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Azerbaijan

between

Resource Curse and Foreign Direct Investments

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Abstract

This paper combines two issues of resource rich Transition countries as Azerbaijan. On the one hand the government has to deal wisely with oil windfalls. On the other hand it is important to create efficient financial markets. The purpose of this paper is fourfold. In the first part it gives a historical review and a general overview about Azeri economy. The main part describes models that can explain Dutch Disease and Foreign Direct Investments in Azerbaijan. In the last part it analyzes empirically in how far theory can be found in actual statistics. Finally, it will give a short conclusion and an outlook of future tasks.

Überblick

Die Arbeit beschäftigt sich im Wesentlichen mit zwei typischen Problemen von Transformationsländern am Beispiel des Aserbaidschans: Ressourcenreichtum und ein hoher Zufluss an ausländischen Direktinvestitionen. Im ersten Kapitel erfolgen eine kurze Chronologie und eine Beobachtung der derzeitigen makroökonomischen Lage von Aserbaidschan (im Jahre 2006). Im Hauptteil mit einem theoretischen und einem empirischen Abschnitt werden zuerst die möglichen negativen Wirkungen von Ressourcenreichtum („Holländische Krankheit“) und deren Politikimplikationen beschrieben, bevor auf Motive und Determinanten der Direktinvestitionen (FDI) eingegangen wird, um anschließend gegenseitige Wechselwirkungen der untersuchten ökonomischen Phänomene zu analysieren. Im Anschluß daran befaßt sich der Empirieteil mit der Frage inwiefern die theoretischen Resultate in Datensätzen Aserbaidschans wieder zu finden sind. Die Arbeit wird abgeschlossen mit einem kurzen Ausblick hinsichtlich zukünftiger EU-Kooperationspotentiale und möglicher Problemfelder.

1 History

The history of Azerbaijan was strongly affected by resource affluence. The whole Caspian-Sea region and especially Azerbaijan was already the most important strategic region in the former USSR. At the beginning of the 20th century the oil fields of Baku accommodate 50% of the worlds demand for oil. Twenty years later, in the time between 1st and 2nd World War, the Azeri oil fields produced more than 75% of soviet oil and 10% of the world's output (see App. A-1).

At the end of WWII large oil and gas fields were found in Siberia which led to reduction of Azeri oil production. The mechanization of processes was a costly precondition to strike oil in lower regions or from the Caspian-Sea. Until 1990 Azeri oil production was shrinking by more than 20%. After regaining the independence from the former Soviet Union in 1991, the transformation to a free market economy was accompanied by a large slump in economic activities. Simultaneously, the world price for crude oil was declining due to the world economic slowdown. The Azeri GDP decreased by 56% from 1990 to 1995.[1] The whole trade and production sector dropped out, since traditional relations to the former Soviet-Union were abrupt. Furthermore, the military conflict with Armenia in the Nagorno-Karabakh Region (Bergkarabach) was one reason for the economical collapse during the 90th decade. Not only the GDP suffered a dramatic decrease but also hyperinflation and a strong depreciation of the domestic currency induced the fall in standard of living.

But unlike the most other former soviet countries, Azerbaijan already encouraged reforms in November 1995, where government passed the new constitution. This led to higher macroeconomic stability and growth. From 1997 until 2004 the inflation rate was about 2%, the budget deficit falls from 10.5% to under 2% and the privatization program leads to a private sector which adds about 70% to the GDP. But it was still a high rate of corruption and a prospering shadow economy that had a certain amount of risk for capital providers. In 2001, the government undertook structural reforms as the installation of

[1] The average decrease of GUS-GDP´s were -41%

national oil funds, an improvement of the supervision of banking, less indirect subsidies and a legislation, which created a better investment climate.

Table 1: Azerbaijan - main economy indicators from 1990-2004 (annual growth rate)

Indicator	1990-1995	1995-2001	2001-2004
GDP	-15.1	7.5	11.1
Oil-sector	-5.9	20.5	12.8
Non-oil-sector	-19.9	-7.9	10.2
Agriculture	-12.4	2.4	5.1
Building	-22.3	3.9	15.2
Service	-16.7	7.4	13.2
FDI	-	6.9	183.02

Data: World Bank (2005)

In addition the high world market oil price is responsible for an increasing interest of foreign countries in the high profitable oil production sector. Infrastructure and better oil production technologies were mainly financed by Foreign Direct Investments Inflows that increased exponentially.

In recent years 4 major projects were started, mainly financed by international firms and the Azeri government: The construction of gas and oil pipelines that can provide the EU and China without crossing Russian or Middle Eastern ground.

Table 2: Discovery of Oil and Gas fields and Pipeline buildings (1995-2006)

Name	opening	resource	Production/ reserves	Countries	Investors
Azeri-Chirag-Guneshli	In 1997	Oil field	5.4 bn barrel oil	Azerbaijan	BP, Chevron, SOCAR, Statoil, Exxon
Baku-Tiflis-Ceyhan (BTC)	2005	Oil pipeline	1m barrel bar day	Azerbaijan, Georgia, Turkey	BP (30%) SOCAR (25%) Unocal (8.9%) Statoil (8.7%) ENI (5%)
Shah Deniz	1998	Gas field	1.5-3 bn barrel oil 50-100 bn m^3 Gas	Azerbaijan	BP, SOCAR
Baku-Tbilissi-Erzerum (BTE)	End of 2006	Gas pipeline	20 bn m^3 Gas in 2012	Azerbaijan, Georgia, Turkey	BP (25,5%), Statoil (25.5%) SOCAR (10%) TotalFinaElf (10%,)

Data: BP Oil World Report 2006

In 2005, Azerbaijan was the most growing country in the world. With 26.4% the economy grew more than twice as much as in the year before. In comparison to the other world markets it grew 2.6 times more than China, 3.5 times more than India and twice as much as the fastest growing countries in the Caspian Sea region. But if we take a look at a welfare indicator expressed by the GDP per capita, we see a large gap to industrial and other transition countries. Particularly, the comparison with Kazakhstan is interesting since both countries have a high resource endowment and a similar history. But Kazakhstan's GDP per capita is twice as much as Azeri, which could be explained by a longer catching-up process, interrupted by military conflict in Nagorno-Karabakh. The data are consistent with the Solow model, concerning that countries with low income stock have higher growth rates.

Table 3: GDP Growth World Leader 2005 & GDP per capita World Leader 2005

Rank	Country	GDP growth in 2005
1	**Azerbaijan**	**26.4**
4	Armenia	13.9
8	China	9.9
12	Kazakhstan	7.4
22	India	7.6
38	Russia	6.4
114	United States	3.5
184	**Germany**	**0.9**

Rank	Country	GDP per capita in US-$ m 2005
1	Luxemburg	65,630
19	**Germany**	**34,580**
90	Russia	4,460
103	Kazakhstan	2,930
132	Armenia	1,470
141	Egypt	1,250
143	**Azerbaijan**	**1,240**
144	Honduras	1,190

Data: WDI database, World Bank (2006)

However, the persistently increasing oil price was one main reason for the high GDP growth. Furthermore, the completion of the BTC pipeline played an important role. The Baku-Tbilisi (Tiflis)-Ceyhan pipeline completed in summer 2005 and transports Azeri oil to the EU by passing Georgia and Turkey. A western consortium had planned that pipeline in 1998 due to be less addicted to OPEC oil.[2] The expected endurance is about 50 years and it should produce 1mio. Barrel per day if it reaches the full capacity. Output of the oil production 2005 increased by 70.5 % as compared to the previous year. Two years before, it was only 2.5 % and 2.1%. Simultaneously, Foreign Direct Investments

[2] It was mainly financed by the World Bank. The owners are composed of 11 oil concerns.

growth declined. The import growth was high because machines and Know how were imported from foreign countries. After the pipeline was completed the export volume rises extremely.

Table 4: Azerbaijan – Main macroeconomic Data (annual Growth) 2003-2005

	2003	2004	2005
GDP	11.2	10.2	26.4
FDI inflows	89.4	35.7	7.1
Exports	13.9	42.6	104.4
Imports	49.3	31.5	21.4
Oil Production	2.1	2.5	70.5

Data: World Bank (2006)

Recapitulating, Azerbaijan turns more and more into an important strategic EU trade partner. The democratically free market structure of Azerbaijan eases Foreign Direct Investments, which was important for coverage of new oil fields in the Caspian Sea. But the economical growth of the country is slanted toward the oil industry. Therefore, government has to protect the economy against a monoculture tendency by stimulating the non-oil industry.

This paper will analyze Azerbaijan's situation, dealing with oil windfalls and high capital inflows to create a domestic production sectors and financial markets. Next chapter deals with potential resource curse, starting with a kind of literature review about existing theories for resource abundant countries. Afterwards it focus on the FDI`s and their alternatives. In chapter 3 we make an empirical survey about Azerbaijan's actual situation concerning resource windfalls and financial markets. Finally we conclude results and give a short outlook for future tasks.

2 Resource windfalls and FDI - Theory

2.1 Resource Curse

2.1.1 Dutch Disease

The Dutch Disease ("Holländische Krankheit") is always a problem in resource-rich countries that are struck by sudden resource discovery or increasing world resource prices. The first time this phenomenon occurred was in 1960, when Netherlands found new energy sources. In the last decades many authors like *Corden*, *Sachs*, and *Fender*, *i.a.* dealt with causes and remedies for that kind of problem.

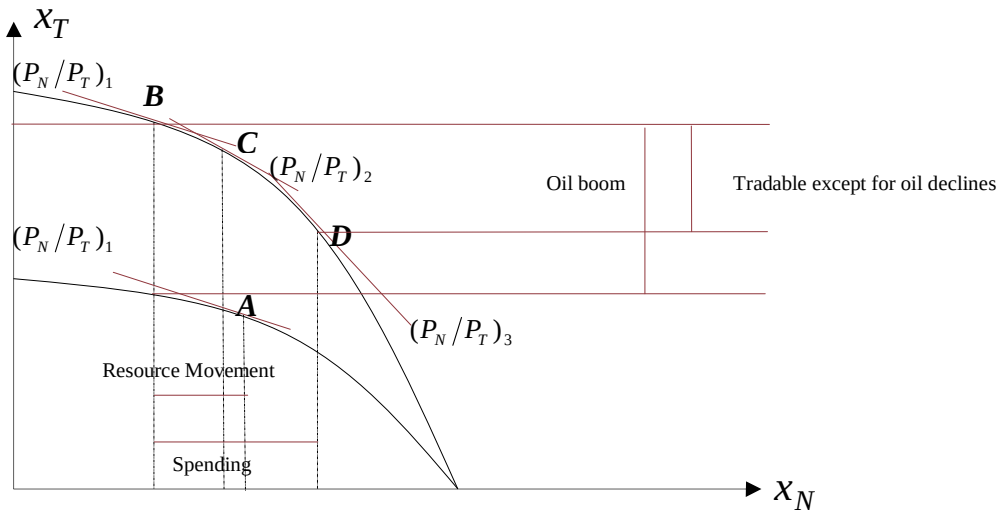
(a) Static model

We start with comparative static analyses to identify the basic processes. A resource abundant country like Azerbaijan tends to suffer from currency overvaluations and loss of competitiveness after increasing resource prices or discovering new sources. That country can be subdivided into three sectors: non-traded goods, traded goods and resource sector. Assuming interest rate parity, Fisher equation, full employment, perfect financial markets, price flexibility, i.e. it can be seen that an oil discovery or an increasing world oil price tend to increase the export gains and domestic money. Hence, the currency appreciates; the country looses competitiveness which leads to a fluctuation of factors from traded goods sector to non-traded goods sector. The whole effect can be subdivided into the resource-movement and the spending effect which can be demonstrated in the Salter (Salter 1959) diagram (see Fig. 1).

The economy is supposed to be in equilibrium A before a positive oil shock occurs. Since oil belongs to the tradable goods sector, the PPF curve turns upwards and the new equilibrium is B under constant terms of trade. The output of non-tradables has declined since factors move to the booming tradable sector.[3] This creates an excess demand and hence higher prices for Non-tradable goods. Thus, factors move from non-booming tradable sector into non-tradable good production (resource movement effect).

[3] Factors from non-booming sector move as well but the whole effect on tradables is positive

Figure 1: Dutch Disease – Comparative Static Effects



Since an oil boom creates a higher income people are willing to spend some amount of income into non-booming sectors. Therefore, in both sectors prices tend to inflate. While Non-tradable prices increases, Tradable prices are fixed because of the Law-of-one-price (LOOP). The domestic currency appreciates which can be shown as a change in slope (P_N/P_T). This leads to factor movements from tradable to non-tradable sector (spending effect). Finally, the tradable good production except for oil is declining, while non-tradable sectors volume is ambiguous. If the resource movement effect is higher than the spending effect, non-tradable production increases (D).

This simple short-run model shows that a resource boom leads to a lower production of tradable goods; hence, many export orientated countries may loose competitiveness and welfare.

(b) Dynamic model

The next step is to investigate the long run effects of resource booms in a dynamic macroeconomic model. Let us assume that the country is only separated into non-oil and oil sectors. Additionally, the economy is composed of the two sectors, households and a central bank that has a standard money supply rule. All markets are clear, such that Interest rate parity and Fishers equation are still valid. The real exchange rate is a

measurement for the competitiveness and its rate of change is supposed to be the control variable $\dot{c}$. The state variable $\dot{m}$ is assumed to be the change in real liquidity in terms of the non-oil domestic good. The dynamic equations are

$$\dot{c}/c = \dot{e}/e - \dot{w}/w = \varepsilon\underset{+\ -\ -\ \pm\ +}{\left(c, m, r, p_{oil}, q_{oil}\right)} - g\underset{+\ +\ -\ +\ \pm}{\left(c, m, r, p_{oil}, q_{oil}\right)} - \mu$$

$$\dot{m}/m = -g\underset{+\ +\ -\ +\ \pm}{\left(c, m, r, p_{oil}, q_{oil}\right)}$$

The competitiveness rate depends on the differences in exchange rate, wage and money supply changes as well as changes in real interest rate, oil price and oil production.
In steady-state the following conditions obtain:

$$g = 0 \qquad\qquad \varepsilon = \mu$$

The rate of competitiveness and money growth in domestic terms are constant.[4] These conditions can be transferred in a phase diagram where the ($\dot{c}/c = 0$)-curve is determined by nominal exchange rate, prices and money supply.[5] It is upward sloping since a higher level of c creates excess demand for money, requiring a higher rate of money growth. The $\dot{m}/m = 0$ curve is negatively sloped because a higher value of m increases spending on non-oil goods, therefore, a fall in c is required.

Let us assume that the world price for oil increases suddenly. If the country is a net oil importer long run real exchange rate depreciates and competitiveness increases. The old equilibrium has to be either *é*$_2$ or e_2 ,hence, the short run effect on c is ambiguous.[6] If the country is an oil exporter two possible cases can be proceed depending on cross price elasticity. The first one implies that the oil price effect on demand is greater than the real exchange rate effect. If the oil price increases we obtain an excess supply of money.
Therefore, *c* and *m* have to fall such that initial situation could be points like *´é*$_3$ or *é3*.
The effect on real exchange rate is ambiguous but the impact effect would leave c slightly above its equilibrium value throughout the adjustment process. A different scenario arises if the demand reacts stronger on real exchange rate than on increasing world oil price.

[4] Note that the rate of money supply is equalized with the expected and actual rate of inflation
[5] Stockman, Lucas
[6] That is because the saddle path is positively sloped

The initial equilibrium has to be e_3, since increasing oil price leads to a strong real appreciation which can be weaken by a higher money supply.

Figure 2: Dynamic Dutch Disease Effects – Phase Diagram – Oil Price Shock

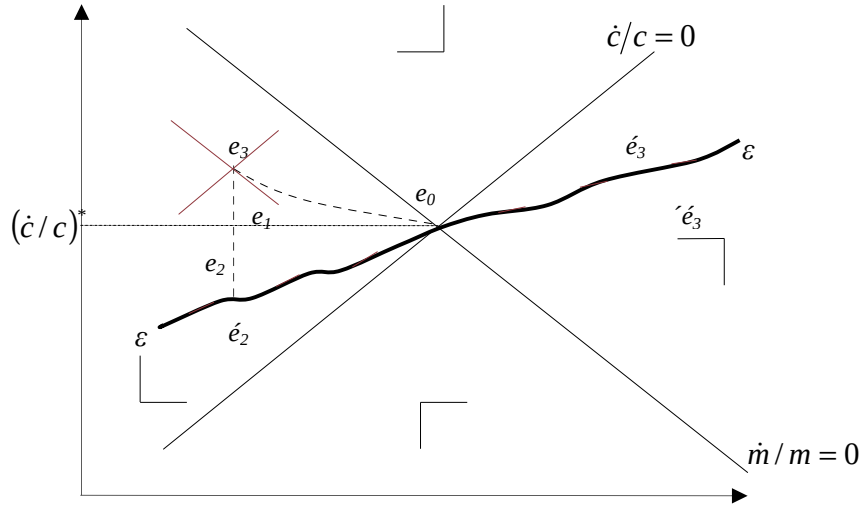
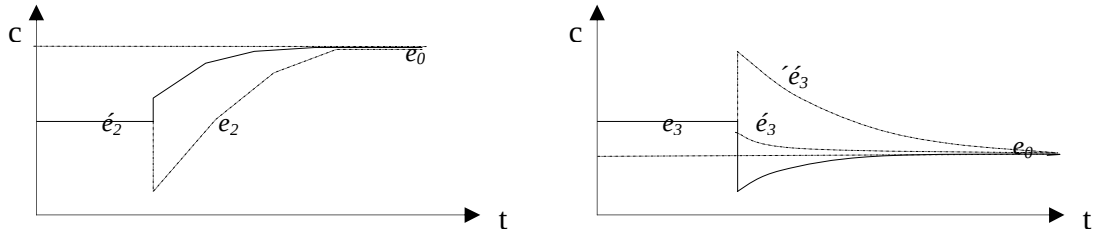


Figure 3: Typical Time Paths Net Oil importer and Net producer

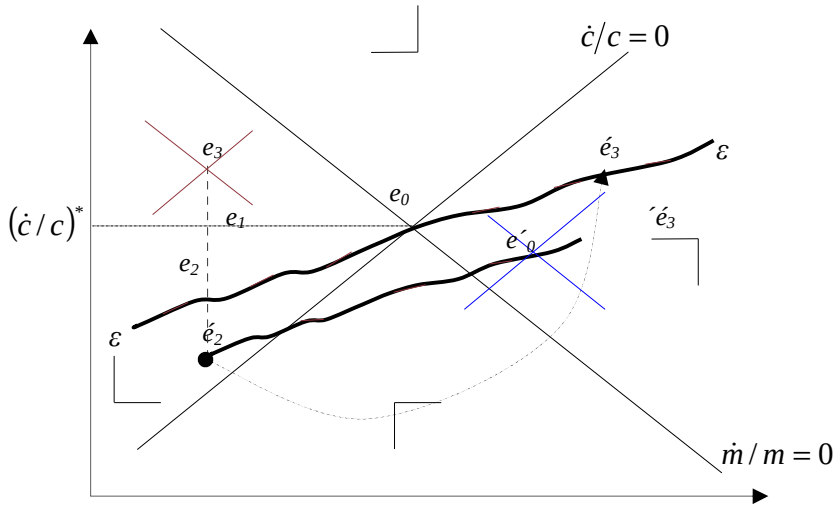


The sudden strong appreciation from e_3 is followed by a continuous depreciation until the steady state values is reached. This phenomenon is known as an exchange rate over-shooting which characterizes a Dutch Disease. In the short run the competitiveness fell strongly meaning that demand for non-oil domestic goods declines. But an increasing oil price in this model has no long run Dutch Disease effects on output since output returns to its exogenously given full employment. By introducing a more realistic assumption that oil is an intermediate and consumption good, negative income effects are more likely. As a solution to prevent the overshooting process, the central bank can adjust the nominal money supply consistent with the exchange rate and real balances changes (e_3 e_0).

A different situation occurs if the oil production increases which can be distinguished among permanent and temporary changes. If we survey permanent changes like a new higher frequent pipeline the real exchange rate jumps from e_3 to $é_2$ which is located on anew equilibrium saddle path. The increase in actual and permanent income increases the money demand. Hence, the central bank has to adjust the money supply which can only be equalized by lower domestic demand and higher interests. This in turn is brought by the jump in exchange rate. Afterwards it depreciates continuously to the new equilibrium $e´_0$.

If we consider a temporary shock, the adjustment path is unstable since the oil demand increases only for one period. The unstable path is characterized by a "double over-shooting" which can be seen in figure 4. The initial appreciation overshoots the saddle path and adjusts at the moment where oil production falls to its further level. ($é_2$ $é_3$)

Figure 4: Dynamic Dutch Disease Effects – Phase Diagram – Oil Discovery



Recapitulating, a sudden increase in prices or volume of resource may lead to permanent or temporary decrease of competitiveness. That may have negative influence on long run output. In such a case, central bank has the opportunity to adjust the nominal money supply along the long-term path and makes it consistent with the equilibrium RER. In the special case of countries in transition it should be noted that determining real equilibrium exchange rate is complicated by undervalued exchange rates, high inflow of foreign

capital and underdeveloped financial markets.[7] Therefore, it is necessary that authority cares for macroeconomic stability and consults other factors of possible Resource curses.

2.1.2 Further determinants of Resource Curse

In the last decade resource curse turns out to be determined by Dutch Disease but also the government could be infected by natural resource dependence. In the first instance the crowding out effect (*Gerlagh and Papyrakis, 2005*), political instability (*Collier and Hoeffler, 1998*), a bad-decision making (*Auty, 2001b*), a low level of educational quality (*Gylfason, 2001*) and rent seeking, corruption (*Torvik, 2002*) were mainly discussed as further determinants of Resource Curse.

(a) Crowding out effect

This is a variation of the "resource movement effect" described as a feature of Dutch Disease. It occurs when large resource investment projects pull important factors and resources from other sectors. This issue is relevant in smaller transition countries where the process of transition has effectively destroyed the old productive base and a new private tradable sector is struggling to emerge. Unlike the standard models with crowding out effects that concentrate on static effects, we deal with intergenerational effects of resource booms.

Therefore, we discuss the effects of resource abundance in a typical OLG model. It is assumed that the population of a resource abundant country has two generations. The young people were born in period 1 and die at the end of the 2nd periods. In period 1 they earn a wage which they divide into savings and consumption. In period 2 they live from their savings. We assume a simple production sector for consumption good, where capital, technology and labor are combined to produce the output,

$$y_t = k_t^{\alpha} h_t^{1-\alpha} \quad (1a) \qquad h_t = k_t^{\sigma} \quad (1b)$$

The rate of technology depends directly on capital accumulation. The intensity of physical capital in technological process is determined by σ.

Each generation maximizes its lifetime utility,

[7] See Rosenberg & Saavalainen (1998)

$$U_t(c_t, c_{t+1}) = \ln c_t^t + \frac{1}{1+\beta}\ln\left(c_{t+1}^t(1+n)\right) \qquad (2)$$

where logarithm implies constant intertemporal elasticity of consumption, β represents a typical time preference factor and (1+n) considers the population growth.

The intertemporal budget constraint is supposed to be:

$$c_t^t + c_{t+1}^t \frac{(1+n)}{(1+r_{r+1})} = w_t + \pi q y_t + (1-\tau) q y_{t+1} \frac{(1+n)}{(1+r_{t+1})} \qquad (3)$$

The households can only consume or save what they either earn in form of wages or what they obtain by resource rents. Thereby, we assume that resource rents are paid in a particular fraction to both, young and old population. If the fraction of oil rents for old people (1-τ) is equal to 1, resource rents were only paid to the retired generation. After solving for the first order conditions we obtain the intertemporal Euler equation, which gives us the steady state values for capital and output per capita (see App. A-2 for the calculation).

$$k^* = \left[\frac{s_y\left((1-\alpha)+\pi q\right)\alpha}{c_y[1+n]\left(q(1-\tau)+\alpha\right)}\right]^{\frac{1}{(1-\alpha)(1-\sigma)}} \qquad (4) \qquad y^* = \left[\frac{s_y\left((1-\alpha)+\pi q\right)\alpha}{c_y[1+n]\left(q(1-\tau)+\alpha\right)}\right]^{\frac{\alpha+(1-\alpha)\sigma}{(1-\alpha)(1-\sigma)}} \qquad (5)$$

The effect of an increase in resource rents is ambiguous and depends on the social system τ. There is no kind of resource curse if only young generation earn the rents. They regard resource rents as being additional income which would be divided into savings and consumption. In a social security system, where only older people obtain an amount, the additional resource rents were used only for consumption. Therefore, young people have an incentive to save less in period 1 and use resource rents for future consumption. In this case a resource boom has a negative effect on steady state values. Generally, it can be said that with higher social rents for retired people, crowding out effects are higher and steady state values are lower.

Other factors that influence the steady state value are the technological impact on capital accumulation σ and the capital share α. A larger responsiveness of technology to capital accumulation and a larger capital share enhances the impact of resource wealth on the steady state.

(b) Political instability

Resource affluence can weaken government through four channels. At first a state which is endowed with natural resource abundance is not reliant on extracting taxes. Thus, it is not popular to introduce taxes for policy maker. But countries where government budgets are completely financed by resource rents instead of taxes, forfeit their feasibility to provide public goods and to serve up social justice. This can lead to social and economical large welfare losses.

Secondly, it is conceivable that people in secluded territories, where resources were founded, make themselves more and more independent. They start with collecting the resources and were not willing to sell their land to the government. In this case many authorities start to resort to illegal methods. That can be end up in a process, which counteracts democratization and destabilizes countries´ situation.

Thirdly, resource-rich governments are not accountable since they are not dependent on citizens' tax payments. Hence, they can spend their revenues on whatever they want for. Many Resource-rich countries try to enlarge their political power by investing into military development. The population does not protest because they could not make the government responsible. Additionally, they fear the military power. In a worse case scenario this can lead to complete military owned industries. Only a few military leader benefit from resource abundance and the national welfare shrink in comparison to democratic situation. The last mechanism tends to destabilize policy by giving people, who live in resource-rich areas, the economic incentive to form a separate state. If people in resource areas had a particular identity that set them apart from rest of the population these effects would be amplified. Local people have to bore many of the producing costs like environmental damage or expropriation. On the other hand they do not benefit from production process and earn only a starvation wage. Finally, if it is a widespread belief that situation in an own state would be better than under the old government, they try to separate out. All these cases result in strong policy instability and welfare losses.

(c) Bad-decision making

The result can be divided into three different impacts. At first the discovery of new resources can raise the expectations for a higher welfare among population. The political authority is now under pressure to fulfill the prophecies as soon as possible, otherwise

they could loose credibility Thus, politicians decide in favor of the quickest and less sustained measure. There are a lot of examples in the history where a rapid spending of revenues is more likely to conduct in disturbances.

Another effect is that higher external revenues generally tend to weaken prudence and normal procedures of "due diligence". The governments´ incentive to making the best decision is less important, since the resource rents are a "godsend". The problem, apart from exhausting character of most resources, is that wrong decisions can push the country into social economical crises even if they where financed by additional gains.

Thirdly, the resource abundance may imbue people with a false sense of security and government starts to forget that resources are perishable and neglect to build up different sectors to trade other goods. In the short-run it is easier for the actual government to produce wealth in form of oil or other resources instead of looking for another competitive sector. In many cases they try to substitute the import demand by home production which often leads to higher welfare loss because of lacking competitiveness. This phenomenon is referred to as "import substitution" where home production of all imports should make the country autarkic. But import sectors are much more efficient than domestic production. Finally, resources are exhausted, wasteful "new builded" home production were disposed by imports again. This ends up in a high current account deficit and low welfare level since countries wealth was used to build up an inefficient domestic sector.

(d) Low level of education

Resource-rich countries often neglect the development of human capital considering that their natural resources are the most important national assets. Their natural wealth may blind them to the need for a better educational level. Therefore, schools and universities enrollments at all levels tend to be inversely related to resource affluence. Primary production like agriculture, oil production or mining generally needs more low-skilled workers than other types of production in manufacturing, trade or services. As a result workers often do not have any educational experiences. The problem arises that advanced technology in primary production requires high-skilled workers. But due to the resource orientation this problem can only be solved by import. Additionally, many studies find a

high positive correlation between educational level and economical growth.[8] Natural resources can bring risks that people become locked in low skill intensive resource-based sectors and thus fail to advance their own or their children's education and future income. Another risk is that governments underestimate the need for human capital accumulation.

(e) Corruption

Resource affluence tends to be associated with the emergence of politically powerful interest groups. These rent seekers try to convince the government in their own favor at public expense. Although not every action has to be linked with corruption, it is still a diversion of resources away from advancement of the greater public good. However, there are many factors which explain for high corruption level in resource-rich countries. At first resource projects requires a lot of regulations which tend to be a breeding ground for corrupt practices. One reason is the cultural tradition that many bureaucratic officials share their gain with their kin (Alam, 1989).

A higher corruption level increases the country risk and, therefore, it has a direct negative effect on return of investment. The investment climate turns out to be weak such that foreign and domestic investors reduce the willingness to invest into country specific industries.[9] Another reason for resource abundant based corruption is the relatively ease for political and economical elites to control resources and maintain wealth. Hence, elites try to resist modernization pressures for as long as possible investments flow into the manufacturing sector. But the required technology for development needs capital and high-skilled (foreign) labor. Finally, the social spread between elites and rest of the population is getting wider (Auty and Kiisky, 2001). Many empirical studies found that corruption and natural resource abundance are positively correlated. They also found that transition countries have a much stronger positive correlation. That can be rather attributed to weak institutional situation after slump of the Soviet Union than resource curse (Auty, 2001b). Needless to say, corruption is negatively related to economical growth since it favors only a small group in place of the whole population.

[8] See Gylfasson 1999

[9] *Baniak, Cukrowski and Herczynski (2002)* found that firms´ willingness to invest in a foreign market goes down with higher expected variability of exchange rates and costs. Therefore, it is necessary for the government to provide a stable environment in order to induce flows of FDI.

2.1.3 How can Resource Curse be avoided?

There are different ways to avoid a sudden resource windfall turning into a curse scenario. The most extreme solution to the problem is indeed to forgo additional resource production and focus on slow trickle development. The problem is that slow growth is not attractive for investors such that needed capital does not flow into the country. However, serious recommendations are to reduce either the importance of dominant resource sectors by developing other sources or to neutralize the impact of windfall revenue inflows on the rest of the economy. The most common mechanism to achieve stabilization and avoid any kind of Dutch Disease is supposed to create some form of revenue fund. Its functions can be divided into revenue neutralization, diversification advancement and stabilization role.

a) Revenue Neutralization

The resource fund can collect the revenues of sudden windfalls and compensate industries that loose competitiveness in the long run. It might be not an optimal solution since only permanent resource shocks guarantee total compensation. If the shock is temporary, the redemption covers not the entire loss. Nonetheless, even if non-booming sector is confronted with deprivation, government is able to pay them a monetary equivalent.

b) Diversification advancement

Establishment of a resource fund gives government three opportunities to invest the revenues. Firstly, it can invest into non-booming tradable industries such that dominated sector regains its competitiveness. Secondly, it can foster some seminal industries that are needful to become a more diversified economy. In both cases “supported” concern’s interest may not conform to social planner’s interest to enhance socioeconomic situation. Therefore, government can invest directly into foreign companies to import and provide technology and knowledge at domestic markets. Tradable industries that are constrained by Dutch Disease can use foreign technology or produce more efficient in foreign countries. Finally, they can even more than compensate negative effects from resource curse.

c) Stabilization

At least, resource funds can stabilize economical situation in various time patterns. In the short run, revenues are used to avoid exchange rate appreciation. Thus, one option for the central bank is to purchase foreign currency to hold down the nominal rate. A second solution is to stabilize prices by hedging on futures markets. In the long run a Resource fund is able to provide intergenerational justice by saving resource rents for future generation (see 3.1.1)

2.2 FDI

High amounts of foreign direct investments are a common feature in transition countries. Foreign firms and investors are attracted by high rate of returns, low real wages and good long term prospective. The effect of foreign direct investment on welfare is an important issue in the economical theory. Many authors like *Helpman, Markusson* and *Venables* deal with the effects and political advices for FDI´s. In this section I want to point out the common forms, evolution and reasons for foreign direct investment.

2.2.1 Definition

We referred to foreign direct investments as the financial participation of an investor in a company from a foreign country. The motives for direct investments can subdivided into resource- market-, efficiency- and strategic asset seeking. The *resource-seeking* motive can be observed in monopolies that need an intermediate good to produce the final good. Therefore, they participate in another foreign country to benefit from a more efficient sourcing. The *market-seeking* motive arises from the desire for new markets entries and is observed, especially, if multinational concerns try to expand.[10] The *efficiency-seeking* is applied in companies that front high trade barriers, tariffs, transportation costs or high domestic labor costs. To Avoid this costs, they produce in a foreign country. The *strategic asset--seeking* is essentially the motive why many investors participate in resource rich countries like the Caspian Sea countries. Often foreign government supported global players who want to work up their international market position.

[10] Deutsche Telekom vs. Voicstream, Vodafone vs. Mannesmann, etc.

Therefore, they allocate their capital to obtain a higher return and get a strategic advantage in the “war of position”.

2.2.2 FDI and other forms of international trade

(a) Indirect Exports

If a company wants to save costs and risk, it can mandate a specific export company that knows about the country properties, tariffs and policies. The disadvantage is a missing in independence and image. Furthermore, the gains from trade can be less than in the normal case.

(b) Licensing / franchising

This kind of investment can compass the allowance for patents and know-how for certain time. The licensing admits for a foreign market entrance with a small amount of capital. In addition license cooperation can lead to higher knowledge in the domestic market. The Disadvantage is similar to the indirect exports: less gains from trade, low image level and collateral the cooperation partner can become a competitor. Franchising is close related with the small difference that firms give their brands instead of a technology.

(c) Contractual Agreements

The contractual agreement is simply a contract of both trade partners that considered all individual motives.

(d) Joint ventures

This is one of the most common forms of direct investment. Two companies establish a new separate firm that produces in the foreign country. One benefit is to save costs through combine similar business areas. But joint ventures are also more risky if the competences are not clearly assigned.

(e) Own production

The own production has the big advantage that companies are not only more independent but also gain a higher return and have more control. The disadvantage is a higher risk.

There are a lot of papers that try to investigate which kind of entering a foreign market is in which situation the optimal strategy. In this research we want to present only the OLI-Model. The reason is that it considers every investment motive and, therefore, it become

to a mainstream model. It finds a condition under which FDI´s are superior. In the next section we want to show under which conditions FDI are the superior strategy.

2.2.3 Reasons for Foreign Direct Investments

If we compare the Theory of multinational concerns with the theory of foreign direct investments we find a lot of commonality. One approach was created by *Dunning (1981)* and is better known as the "eclectic approach" or OLI-Model.

In line with this approach he discussed three conditions that have to be valid to commend a FDI. In general, Foreign Direct investments have specific disadvantages as higher risks, exchange rate changes, domestic bias, etc. Therefore, FDI´s need some company specific advantages to offset the loss. *Dunning* found three conditions that make FDI´s superior to any other international trade form.

(a) ***O****wnership advantage*

Essentially it says that the market power of the MNC has to be sufficiently enough. It should have product- and process innovations that no domestic company is endued with (for example knowledge or intangibles). These exclusive privileges lead to competition and internalization advantages such that the MNC´s can establish market entry barriers.

(b) ***L****ocation advantage*

The second constraint is that production has to be more efficient than the production "at home". This occurs if the trade tariffs, transportation costs and prices are low. This phenomenon is very common in countries with low wage rates because it is one of the most significant determinants for the production costs.

(c) ***I****nternalization advantage*

Finally it is efficient to produce in the foreign country than to mandate a foreign firm via license. In the most cases insufficient protection for intellectual property lead to the result that creation of a sub company is better than licensing or franchising.

According to the OLI-model, Foreign Direct Investments are substitutes for exports if these three conditions are valid.

2.2.3 Empirical Evidence for FDI in Transition countries

Some authors like Campos and Kinoshita (2003) started with estimating of FDI determinants in transition countries. They use panel data about 25 transition countries between 1990 and 1998. Thereby, it is distinguished among EEBC (Eastern European and Baltic Countries) and CIS countries. The following factors were assumed to be the explanatory variables:

(a) Classical variables

The classical variables are geared to different motives of FDI. The market and strategic asset seeking motive is considered by the GDP which is a proxy for market and demand size. Interregional telephone lines, physical distance, nominal wage rate, and secondary education enrollment are supposed to be proxies for infrastructure, transport costs, labor costs and labor quality. These are regarded as being determinants of efficiency seeking motive. At least, they introduce a Dummy variable which expresses poor (=0), moderate (=1) or rich (=2) country specifications according to resource abundance.

(b) Macro economical and political variables

The macroeconomic stability is a record of price stability and measured by annual average inflation rate. Two constructed indices about the removal of trade controls, moderation of tariff rate, foreign exchange rate and foreign capital restrictions are proxies for trade liberalization and FDI restrictions.

(c) Institutional variables

The cost of investments provoked by bribes or time losses can be ascribed to weak institutions. Therefore, the authors introduce two institutional variables: The “rule of law” reflects the strength and impartiality of the legal system and popular observance of the law. The “quality of bureaucracy” implicates the national bureaucracy autonomy from political pressure and the ease of regulations.

(d) Agglomeration

New economical geography factors and spillover effects are considered as a source of agglomeration by introducing them into the one-year lagged FDI stock.

(e) Initial conditions

Finally, the initial levels of development, macroeconomic distortions and trading varied greatly between countries. C&K comprise resource endowment and trade dependent in their regression.

They used a fixed effect model and GM Method for estimating and found that, generally, large market size, agglomeration, low labor cost, abundant natural resources, good quality of bureaucracy, high trade dependence and fewer capital market restrictions drive FDI, no matter which method was used. The External Liberalization and the Rule of Law play an inferior role.[11] Finally, FDI motives vary strongly between EEBC and CIS countries. In EEBC that receive FDI mostly in manufacturing sector, institutions and agglomeration are the main determinants. In CIS countries resource abundance and infrastructure become the crucial factors.[12]

2.3 FDI and Resource Curse

After analyzing the both in the first section of that paper, it would be interesting how far Investments and Resource curse are related. Intuitively, an inflow of foreign capital increases the possibility for overshooting. Particularly, the additional capital accumulation of foreign reserves is equivalent to a higher demand for domestic currency, which leads to real appreciation pressure. Therefore, a Dutch Disease would be more likely with an additional high inflow of foreign capital.

The impact of FDI to crowding-out effects does not matter. A higher capital inflow from abroad is an external increase in capital stock that does not have any influence on the consumption and saving decision. Thus, only the level of capital raises but the steady state value does not change.

Generally, the political stability is strengthened by increasing welfare. Empirical workings found a strong correlation among FDI and economical growth.[13] Hence, foreign capital inflows reduce the political instability. But it can also counteract if country policy

[11] Strong influences were indicated by 1% and 5% low ones by 10% significance level
[12] Additionally, education is getting more important in CIS countries.
[13] Borensztein, E., J. De Gregorio, and J. W. Lee.(1994), Mina N. Baliamoune-Lutz (2004)

is strongly catered to fulfill foreign investors' needs or if a small groups benefits from FDI inflow.

The educational level can be influenced by FDI. Especially, India debates the government should approve FDI in education. A number of foreign companies and universities in the educational sector have already shown interest to enter Indian market. However, FDI improve education level by the introduction of multilingualism, better technology input and the spillover effects of knowledge (Magnus Blomström & Ari Kokko, 2003). Admittedly, the educational level is often a factor of FDI decisions. Multinational companies are only willing to send a machine in host countries if the knowledge exists how to handle it.

At next, the relation among FDI and corruption can be investigated from both sides. Firstly, it is obvious that high corruption induces a bad investment climate. Corruption can be regarded as an additional country specific risk. Therefore, foreign investors are only up to invest if they were paid off by a higher risk premium. Most countries cannot provide such high gains to cover not only interest but also country risks. Reversely, several authors like Larrain and Taraves (2004) found that FDI influences corruption. On the one hand FDI projects have elements of a "hostage relationship" where authorities can collect bribes if discretionary political decisions have a direct impact on rate of returns. Moreover, FDI can lead to higher income differences which also may increase the corruption level. On the other hand FDI reduces corruption as the high level of international capital mobility make foreign investors more likely to exit the market if corruption behavior is not kept in check. Especially, in transition countries foreign standards have an impact on local officials and their behavior. After running regression Larrain and Taravales found that a 1 percent rise in FDI decreases corruption by 0.3 on an index of 1 to 10 such that negatively relationship between FDI and Corruption can be evidenced from both sides.

3 Actual Situation in Azerbaijan

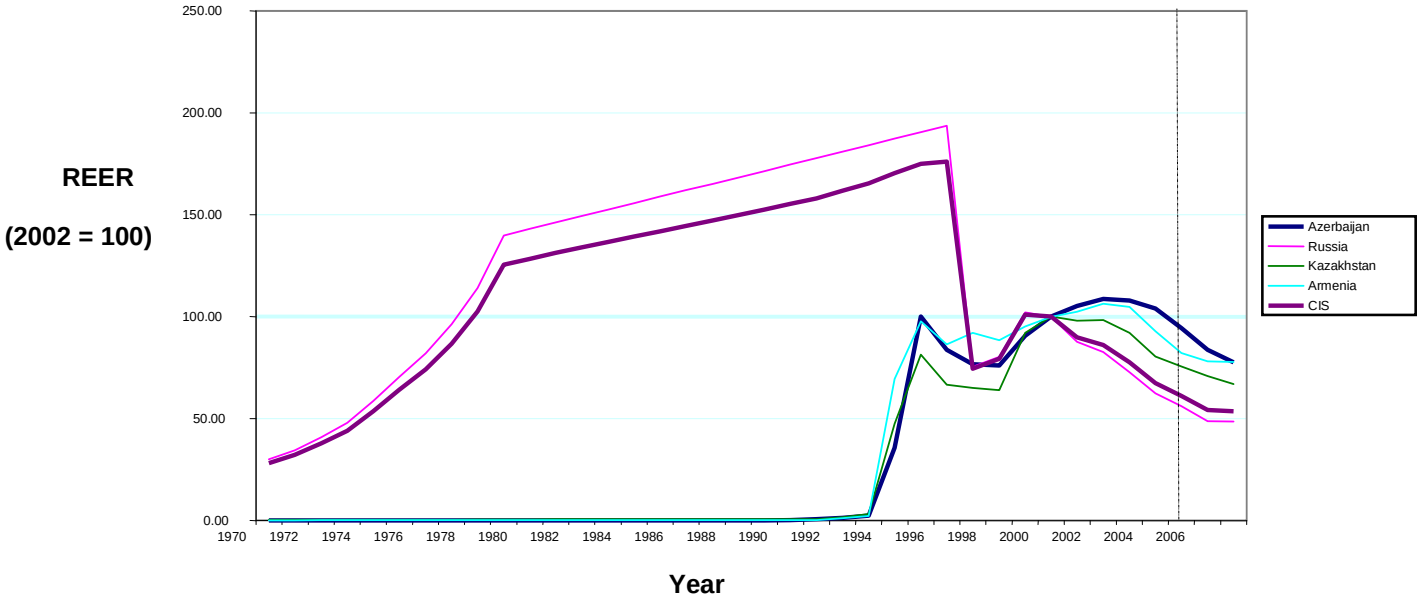
3.1 Resource Curse tendency

3.1.1 Is Azerbaijan sustainable to a Dutch Disease?

In the following chapter we want to analyze the actual situation in Azerbaijan, concerning the previous theoretical results. At first the Azeri Real Effective Exchange Rate should be compared with different other CIS countries in a long term study. It is obvious that CIS REER is mainly influenced by Russia. Therefore, typical effects of transition can be explained by a short depreciation period at the end of the Soviet Union. After some periods, when macroeconomic stabilization is achieved, it changes into a strong appreciation process that results from productivity growth, capital accumulation and new technologies in the wake of a switch to market economy.

The Azeri REER can be observed since 1992, where the Azerbaijan National Bank introduced the AZM. During the civil war from 1992-1994 the AZM was pegged to the Russian Ruble. Afterwards we observe a strong depreciation which mainly results from adjustment process of REER. The nominal exchange rates in Azerbaijan were set at high levels and prices were controlled. After turning into a free market system prices and exchange rates adjust to their market value. One can observe the same process in other CIS countries with similar structure. I decide to choose Kazakhstan because it has a similar resource rich structure but the nominal exchange rates float two years earlier.

Figure 5: Azerbaijan – Real Exchange Rate in Transition Countries, annual (1970-2006)



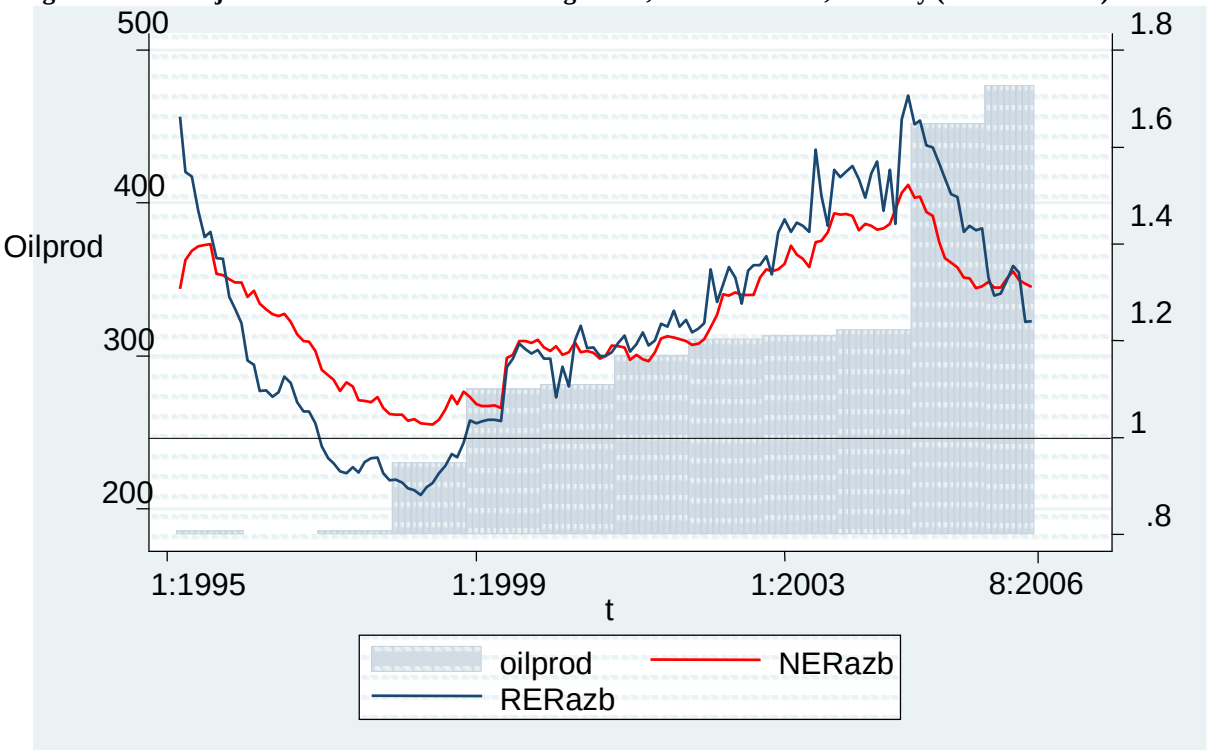
Data by ERS International Macroeconomic Data Set (2006)

Armenia was also shocked by the Nagorno-Karabakh crisis but has no resource abundance which let REER appreciation process float smaller. In both cases one can see that after achieving macroeconomic stability the REER appreciates.

In 1998 CIS countries were influenced by the Russian Crisis which occurred by a sudden outflow of foreign capital. Foreign investors expected a bank crisis and retrieved their capital. Finally, bank runs and currency sells led to strong depreciation. After restoring economical stability in 2001 the appreciation proceeds due to oil price booms, productivity growth and better financial market situation.

At next, we compare Azeri Real and Nominal Exchange Rate from 1:1995 to 8:2006.[14] One can see that from first quarter of 1999 Real and Nominal Exchange Rate have an equal run. In 1995 Azeri Manat appreciates compared to SDR because of the typical transition adjustments.[15] The RER is lower than the NER which predicts that price index for Azeri goods is higher than foreign countries. In 1997 discovery of new oil and gas fields let the Manat tend to overshoot (see Tab. 2).

Figure 6: Azerbaijan - Real and Nominal Exchange Rate, Oil Production, monthly (1:1995-8:2006)



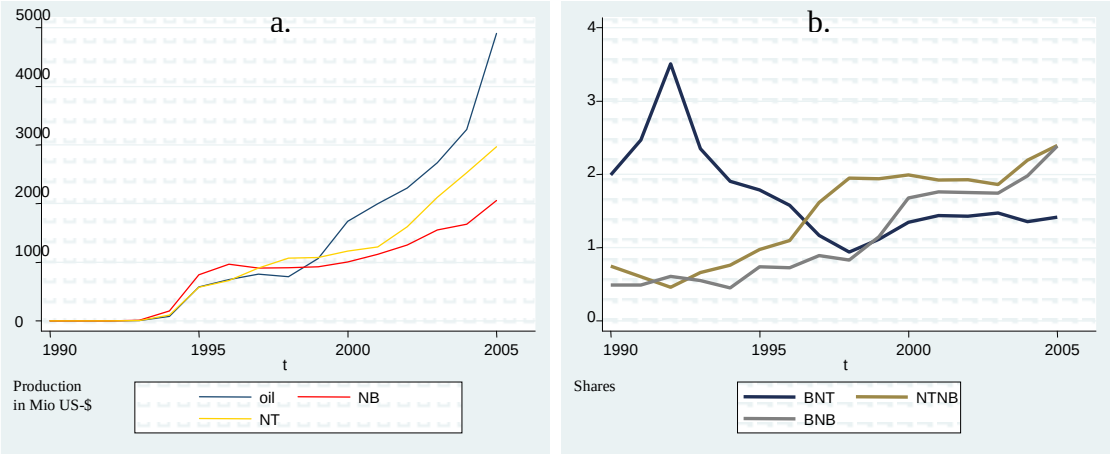
[14] Monthly data is used from IMF (2006) International Financial Statistics

[15] SDR= Special-Drawing-Rights; an artificial exchange mixed by foreign currencies (US-$ 43%, € 35%, Yen 11%, Pound , Sterling 11%)

This trend was stopped when Russian financial market collapsed in the mid of 1998. Although the oil production exploded, real and nominal Exchange Rates depreciated. Additionally, the strong inflow of foreign capital into the oil sector was offset by an increasing import of machineries and technology products. With opening of new BTC-pipeline oil production became almost more than twice. Thus, the AZM obtained some appreciation pressure. From 2005 until now the AZM appreciates strongly. At the end of 2006 a further pipeline should transport gas from Baku to Turkey and EU. Experts expect an additional appreciation of AZN. Are these typical indicators for a possible Dutch Disease in Azerbaijan?

It is important to know that evidence for overshooting process is naturally weak since estimates of the equilibrium levels of RER are difficult to obtain. Additionally, RER in transition countries are naturally undervalued such that RER may be to low to overshoot its equilibrium level. However, it is essential for a DD-Analysis to observe more than one factor than exchange rate behavior. Therefore, we concentrate on four other influence factors: the total production of three sectors, the relations between the sectors, the export breakdown and the foreign direct investment sorted by sectors.[16]

Figure 7: Azerbaijan – absolute and relative oil, Non-booming and Non-tradable production, annual (1990-2005)



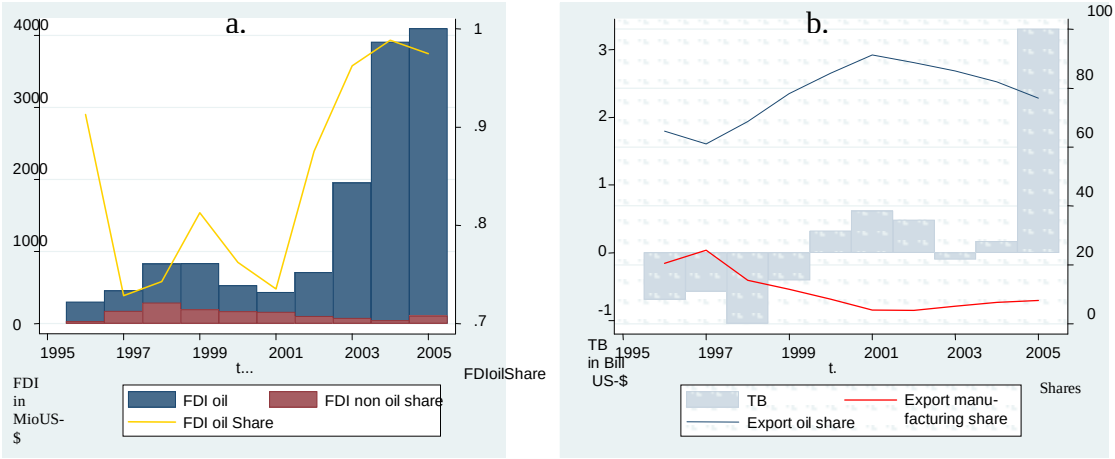
Data: Common Database, UN (2006)

[16] The three sectors are booming trade, non-booming trade and non-tradable sectors as described in theoretical part of the paper.

Figure 7a and 7b shows the absolute and relative parts of the three sectors. In the period around 1997 where real exchange rate tended to overshoot, absolute Non-Booming goods production decreased slowly and oil production followed a lateral movement. This was not only provoked by Russian crisis; the trends took course before Russian financial markets broke down. If we use the ratios between different kinds of production, it is more obvious that the fear of Dutch Disease was qualified. Until the Russian crisis in 1998 the non-booming tradable sector dropped down relative to booming and non-tradable sector. Simultaneously, the non-tradable sector increases in relation to the booming sector. This can be referred to the resource movement and spending effect.

Today we observe a strong absolute increase in oil production and lower absolute values for non-trade and non-booming sectors. It is more clearly if we observe the relative values that production of non-booming tradable sector decline related to the other kind of sectors. That is in fine a reliable sign for Dutch Disease tendency. Since resource movement effects happened chronological earlier it may be a reason for constant NTNB Index. The National Bank should act cautious according to counteracting inflation tendencies.[17] In Figure 8a the factor capital is analyzed. Maybe that shed light on factor movements among sectors.

Figure 8: Azerbaijan – FDI and Export breakdown, annual (1995-2005)



Data: UNCTAD (2005), Comtrade (2006)

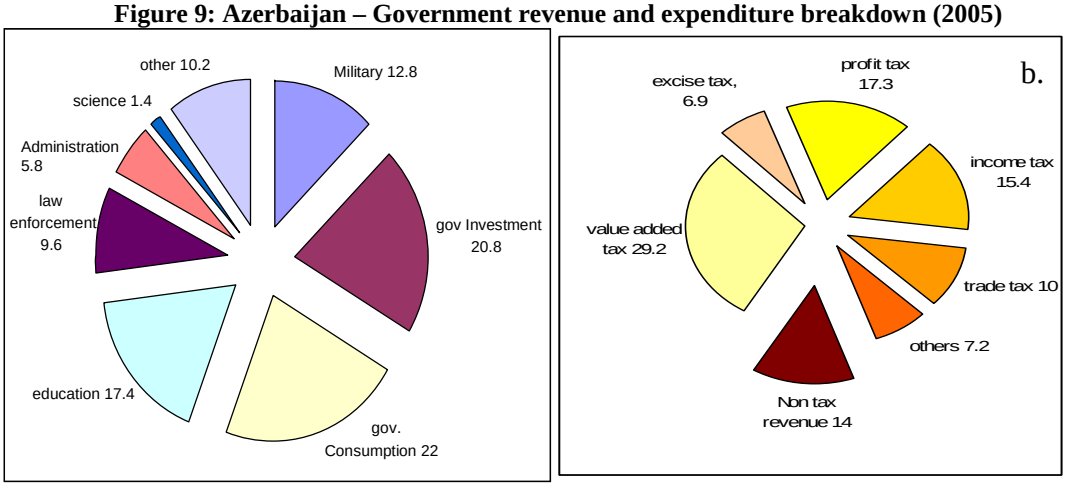
[17] The Inflation Rate reaches double-digit number in 2005 after 5 years with a relatively constant rate under 5%.

The oil FDI increases clearly compared with non-oil investment shares, showing that factors move mainly into booming sector. But one should notice that in 2005 shares move in the opposite direction. Unfortunately, it is ambiguous if it results from increasing shares in non-booming sector or from arising interest to alternative financing methods.
At next we want to deal with the foreign trade in Figure 8b. The Trade Balance was mostly positive in the recent years. The low values in the last two years can be explained by strong imports of material and technology for the new pipelines. The trade structure argues against possible Dutch Disease since Oil export share declines since 2001. This shows a rise in non-oil good's competitiveness and can be interpreted as a success of government's policy to support non-oil production sectors in entering international markets. Overall, some symptoms of possible Dutch Disease can be founded in Azerbaijan, which should be considered in government's and NBA`s decisions.

3.1.1 Further Determinants of Resource Curse

(a) How does Azerbaijan government distribute oil rents?
The State Oil Fund Azerbaijan was established in 1999 to ensure intergenerational equality with regard to benefit from country's oil wealth, in the interest of Azeri citizens. The SOFAZ is subordinated to the president, its Supervisory board and to the Chamber of Accounts. In the recent years SOFAZ concentrate on three major goals: First, it tries to solve the social and settlement problems of the refugees and internally displaced persons from civil war by Presidential Decree.

Figure 9: Azerbaijan – Government revenue and expenditure breakdown (2005)



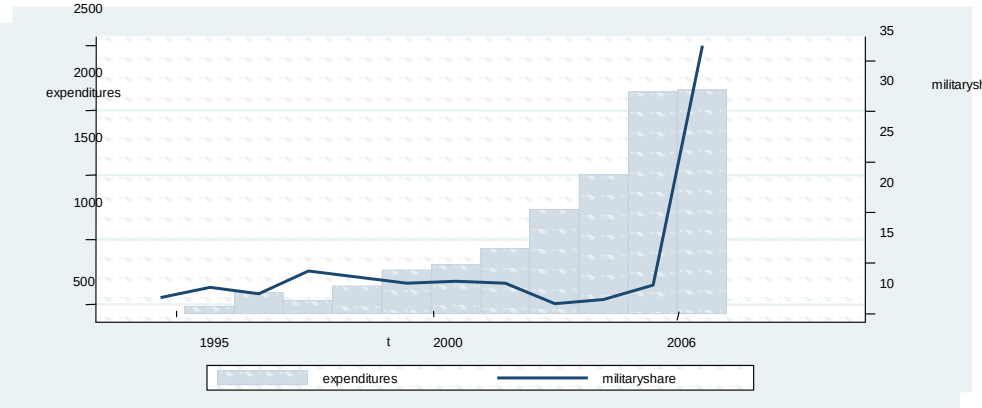
Source: State Statistical Committee of Azerbaijan Republic, 2006

Secondly, it covers the finance for great projects like the BTC pipeline. Thirdly, it supports government expenditure. As we can see in figure 9a, the expenditure shares for government's consumption and investment are almost equal. That could be interpreted as an equal intergenerational distribution of resource rents, which does not induce any crowding out effects.

(b) Political Stability situation ten years after civil war

High oil revenues are not the only reason why economical growth reached highest rate in the world. In addition, government supported by international firms and organizations try to invest the oil rents wisely. In figure 8a, we can see that a great share as spent to education and law reinforcements. Additionally, it financed many projects to build up an own non-oil production sector. These expenditures were mainly covered by taxes, showing that government avails their feasibility to provide public goods and to serve up social justice. (Figure 9b) The Oil revenue financed expenditures account for only 14% of all state revenues. Therefore, government is feasible to provide public goods and people can make politicians responsible for expenditures.

Figure 10: Azerbaijan – military expenditures, annual (1995-2006)



Source: SIPRI Military expenditure database, 2006

One tendency in the last few months is that Azerbaijan starts to rearm heavily. The military expenditure share from January to August in 2006 increased from 12% to 36% and the total military expenditure reached 900 US$ m. In comparison to the last two years it was "only" 274 and 171 US-$ m.

(c) Education

The educational level in Azerbaijan is compared to UN countries a typical middle income country status. The literacy rate is with 97.8% at a level of industry countries and the students in primary and secondary education were similar to higher income countries.[18]

Tab 5: Ratio of people with primary, secondary and tertiary education to all in same age(2005)

countries	Primary education ratio	Secondary education ratio	Tertiary education ratio
Azerbaijan	80%	76%	24%
Germany	86%	88%	-
Kazakhstan	89%	84%	43%
Armenia	83%	84%	27%
Iran	79%	-	20%

Source: WDI Database, World Bank (2006)

The government spent an increasing value to education and science, which lead to higher amount of students in all educational levels. Especially, the foreign exchange students

[18] The indicator measures share of people with primary, secondary or tertiary education related to all possible students in primary, secondary and tertiary education.

share was increasing in the recent years. The foreign students came mainly from Turkey, Georgia, China and Russia. However, German students were also attracted by Azeri universities since two years. If political situation stays stable, educational process is one of the chances of Azerbaijan.

(d) Corruption

Corruption is a problem of Azeri government, too. In the actual list of Transparency International the average grade of all surveys on a scale from 0 (bad corruption situation) to 10 (=no corruption), Azerbaijan got a 2.2.

Table 5: Transparency International Corruption Index (CPI) sorted by Transition Countries and Germany, annual (1999-2005)

Corruption Performance Index				
t	Azerbaijan	Kazakhstan	Russia	Germany
1999	1.7	2.3	2.4	8
2000	1.5	3	2.1	7.6
2001	2	2.7	2.3	7.4
2002	2	2.3	2.7	7.3
2003	1.8	2.4	2.7	7.7
2004	1.9	2.2	2.8	8.2
2005	2.2	2.6	2.4	8.2

Source: Transparency International, 2005

A second study about corruption from the World Bank obtains similar results. They determine three key figures that represent corruption tendency. At first, firms were asked thirds of companies expect to take a gift to the tax inspector. The next study concerns unofficial payments for typical firms to “get things done”. In other words, in Azerbaijan firms have to pay 2.65% of their sales on an average as an unofficial provision.

Table 6: firms, expected to take a gift to tax inspector Index (FEG), unofficial payments “to get things done” Index (UP), Last Countries and Germany, 2005

rank	**FEG**	in %	rank	**UP**	in %
32	Germany	14.82	23	Germany	0.29
71	**Azerbaijan**	66.67	71	Guatemala	2.56
72	Tajikistan	67.51	72	**Azerbaijan**	2.65
73	Armenia	67.81	73	Ecuador	2.83
77	Kyrgyz Republic	84.97	77	Cambodia	4.59
78	Bangladesh	85.8	78	Algeria	6.04

Table 7: value of gifts in share of total contract value (VOG), total Corruption Index, Last Countries and Germany, 2005

rank	**VoG**	in %	rank	**Total**	Index
43	Germany	1.44	23	Germany	49.61
69	**Azerbaijan**	3.89	73	Benin	194.38
70	Bangladesh	4.05	74	Cambodia	200.16
71	Mali	5.56	75	**Azerbaijan**	222.6
		8.24	76	Kyrgyz Republic	239.11
77	Peru	11.15	77	Albania	247.31
78	Brazil	11.32	78	Bangladesh	256.35

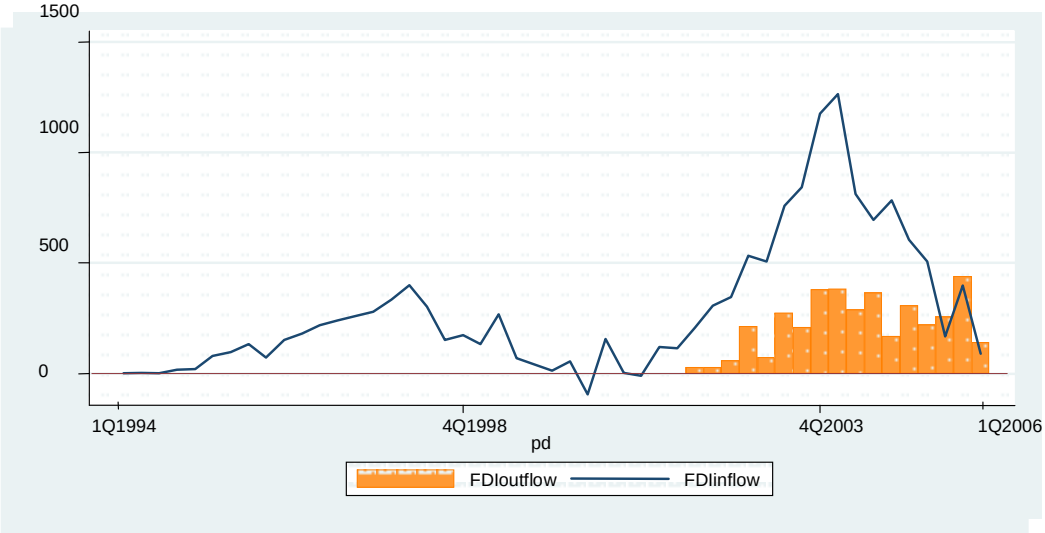
Source: World Bank, 2005

The last factor measured the value of expected gifts. The gift to persuade some one should have 3.89% of the contracts value. But also Germany comes off badly, ranked on 43; firms have to pay about 1.44% of their contracts. If we put all indicators together and form an index, one can see in table 6 that Azerbaijan was in 2005 under the last 4 countries, only "beaten" by Kyrgyz Republic, Albania and Bangladesh.

3.2 Foreign Direct Investment

Direct Investments being the most effective form of stimulating the economic growth. Most investments are related to great projects in oil and gas sector. If we take a look at figure 11 we assert that FDI until 2004 was increasingly high.

Figure 11: Azerbaijan - FDI inflows and outflows, quarterly (1:1994-1:2006)



Source: International Monetary Fund, 2006

Since 2004 the quarterly FDI amount falls down. Simultaneously, the Capital outflows increases such that in 4th quarter of 2005 Azerbaijan capital account was negative. Is that a sign for negative future prospects? It is not, FDI represents still more than 77% of all capital inflows (table 8). Although capital inflows in non-oil industry were increasing, it is still a major project for government to make it more attractive for foreign capital. During the last year a number of oil and gas enterprises and companies made large foreign capital investments into different economic sectors. In comparison to previous year values, there are two obvious trends. At first, non-oil sector became more and more attractive according to FDI, since governments measurements take effect. Secondly, the entire investment structures shift to loans and other types of investment due to a better financial market situation. Finally, it should be mentioned that entire foreign capital inflows were still increasing. But the main reason for decreasing FDI´s is that domestic firms start to act on financial markets in Azerbaijan.

Table 8: Azerbaijan- Flow of foreign capital used in country (2004,2005)
Flow of foreign capital used in the country

	2004		2005		2005 in relation to 2004,%
	USD mil	Percentage	USD mil	Percentage	
Direct investments	**4192.3**	**91.7**	**4030.4**	**82.4**	**96.1**
- oil and gas sector	4088.1	89.4	3799.9	77.7	92.9
- other sectors	104.2	2.3	230.5	4.7	221.2
Loans and other investments	**356.0**	**7.8**	**861.8**	**17.6**	**242.1**
- government-secured loans	69.3	1.5	282.1	5.8	407.1
- loans without government security	218.5	4.8	416.3	8.5	190.5
- BTC project	195.0	4.3	158.9	3.3	81.5
- SOCAR	-	-	129.0	2.6	-
- other	23.5	0.5	128.4	2.6	546.4
- other investments	68.2	1.5	163.4	3.3	239.6
Oil bonus	**21.6**	**0.5**	**1.0**	-	**4.6**
TOTAL	**4569.9**	**100.0**	**4893.2**	**100.0**	**107.1**

Source: National Bank of Azerbaijan, Year Book 2005

3.2.1 FDI Diversification

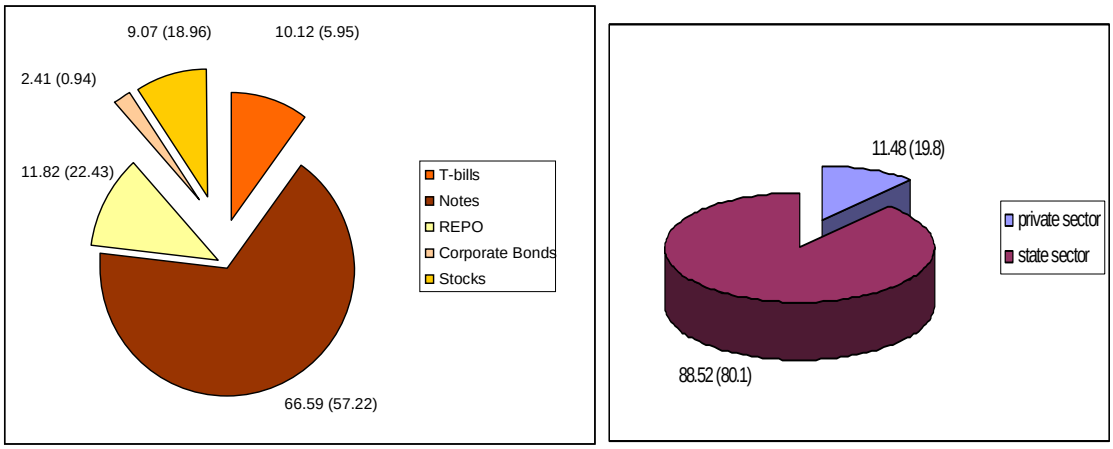
The non-oil sector attracted 230.5 US-$ m in 2005, which is 220% more in relation to previous year. Particularly German companies were involved in non-oil sectors production. For instance, Siemens has signed a contract with SOCAR that guarantees

Azerbaijan the delivery of two gas turbines in November 2006. Furthermore it is allowed to build a new power plant. The Münchner Rück reinsurance company got the concession for its subsidiary Munich ReLife reinsurance Eastern Europe to attend to Russian Market. In the long run they plan to provide in Ukraine, Kazakhstan and Azerbaijan. Daimler Chrysler is actively concerned with the coordination of the TRACECA program (Transport Corridor Europe Caucasus Asia) that tries to enhance infrastructural access to markets.[19] Alcatel and the D21 project undersign a Memorandum of Understanding to cooperate in IT technology sector. For German companies it suggests a possibility to higher revenues. In its diversification process agenda, the development of information and communication technology sectors is one focus of Azeri government. Analysts anticipate 30% growth rates in informational sector for the next years.

3.2.2 Alternatives to FDI

The shortening of entire FDI amount is due to a better transparency on financial markets which makes other products more attractive. In particular the Baku Stock Exchange plays an increasing role for domestic companies. The BSE was established in 2001 by the leading banks. Its organization structure is in the form of a closed joint stock company with 18 shareholders. One in a year the "general shareholder meeting" elects the Supervisory and Financial Control Committees.

Figure 12: Azerbaijan - Structure of Baku Stock Exchange traded products (2005 in brackets, 2006)



BSB June Bulletin, Baku Stock Exchange (2006)

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The BSE became a member to the Federation of Euro-Asian Stock Exchanges and started to trade short-term treasury bonds, National Bank Notes, common stocks and foreign currencies. Since it is very young in comparison to other financial centers in that region, BSE has not such a large market share. But it is interesting that Baku is 4th in market share of traded bonds and 5th in other traded products from all FEAS members. Only stock markets are less competitive in turnover compared to FEAS countries.[20] In 2006 companies that want to issue bonds or stocks have to fulfill some minimum listing requirements as a 2-year business activity, a shareholders equity of 1US$ m, a minimum number of 500 shareholder and a 2 years minimum of positive financial results. The main share of traded products was issued by public sector. Private Sector emitted only 11% of total securities which is almost the half of 2005th share.

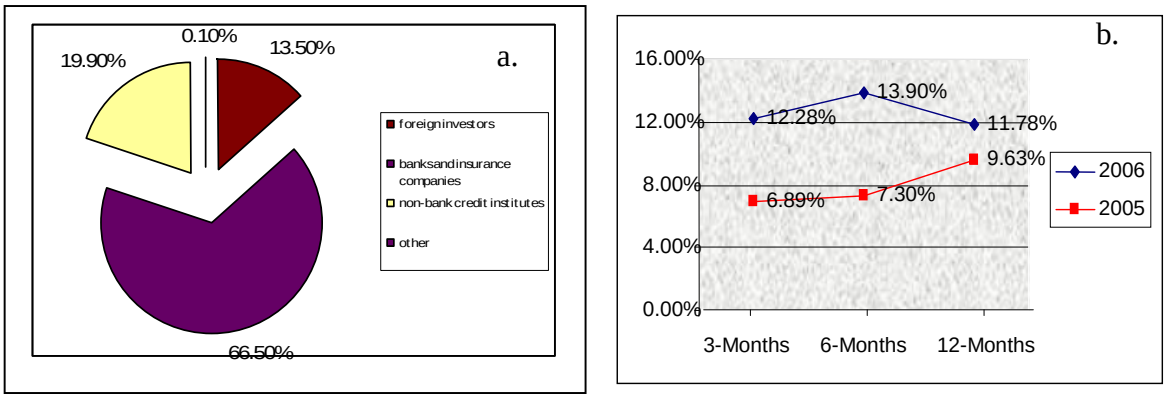
(a) Government short-term bonds

Government bonds were issued by the Ministry of Finance and are due one year. Its face value ad up to 200 US-$ and both, residential and non-residential are allowed to invest if they have a bank account. In 2005 the amount of state loans to foreign investors increases to 282.1 US-$ m which is more than 400% related to 2004. 17.9 US-$ m were received from IMF, the rest were used by the Azerbaijan Airlines State Concern for rehabilitation of the TRACECA infrastructure. Most loans were bonded and traded at the BSE. In 2006 the bonded state loan market increases strongly.

While in 2005 only 5.2 % public bonds were traded at BSE the share increases up to 10.12%. Banks and insurance companies are the main holder of T-Bills, but number of foreign investor increases. (Figure 13a) The return on bonds shown in Figure 13b indicates to a general increase in weighted average on all turnover periods. But more interesting is the abnormal decline of weighted 12-TR against 6-TR rate. It seems as a strange trend conflicting with commonly accepted order. But explanation is that

[20] FEAS was established in 1995 with 12 members and has currently 31 members, where especially Istanbul, Kazakhstan, Abu Dabi, Bharain are the most known.

Figure 13: Azerbaijan – TR Rate and T-Bills demand structure (2005,2006)



Source: BSB June Bulletin, Baku Stock Exchange (2006)

placement of T-Bills with different turnover periods in June varied from the order registered in May. T-Bills with 12-month turnover period were placed earlier than 3 or 6-month T-Bills. Therefore, both 3- and 6-month T-bills were higher than 12-month T-bills.

(b) Central Bank short-term Activities

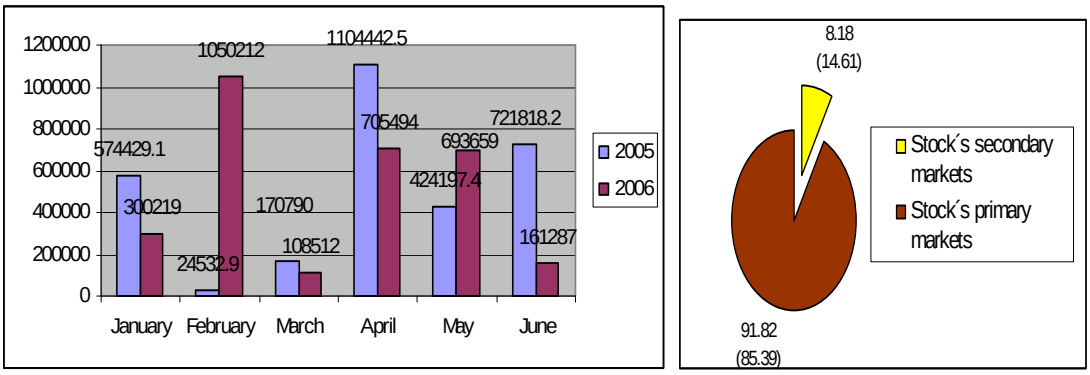
Another actor is the National Bank of Azerbaijan that avails its typical open market instruments at Azeri Stock Exchange. Therefore, NBA issues short-term notes which account for more than 65% of all traded BSE papers. Commonly, Short-Term Notes were released in domestic currency, but the first Eurobond will take place in 2006. Essentially, the Central Bank bonds have the same structure as governments T-bills and were used to place refinancing volume at private banks proposal. The interbank rate, applied as main refinancing instrument, ranged between 11% and 4% in current year. Furthermore, 11% of financial assets are REPO operations which made a greater share in 2005. But the volume of REPO operations with Notes exceeds the last year's operations by 1.86 times. The operating considered period ranged between 1, 3 and 7 days and was usually carried from NBA to banks or otherwise. In May 2006 it was the first REPO that was carried out from bank to bank with an operating duration of 27 days.

(c) Corporate Bonds and Stocks

The most interesting financial market instruments for foreign investors are clearly corporate securities. For international investors it is more than just important to observe how far Azeri companies are able to finance by stock exchange. Particularly, in the recent years the private firm's asset share increases strongly. In 2005 private securities were traded by one fifth of all assets. Most companies that issue securities come from bank or food sector. The volume of corporate bonds in first half of 2006 exceeds the same amount for the analogous period in 2005 by 31.86 times. Thereby, it should be mentioned that only in May 2005 bond placements were performed. That is most likely the reason for large differences in volumes. In January-July of 2006 the bond issuers were AtaLeasing, ParaBank, Bank Standard, Siazan Brickworks and AZEL. The bonds were issued at face values AZN 100, USD 100 and USD 10,000. The coupon rate on bonds with face value 100 was 13-14% the others 18%. In comparison to previous period the share of bonds related to other financial instruments increased.

If we take a look at stock market it is completely the opposite. The overall stock share decreases from 18% to 9% which led total private activity fall down in relation to other products (see Fig. 13). Although other instruments seem to be more attractive, equity market volume increases in the first six month by 78.55% compared with the same period in 2005. The phenomenon that volumes of placements over considered period changed without particular trends from month to month can be observed in previous periods. It is some kind of interesting that stock volume in March and May had a strong rise in 2005 and 2006.

Figure 14: Azerbaijan – Stock volume primary market and structure of Stock market (2005, 2006)



BSB June Bulletin, Baku Stock Exchange (2006)

This could be referred to a seasonal fluctuation of stock placements. However, most issuers were banks and non-bank credit agencies. If we take a look at stock's secondary markets we ca see in figure 10 that total turnover in first half of 2006 is less compared to same period in 2005.

Nevertheless, it should be noted that secondary market is so small in total turnover that it becomes necessary to compare it with primary market of stocks. Thereby, we can see that share of secondary market stocks decreases in 2006 by 6.43% which is a result from increasing primary market and decreasing secondary market volumes.

4 Conclusion

Azerbaijan has excellent growth chances. The World Bank emanates from a double-digit growth in the next five years. The realization of the projects needs at least three month and requires investment in the amount of 13 bn US-$. By IMF count the expected revenues from the oil sector amount to 800 m US-$ per year until 2007. From 2007 to 2010 this digit increases to 2 bn US-$ per year. The average growth of the non-oil sector is expected to be 5.1 % until 2010. In how far Azerbaijan fulfills these prophecies is due to the government's success in restructuring the economy, attracting foreign investors and fighting corruption. The reorganization is necessary to keep Azerbaijan permanently from Dutch Disease tendencies. A strong competitive production sector paired with efficient National Bank is able to scotch Dutch Disease discussions for ever. However, government knows that FDI inflows into non-oil sectors are necessary for achieving that goal. But situation today is still characterized by oil dominated FDI. Therefore, government's option is restricted by allocating the oil revenues to other sectors without pulling the oil plug on fuel industry. The decreasing share of direct investments on total capital inflows in Azeri industry from 2004-05 is not a sign for bad perspectives. It is mainly caused by a strong increase in alternative investment opportunities like securities and loans. This shows Baku Stock Exchange is going to become a financial center in Eurasia. Paired with the completion of the pipelines it can turn to an important strategic trade partner for the European Union. In the context of the TACIS program the European Union started Partnership and Cooperation Agreements with CIS and countries Central

Asian countries. The PCA covers all non-military areas. Azerbaijan was introduced into that program in July 1999 by signing a contract. In November 2006 the ENP Action Plan was published. It has a five year time frame and its superior goal is to advance the approximation of Azerbaijan's legislation, norms and standards to those of the EU as taking notes of their expand EU aspirations. The Plan is subdivided 10 priority issues and general goals. The contribution to a peaceful solution in the Nagorno-Karabakh region obtains first priority. It is planned to increase the diplomatic efforts as well as to encourage people-to-people contacts. Furthermore, the EU wants to intensify dialogue with states concerned by political support to OSCE Minsk Group. The next priorities are strengthening the democracy, human rights and rule of law by continuing implementation of electoral, institutional, legislative, judiciary and administrative reforms. On 4th and 5th priority economical goals like improving business climate or supporting economical diversification process were listed. In this case the fight against corruption might be the most important issue. The next goals are the converging economic legislation and enhancing cooperation in energy, transport, justice, freedom and security in that order. Generally, the European Union is interested in continued development of the market economy and to create a business climate that is attractive to investments. Therefore, Azerbaijan is strongly anxious to fight corruption which is still incredible high. Surely, the investment climate suffers from venality but even the highest ranks were not spared by corruption rumors.

Literature

- **Alam, M. S.** *"Anatomy of corruption: an approach to the political economy of underdevelopment" (1989),* The American Journal of Economics and Sociology, Vol 48 (4).
- **Auty, R.** *"Why resource endowments can undermine economic development: concepts and case studies" (2001),* Paper prepared for the BP-Amoco Seminar, Lincoln College Oxford University, November 28–29.
- **Auty, R. and Kiiski, S**. *,Natural resources, capital accumulation, structural change and welfare" (2001)* In: Auty, R. (Ed.) Resource abundance and economic development. Oxford University Press, UK.
- **Baliamoune-Lutz, M. N.** *"Does FDI contribute to economic growth? Knowledge about the effects of FDI improves negotiating positions and reduces risk for firms investing in developing countries"(2004)* Business Economics. April 2004
- **Bayulgen O**., *"Foreign Investment, Oil Curse, and Democratization: A Comparison of Azerbaijan and Russia" (2005),* Business and Politics, Vol. 7, Iss. 1, Art. 3, 2005
- **Baniak, Cukrowski and Herczynski**, *"On determinants of foreign direct investment in transition economies"*, ECB working paper, December 2002
- **BFB Analytical Newsletter No. 37 June 2006**
- **Blomström, M. & Kokko, A.**, *"Human Capital and Inward FDI"* (2003) EIJS Working Paper Series 167, The European Institute of Japanese Studies
- **Borensztein, E., J. De Gregorio, and J. W. Lee** *"How Does Foreign Direct Investment Affect Economic Growth?" (1994)* IMF Working Paper 110.
- **BP Statistical Review of World Energy June 2006**
- **Buiter, W.H. & Purvis D.D.** *"Oil, Disinflation and Export Competitiveness: Model of the Dutch Disease" (1980)* NBER Working Paper Series, Nr. 592
- **Corden W.M.** *"Booming Sector and Dutch Disease Economics: Survey and Consolidation" (1984)* Oxford Economic Papers, New Series, Vol. 36, No.3 (Nov., 1984), pp 359-380
- **Collier P. and Hoeffler A.** *"On economic causes of civil war" (1998),* Oxford Economic Papers, Vol 50, Nr. 4, pp.563-573
- **Delice, Güven,** Economic Determinants of German Direct Investment in Turkey, in: *W. Fuhrmann (Hrsg.), Working Paper, International Economic; Universität Potsdam, 2003-02, www.uni-potsdam.de/u/makrooekonomie/docs/publ/dp/ie_2_2003pdf*
- **Dunning, J. H.** *"Multinational Production and the Multinational Enterprise"(1981);* Georg Allen&Unwin, London.
- **Fender J.** *"Oil in a Dynamic Two Good Model" (1985)* Oxford Economic Papers, new Series, Vol. 37, No.2 (Jun., 1985), pp. 249-263
- **Fuhrmann W.** *"Peace in and for Azerbaijan" (2007)* Visions of Azerbaijan (ed.), International Visions: The Armenia-Azerbaijan conflict over Karabakh – From History to Future Peace Prospects; ISBN 978-9952-8092-44; pp. 137-144.
- **Gylfasson T.** *"Natural Resources, Education and Economic Developement" (2000)* European Economics Review, Vol. 45, Nr. 4-6, pp. 847-859

- **Gylfasson T.** *"Lessons from the Dutch Disease: Causes, Treatment, and Cures" (2002)* Institute of Economics Studies, Working Paper Series, W01:06
- **Habib M. & Zurawicki L.** *"Corruption and Foreign Direct Investment" (2002)* Journal of International Business Studies, 33, 2 (Second Quarter 2002): 291-307
- **Helpman, E."***A simple Theory of International Trade with Multinational Corporations" (1984).* The Journal of Political Economy 92:451-471.
- **Knogler M., Sekarev A. "***Wirtschaftsstruktur und Kooperationspotential Aserbaidschans außerhalb der Energieförderung" (2004)* Working Paper OIM, Nr. 251
- **Markusen, J. R.**"*Multinational Firms, Location and Trade*" (*1998*) The World Economy 21:733-756.
- **National Bank of Azerbaijan Annual Reports 2001-2005**
- **Papyrakis E. & Gerlagh R.** *"Natural Capital, physical Capital and the Resource Cursee"(2006)* The Political Economy of King Midas, Papyrakis 2006
- **Rosenberg C. B. & Saavalainen T.O.** *"How to deal with Azerbaijan´s Oil Boom? Policy Strategies in a Resource-Rich Transition Economy" (1998),* IMF Working Paper, European Department WP/98/6
- **Singh R. & Laurila J.**, *"Azerbaijan: Recent Economic Developments and Policy Issues in Sustainability of Growth" (1999),* BOFIT Discussion paper, 1999 Nr. 5
- **R. Torvik** *"Natural resources, rent seeking and welfare" (2002)* Journal of Development Economics, Vol. 67, No. 2, pp. 455-470
- **State Statistical Office of Azerbaijan Republic**
- **UNCTAD Investment Report 2004**
- **World Bank Poverty Reduction Paper** *"Azerbaijan-Building Competitiveness" (2003),* An Integrated Non-Oil Trade and Investment Strategy (INOTIS) (In Two Volumes) Volume I: Summary Report 11/2003
- **World Bank WDI** *"Azerbaijan at a glance" (2005)*
- **World Oil Report 2006,** OECD
- **van Wijnbergen S.** *"The Dutch Disease: A Disease After all?" (1984)* The Economical Journal, Vol. 94, No. 373, (Mar., 1984), pp. 44-55

Table of Figures

Appendix

A-1: Azeri crude oil industry before 1990

1594 first oil font

1848 first oil production of the world

1901 10 m barrel oil (50% of world's production)

1925 first offshore production

1941 23.4 m barrel crude oil (76 % of fuel
And more than 90 % of avgas for the red army during the 2nd world war were delivered in Baku)

1949 Offshore field in Neftjannyje Kamni

1990 Restriction of oil output

A-2: Crowding Out Effects

Solving for steady state capital and output per capita:

$$L(c_t^t, c_{t+1}^t, \lambda) = \ln c_t^t + \frac{1}{1+\beta}\ln\left(c_{t+1}^t(1+n)\right) - \lambda\left(c_t^t + c_{t+1}^t\frac{(1+n)}{(1+r_{r+1})} - w_t - \pi q y_t - (1-\tau)qy_{t+1}\frac{(1+n)}{(1+r_{t+1})}\right)$$

(1) $\lambda = \frac{1}{c_t^t}$ (2) $\lambda = \frac{1+r_{t+1}}{(1+\beta)(1+n)c_{t+1}^t}$ (3) Euler-equation: $c_{t+1}^t = c_t^t\frac{(1+r_{t+1})}{(1+\beta)(1+n)}$

The Euler equation gives us the intertemporal condition for the saving-consumption decision. Introduce Euler equation into the budget constraint and we get consumption function:

(4) $c_t^t = \left[\frac{1+\beta}{2+\beta}\right]\left[w_t + \pi q y_t + (1-\tau)qy_{t+1}\left(\frac{1+n}{1+r_{t+1}}\right)\right]$

And the savings function:

(5) $s_t = w_t + \pi q y_t - c_t^t = \left[\frac{1}{2+\beta}\right]w_t + \left[\pi q y_t - (1-\tau)qy_{t+1}\left(\frac{1+n}{1+r_{t+1}}\right)\right]\left(\frac{1+\beta}{2+\beta}\right)$

Since we assumed competitive and cleared markets and endogenous channel for human capital:

(6) $w_t = (1-\alpha)k_t^{\alpha+(1-\alpha)\sigma}$ (7) $r_t = \alpha k_t^{\alpha(1-\alpha)(\sigma-1)} - 1$ (8) $y_t = k_t^{\alpha+(1-\sigma)}$

(9) $i_t = s_t = k_{t+1}(1+n)$ (10) $s_y = \frac{1}{2+\beta}$ (11) $c_y = \frac{1+\beta}{2+\beta}$

We can write the dynamic equation for capital per capita:

(9) $(1+n)\alpha k_{t+1} = s_y\alpha\left((1-\alpha)+\pi q\right)k_t^{\alpha+(1-\alpha)\sigma} - c_y(1-\tau)qk_{t+1}(1+n)$

(10) $k_{t+1} = \frac{s_y\left((1-\alpha)+\pi q\right)\alpha}{c_y[1+n]\left(q(1-\tau)+\alpha\right)}k_t^{\alpha+(1-\alpha)\sigma}$

Finally, we set $k_{t+1} = k_t = k^*$ in order to calculate the steady state value of capital and output per capita

$$k^* = \left[\frac{s_y\left((1-\alpha)+\pi q\right)\alpha}{c_y[1+n]\left(q(1-\tau)+\alpha\right)}\right]^{\frac{1}{(1-\alpha)(1-\sigma)}} \qquad y^* = \left[\frac{s_y\left((1-\alpha)+\pi q\right)\alpha}{c_y[1+n]\left(q(1-\tau)+\alpha\right)}\right]^{\frac{\alpha+(1-\alpha)\sigma}{(1-\alpha)(1-\sigma)}}$$