of the SOFAZ and the NFRK

In this chapter, a final analysis will be made on the performance of the NRFs of Azerbaijan and Kazakhstan. The relationships between the structures and objectives of the funds on the one hand, and the resource curse in the two countries on the other hand will be sought. It will not only look at the hard facts, as has been the case in the previous chapters, but will also be more hypothetical of nature. Especially for a characteristic of the resource curse like rent-seeking behaviour, improvements will be fruitful only in the long term, and it will not be possible to draw firm conclusions only based on experiences of the past. Instead, I will also look at the mechanisms that the funds have to possibly reduce the Dutch disease, volatility of government expenditure and REER, impact of the worsening of terms of trade, and rent-seeking behaviour and corruption in the future.

This chapter is set up as follows: The three characteristics of the resource curse will be discussed in separate sections for both Azerbaijan and Kazakhstan. Each section begins with an introduction of the characteristic being discussed, an explanation on why it can be harmful for an economy, and a short summary of the actual degree to which it has occurred in Azerbaijan and Kazakhstan, as analyzed in chapter 4. What follows is a short summary on how an NRF could possibly reduce the impact of the characteristic in question on the economy, and a more extended analysis on how the SOFAZ and the NFRK have reduced this impact, or could do so in the foreseeable future.

§ 5.1: The Dutch disease

Through the appreciation of the REER in a country that experiences a boom in its oil industry, the non-booming tradable sector of an economy gets crowded out by the booming sector and the non-tradable sector in a country that suffers from the Dutch disease. When the non-booming sector is manufacturing, this will lead to de-industrialization. This can be harmful for an economy, because the non-tradable sector and the oil sector do not generate as much forward and backward linkages as the non-booming tradable sector, and technological progress and learning-by-doing are better in the non-booming tradable sector.

In Azerbaijan the Dutch disease has been more evident than in Kazakhstan since the start of the oil booms, as the appreciation of the REER has been larger. Both countries have not been able to get their tradable sector output to the pre-independence level. Forward and backward linkages of the oil industry were small, even though the Kazakhstani government has made efforts to increase this.

In theory, an NRF could be a useful tool to prevent the Dutch disease. When revenues are saved as foreign reserves, revenues during boom periods are sterilized and exchange rate pressures are reduced. The reduction REER pressures will help the non-booming sector to stay competitive, with all the advantages that come with such a flourishing sector. However, the establishment of a fund is neither a necessary condition nor a sufficient one to save foreign reserves: It is one of the fiscal policy tools available for policy makers, but will only be successful in a stable and prudent fiscal framework.

Prudent fiscal policy is important to make an NRF contribute to preventing the Dutch disease. Kazakhstan has been praised by the IMF and the Asian Development Bank (ADB) for its prudent policies, budget surpluses and efforts to keep inflation low on several occasions (IMF 2008b; ADB 2005; ADB 2009). Azerbaijan too has been praised, but has also been warned to implement structural changes and to manage the money supply better (IMF, 2008c; ADB 2005; ADB, 2009).

When an NRF invests all assets abroad, this can contribute to preventing the Dutch disease, and this is something that both the SOFAZ and the NFRK do. The amount of oil revenues accumulated in times of high oil prices have been large in both countries, even though Kazakhstan has accumulated more oil revenues than Azerbaijan percentage-wise, which further helps combating the disease.

Measures like described in the last section should help a country combating the Dutch disease, and should therefore prevent de-industrialization. As mentioned in chapter 4, Kazakhstan has also made a lot of effort to stimulate the non-extractive economy, even though this has only beard fruit to a certain extent, Kazakhstan still being highly dependent on its oil revenues. One of the large efforts taken is Kazyna, the national welfare fund of Kazakhstan. This project was launched in 2004, with the help of economist Michael Porter, seeking comparative advantage with the use of his cluster theory (Kalyuzhnova, 2008). At this moment, these clusters include oil and gas machine-building, a petrochemical cluster, textile industry metallurgy, food industry, and tourism, among others (Kalyuzhnova, 2008). This approach should help economic diversification, and the government has planned to invest a share of the assets of the NFRK in Kazyna in 2009, instead of abroad. Whether this is a desired approach can be debated. When implemented well, it can help diversifying the economy, and as Takizawa et al. have argued, countries that have little capital to begin with might be better off investing in infrastructure and the like. On the other hand, it is not certain whether Kazakhstan can actually absorb these investments, and investing domestically puts

pressure on the exchange rate. Furthermore, investing in domestic companies can stimulate rent-seeking behaviour, which will be discussed in section 5.3, and investing domestically can translate the volatility of oil prices into the domestic economy, which is the subject of the next section.

§ 5.2: Volatility and terms of trade

The prices of oil are volatile and hard to predict. This volatility can translate into volatility of government expenditure and into volatility of the REER, which can be harmful for investment and economic growth. The theory of the resource curse also predicts that the dominance of natural resources in an economy can be harmful because of terms of trade deterioration. This does not seem to have been the case for oil, however, even though the last twelve months have witnessed a sharp reduction in price.

Volatility of government expenditure and REER has been larger in Azerbaijan than in Kazakhstan over the period studied. Kazakhstan seems to have been hit harder by the TOT deterioration from 2008 onwards, but Azerbaijan has also seen its economic growth rate decline. Because the recession has had its impact worldwide, it is difficult to argue that the decline in TOT has caused the slowdown in economic growth for both countries, especially because the oil industries are not the industries most severely hit.

NRFs can be effective instruments to make sure that the volatility of the oil price does not translate into volatility of government expenditure or exchange rate. A fund with a stabilization purpose accumulates foreign reserves when oil prices are high and releases these reserves into the domestic economy when prices decline, which keeps the government budget and the REER more constant. A deterioration of the TOT can be partly offset by temporarily using the reserves that have been accumulated. Similarly to using an NRF for combating the Dutch disease, however, an NRF will only function properly regarding the reduction of volatility and offsetting TOT deterioration when it is part of a fiscal policy structure that is functioning well.

The SOFAZ has not mentioned a stabilization function in its mission, and does not have a mechanism to transfer assets from the SOFAZ to the state budget when oil prices go down. The NFRK does have a mechanism like this, and ‘stabilizing the socio-economic development of the country’ and ‘reducing the country’s vulnerability to external factors’ are explicit goals of the fund. The stabilization mechanism only starts working when the oil price reaches US$ 19 a barrel, however, and the oil price has not reached such a low yet, nor does it seem to be

the case that it will do so in the foreseeable future, although of course the unpredictability of prices is one of the characteristics of oil.

The presidents of Azerbaijan and Kazakhstan do have the power to transfer money from the fund to the state budget, and this can also work as an important stabilizing mechanism, especially to reduce the volatility of government expenditure. The importance of these transfers became obvious during the economic downturn of the last year, when both countries needed additional money to be able to finance their budgets.

Azerbaijan has relied heavily transfers from its fund to the state budget over the last year, and it is expected that it will do so even more in the second half of 2009. Azerbaijan might even do this too much, leaving little to nothing in the fund for future generations, which of course was the initial main purpose of the fund. The 2009 budget bases its revenue projections on a US$ 70 a barrel oil price, even though oil prices at the beginning of the year were a mere US$ 34,33.[19] This estimation was far more optimistic than most other oil-producing countries, that betted on a US$ 40 to 45 a barrel range (Abbasov, 2008a). By now, prices have climbed up to almost US$ 70 a barrel, but if prices fall again Azerbaijan is in serious trouble. In January, economist Natik Jafarly warned that the complete fund might be depleted at the end of this year when the price remains too far below the US$ 70 a barrel (Abbasov, 2008a), and the EIU warns for the risk of complete depletion of the fund too (EIU, 2009a). Even if oil prices remain reasonably high, the budget forecasts that roughly half of the assets accumulated in the fund will be transferred for government use. For now at least, Azerbaijan has used its fund to reduce government expenditure volatility.

Kazakhstan has not needed to rely as heavily on the NFRK to supplement the state budget, but also here large amounts have been transferred from the fund to the budget, and more are expected to be transferred in 2009 (ADB, 2009). The budget deficit is expected to be 3.4% of GDP, based on an average oil price of US$ 40, and this is smaller than the guaranteed annual transfer (Hugh, 2008). Government can finance deficits of this magnitude relatively comfortably, given the far larger accumulation of assets in the fund (EIU, 2009b). The fund has proved itself to be a useful tool in times of reduced government revenue, thereby reducing volatility.

Both funds have not been able to be very effective in reducing REER volatility. The REER of the manat and the tenge plummeted in the second half of 2008, as shown in section 4.1. Azerbaijan has still been able to keep the nominal exchange rate at its old level, but

[19] Energy Information Agency, available at <http://tonto.eia.doe.gov/dnav/pet/hist/wepcbrentw.htm>, last accessed 23-06-2009.

Kazakhstan has been forced to devaluate the tenge. The efforts to keep the nominal exchange rate at its old level have proved to be a very costly operation. Exchange rates seem to be not only dependent on the macroeconomic situation in a country, but also on speculation, expectations, trust, and inflows of FDI.

§ 5.3: Rent-seeking behaviour

Because natural resources generate high rents, they can lead to rent-seeking behaviour. Rent-seeking can be harmful for an economy, as it reorients economic behaviour from productive activities towards competing for access to rents, it can lead to corruption, impede innovation, and it can result into a more closed economy.

Rent-seeking, and the corruption that can come with it, are typical in Azerbaijan and Kazakhstan, also in the oil industry. The corruption perception index shows that Azerbaijan is somewhat more corrupt than Kazakhstan. Åslund argues that Azerbaijan is also more of a rent-seeking society than Kazakhstan. Both countries are characterized by very powerful presidents, with small but influential elites surrounding them. Especially in Kazakhstan, rent-seeking is most apparent in these spheres, as other layers of society do not get access to political information and are not part of the political system.

The best ways to reduce rent-seeking behaviour are by incorporating controls in political behaviour and by de-politicizing the allocation of rents. NRFs can play an important role in this, but the extent to which they can do this is largely dependent on the ways in which the fund is set up. When parliamentary debate is required in order to change the operations of the fund, when the decisions of the fund are widely discussed in society, and when governance is transparent and checks and balances exist, a fund incorporates controls in political behaviour. When the ultimate control on transfers lies with a non-political, independent entity, strict rules on the transfers into and out of a fund exist, and when investments of the fund are made abroad, this de-politicizes the allocation of rents.

To incorporate controls in political behaviour, the first important condition of an NRF is that parliamentary debate is required in order to change the operations of the fund. The most important change of operations, to actually dissolve the fund, is not within the power of the parliaments of Azerbaijan and Kazakhstan. Both funds are set up by presidential decree, which means that the president ultimately has the power to dissolve.

In Azerbaijan, parliament has the power to approve or disapprove transfers from the fund, it can comment on external audits, but it has a limited say regarding the annual budget and the

actual performance of the fund. In Kazakhstan, participation of parliament is more limited. Parliament does not have power for checks and balances regarding the annual budget, performance, or operations of the fund either, and on top of this, they cannot comment on the external audit, and they cannot approve or disapprove transfers.

A second condition is that the decisions of the fund are widely discussed in society. Kalyuzhnova (2008) conducted several interviews with citizens of Azerbaijan and Kazakhstan, and concluded that very few people know of the existence of the funds, let alone that they discuss the decisions of the fund. This observation is slightly nuanced by the Centre for Euro-Asian Studies, who carried out a Survey of Households together with the ARSK. They found that 55% of the Kazakhstani population knows of the existence of the fund.

A last condition of an NRF to incorporate controls in political behaviour is that government is transparent and that checks and balances exist. Regarding this condition, the extent to which the SOFAZ suffices can be called impressive. Revenue Watch has called the SOFAZ the government's most transparent body, annual reports with justifications for decisions regarding the operations of the fund are published on the website, as are the external auditing reports. Azerbaijan is one of the initiators of the EITI-initiative, and thus far the only complying country, publishing more than even Norway, for example. Kazakhstan lacks this degree of transparency and checks and balances (Kalyuzhnova, 2008). However, also the NFRK is improving. External audits are being conducted, inflows and outflows are being published on the website, and Kazakhstan is a candidate country of the EITI-initiative.

To de-politicize the allocation of rents, firstly transfers must be decided upon by a non-political, independent entity. For both countries this is not the case, as ultimate control lies in the hands of the presidents of Azerbaijan and Kazakhstan. A further condition for de-politicizing the allocation of rents is strict rules on transfers into and out of the fund. For both the SOFAZ and the NFRK rules exist, but these rules are reasonably flexible, as the presidents can decide to transfer money from the funds to the budget. In Azerbaijan, the president can decide on special expenditures, which are determined by presidential decree. Rules regarding transfers into the fund are strict in both countries. In Kazakhstan, however, the rules have been liberalized recently, as the number of companies that have to pay into the fund has been reduced. Furthermore, transfers into the NFRK go firstly through the hands of the ministry of finance, making the possibility for not obeying the rules on transfers into the fund for political purposes larger than in the case of SOFAZ, where oil revenues flow directly into the fund. Lastly, to de-politicize the allocation of rents the assets should be invested abroad, which is the case for both countries.

Even though not all conditions to prevent rent-seeking behaviour are incorporated in the funds of both countries, many aspects are large improvements compared to the situations as they are in other government bodies, especially in Azerbaijan. Participation of parliament is reasonable, while this is more limited regarding other government bodies. Also very important is the transparency that exists, and the checks are balances that are incorporated. Independency of the funds is still at stake, however, with ultimate control over transfers and management in the hands of both presidents. The funds could be important tools to reduce rent-seeking behaviour, but the large influence of political actors makes this all but certain.

§ 5.4: Conclusion

In the reasonably prudent fiscal frameworks of Azerbaijan and Kazakhstan, the SOFAZ and the NFRK have been able to play a role in combating the resource curse. Assets are being invested abroad, and the use of assets held in the funds has played a role in preventing too large government expenditure volatility. Compared to other government bodies the funds are transparent and checks and balances exist, which is important to reduce rent-seeking behaviour. It has to be noted that Azerbaijan performs better regarding this aspect, which is surprising and encouraging considering that rent-seeking and corruption in Azerbaijan are larger than in Kazakhstan. To actually improve other sectors than the oil-industry has proven to be a more difficult task, especially in Azerbaijan. Also, the funds have not helped in preventing REER volatility.

One important observation of this last chapter is that there are certain mechanisms and operations of NRFs that could be very helpful for preventing certain aspects of the resource curse, but could actually harm the economy in other ways. To reduce government expenditure volatility, for example, flexibility of transfers out of the funds is useful, but this flexibility could increase rent-seeking behaviour. Similarly, to invest assets of the fund in domestic industries, like Kazakhstan plans to do with Kazyna, can halt de-industrialization when it is being done well, but it does put pressure on the exchange rate, translates the volatility of oil prices to the domestic industry, and could also increase rent-seeking behaviour. The difficult decisions on the priorities of the fund will depend on the unique characteristics of the domestic economy and government structure.

Conclusion

The paper that Jeffrey Sachs and Andrew Warner published in 1995 on the negative economic effects that natural resources can have on economic growth in resource abundant countries has been widely praised and criticised. What followed were a large renewed interest in the economy of natural resources, several studies on the actual impact of these resources in individual countries, and a broad discussion on how to best avoid this 'resource curse'. This research has sought to contribute to this ongoing discussing, by analyzing the degree of influence that the State Oil Fund of Azerbaijan and the National Fund of the Republic of Kazakhstan have had in reducing the negative economic effects of the resource curse in Azerbaijan and Kazakhstan. These funds were established in 1999 and 2000 respectively, after large investments in the oil and gas industries guaranteed the renewed inflow of revenues from these extractive industries for the following years. The fact that Azerbaijan and Kazakhstan are countries still in transition towards market economies has been of additional interest, and one of the aims of this research was to examine whether the resource curse and its methodological framework are also applicable for these types of countries.

The central question in this thesis was '*To what extent have the SOFAZ and the NFRK been able to reduce the impact of the phenomenon of the "resource curse", as described by Jeffrey Sachs and Andrew Warner, in Azerbaijan and Kazakhstan, since their establishments in 1999 and 2000 respectively?'*. Several interesting insights to answer this question have come to light in the previous sixty pages.

A first crucial question that needed to be answered was the extent to which the resource curse has actually effected in Azerbaijan and Kazakhstan since the second oil boom. In chapter four it was explained that many of the characteristics of the resource curse are prevalent in both countries. In Azerbaijan, the REER of the manat appreciated highly in the beginning of the oil boom, and it was rather volatile. To get other sectors of the economy than the oil sector back to their pre-independence levels has proven to be a difficult task, government expenditure volatility was large, and rent-seeking behaviour and corruption prevalent. Kazakhstan suffered to a lesser extent from the resource curse. REER appreciation and – volatility of the tenge was less high, more efforts to prevent de-industrialization were taken, and government expenditure volatility was less of a problem. Rent-seeking behaviour and corruption were less prevalent than in Azerbaijan too, although still very large.

When comparing Azerbaijan and Kazakhstan to other countries in the region, it became evident that they were not the only countries suffering from these types of problems. Azerbaijan in general scored quite low, but Kazakhstan performed mostly above average. Theory suggests that typical 'natural resource-related' problems for an economy like rent-seeking behaviour are typical heritages from a Soviet past as well. Similarly, volatility of the exchange rate could also be explained as finding an equilibrium rate for the currency, after decades of the Soviet rouble, and while getting used to free trade and rebuilding the own export base.

The comparison with other CIS-countries touches on one of the most problematic methodological issues that have been encountered in this research. To state whether Azerbaijan and Kazakhstan are suffering from the resource curse is problematic, because, as always, the situation without oil and gas reserves is not known. When comparing Azerbaijan and Kazakhstan with other countries in the region, for example regarding to their REER appreciation, the underlying assumption is that all other circumstances that could influence the exchange rate are similar, while in reality they never are: The ceteri paribus condition will never hold. The same goes for the other comparisons that have been made, regarding GDP growth, volatility of the exchange rate and of government expenditure, rent-seeking behaviour, and corruption. And even if the ceteri paribus condition held, it is still difficult to draw firm conclusions, based on the relatively short timeframe that is examined. Nonetheless, interesting insights like the larger volatility, REER appreciation and rent-seeking behaviour in Azerbaijan than in Kazakhstan have become all too visible.

Despite the above mentioned issues, it has become evident in this paper that many of the characteristics of the resource curse are evident in Azerbaijan and Kazakhstan, and the resource curse could have a large impact on the economy. Combating the curse should therefore be a priority for Azerbaijan and Kazakhstan. To a large extent, the SOFAZ and the NFRK have contributed in doing so. The SOFAZ has excelled in transparency, publication of transfers, and publicized checks and balances, which could reduce rent-seeking behaviour. However, because the SOFAZ is not immune to political influences and stands very close to the president's office, independent decisions on how to spend the accumulated assets are not guaranteed, and rent-seeking opportunities are still widely prevalent in the oil-sector. The fiscal framework of Azerbaijan is reasonably prudent, which is a necessary condition for a fund to prevent symptoms of the Dutch disease and the transfer of volatility of oil prices into the exchange rate or government expenditure. Government expenditure volatility has been

largely prevented during these times of economic downturn with the use of the fund, although government will very likely not be able to rely on the fund for this much longer. The SOFAZ seemed less able to prevent REER volatility, although the nominal exchange rate did not need to be devaluated. Also, de-industrialization is a problem, which shows the signs of a typical Dutch disease.

The NFRK is less transparent, but also here improvements are visible. The NFRK faces the same problems with regards to the independence of the fund, however. Kazakhstan has been praised for its prudent fiscal management, which is needed for an optimally functioning fund. Government expenditure volatility has been prevented with use of the fund too, and Kazakhstan will be able to keep doing so without any large problems in the near future. REER volatility has remained a problem, with the government being forced to devaluate the tenge earlier this year. And despite efforts of the government to combat the Dutch disease, also here de-industrialization remains a problem.

To measure the extent to which the funds have been able to reduce the mechanisms of the resource curse, you first have to determine which mechanisms of the resource curse are most important to avoid. As we have seen in chapter five, some mechanisms of the curse are actually worsened by some policy tools, while they can reduce the impact of others. This also explains why there is not one 'typical' fund, but all funds have their unique characteristics depending on the economy of a country, the proven oil reserves, and the public authorities who establish them.

This paper has shown the issues that are apparent when applying the theoretical framework of the resource curse on transition economies. Still the results can be of importance for other oil producing countries, especially the ones that are also suffering from a Soviet past. For Kazakhstan and Azerbaijan, it has shown where the areas of opportunity lie, most particularly in more independence of the fund to reduce rent-seeking behaviour and in more focus on non-extractive industries to prevent the Dutch disease. What this paper has also shown is that oil is no longer just useful for cleaning the mange of camels, and is good to burn, but that it is a very powerful source of wealth to have. The management of oil revenues can actually determine the performance of an economy to a very large extent. A decent vision on how to handle these revenues, which may include a well established framework for NRFs, is therefore crucial for oil-exporting countries.

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