THE MİNİSTRY OF EDUCATİON OF THE REPUBLİC OF AZERBAİJAN
AZERBAIJAN STATE UNIVERSITY OF ECONOMICS
INTERNATIONAL GRADUATE AND DOCTORATE CENTER

MASTER DISSERTATION

ON THE TOPIC

"Problems and Perspectives of Non-Oil Export of Azerbaijan"

ABBASLI SAMIR YASHAR

BAKU – 2019

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Head of the Center
Ph.D., Ahmadov Fariz
Sign:_____
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_____ Sign

Scientific Supervisor :

Ph.D., Ismayilov Altay Huseyn

_____ Sign

Program manager:

Ph.D., Kamala Najafova Akif

_____ Sign

Head of the Department:

Phd Kalbiyev Yashar Atakishi

_____ Sign

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AZƏRBAYCANIN QEYRİ-NEFT İXRACININ PROBLEMLƏRİ VƏ PERSPEKTİVLƏRİ

Xülasə

Tədqiqatın aktuallığı: Qeyri-neft sektoru, onun ixracının inkişaf etdirilməsi Azərbaycan dövlətinin qarşısında duran ən əhəmiyyətli hədəflərdən biri olaraq qalmaqdadır. Ölkə ixracının 90%-lik hissəsinin mədənçıxarma sənayesindən asılılığı, ölkə iqtisadiyyatını böyük risklərlər qarşı-qarşıya qoyur. Belə ki, bu sənəyenin məhsullarının qiymət çox dəyişkəndir və qiymətlərin enməsi ölkə iqtisadiyyatında ürəkaçmayan nəticələrinə səbə olar bilir. Bunu nəzərə alaraq, qeyri-neft sektorlarının problemlərini öyrənmək və həll yolları tapmaq daim prioritet istiqamət sayılır.

Tədqiqatın məqsəd və vəzifələri: Dissertasiya işinin əsas məqsədi Azərbaycanın qeyri-neft ixracının mövcud vəziyyətini, problemlərini təhlil etmək. Azərbaycanda və həmçinin dünya ölkələri arasında resursa bağlı iqtisadiyyatların problemlərini və bu problemlərin həlli yollarını araşdırmaq, Azərbaycanın qeyri-neft ixracının inkişafı üçün təkliflər vermək.

İstifadə olunmuş tədqiqat metodları: Dissertasiya işinin hazırlanmasında bu sahəyə aid statistik məlumatların analizləri aparılmışdır. Əlavə olaraq qeyri-neft ixracına təsir edən bir neçə amilin ekonometrik analizi də eidlmişdir.

Tədqiqatın informasiya bazası: Tədqiqatın hazırlanmasında informasiya bazası kimi bu sahədə Azərbaycan və digər ortaq problemli ölklər üçün edilmiş elmi araşdırmalardan, ölkə iqtisadiyyatının illik təhlilərindən, beynəlxalq təşkilatların nəşrlərindən, yerli və beynəlxaq statistik məlumat bazalarında istifadə edilmişdiur.

Tədqiqatın məhdudiyyətləri: Riyazi analizlərin aparılması üçün hazır statistik məlumatların olmaması və ya asanlıqla tapılmaması.

Tədqiqatın nəticələri: Ölkə iqtisadiyyatı hələdə mədənçıxarma sənayesindən çox asılıdır və bu gələcək üçün böyük risklər daşıyır. Uğurlu ölkələrin təcrübəsində istifadə edilən, büdcə və xərc siyasətlərinə

Nəticələrin elmi-praktiki əhəmiyyəti: Azərbaycan və oxşar problemlərlə qarşılan ölkələrin ortaq cəhətləri müəyyə edilmiş, problemlərə qarşı uğurlu nəticəli iqtisadi siyasətlər sadalanmışdır. Verilmiş təkliflər ixrac potensialından istifadə etmək də yararlı ola bilər. İş gələckdə bu sahədə araşıdrma etmək şəxslər üçün yığcam istinad mənbəyi kimi istifadə edilə bilər.

Açar sözlər: Qeyri-neft, Azərbaycan, ixrac, Holland krizisi

ABBREVIATIONS

GDP	Gross Domestic Product
REER	Real Effective Exchange Rate
RER	Real Exchange Rate
USD	United State Dollars
AZN	Azerbaijani manat
FDI	Foreign Direct Investment
IMF	International Monetary Fund
NRGI	National Resource Governance İnstitute
FEES	Economic and Social Stabilisation Fund
FİC	Innovation for Competitevness Fund

CONTENTS

INTRODUCTION

Actuality of the thesis. The problems of resource-rich countries have been a heavily debated topic in the economic sphere for about half a century. Resources were considered a very important source for creating a prosperous economy. Expecting substantial revenues from natural resources to generate wealth and help to develop the other sectors of the economy can be considered simple common sense. However, this was not happening; countries with vast reserves of natural resources had slower economic progress and development than the ones without them. An example of this phenomenon is our country, Azerbaijan. Having rich oil and gas resources enabled the country to show great economic growth at the beginning of the 21st century. Large scale capital investments into the oil sector had started to pay off. Booming oil sector increased its share in total GDP from 30% to 60%. Driving on oil revenues government expenditures and consumption rose sharply, but these spending was mainly on the non-tradable sector, that's why the non-oil industry had started to weaken. The Economist has an article on Azerbaijan dated March 8th 2007 (Economist, 2007). The article describes how a large revenue stream from oil exports increased budgetary spending by a very high rate of 80%, leading to a double-digit inflation rate of 11.4%. The result is a stronger domestic currency, which decreases the competitiveness of tradable sectors in the global arena. Being dependent on oil prices is very risky because if oil prices decrease too much, it can lead to recession. In 2015 the currency of Azerbaijan devalued twice, because of falling oil prices. As a result, many sectors of the economy was hit, prices in the goods market rose quickly, leading to a marginal decrease in the purchasing power of the population. People with dollar credits had to pay 100% more in azn credits, with rising numbers of debtors unable to pay back, the banking sector got crushed under bad debts. The problems like the one in Azerbaijan has happened in many other nations, like Venezuela, Saudi Arabia, Nigeria, Russia and etc. That's why it is very important to analyze this problem and create policies of diversification economy, so such a crisis does not happen in the future.

Statement of Problem and level of learning. The non-oil sector has too low share in the total export of the country. Weak infrastructrul base limited the competitveness of industry upon independence. The resource boom and heavy spending led to real excrange rate appreciation, which worsened the non-oil export condition. But as described in last parts of the paper, it's possible to turn the situtation for better by employing stritic policy and rules.

The purpose and missions of research . The primary objective of the thesis is to analyze problems affecting non-oil export volume in Azerbaijan and to find solutions to turn the perspectives to reality. To reach this objective, the following topics will be researched.

- Problems of different resource abundant countries
- Specific problems of oil-rich countries
- Analyzing the situation in Azerbaijan, concerning problems and perspectives
- Researching economic policies affecting the non-oil export
- Researching successful country models and giving suggestions for development

Subject and Object of the study. The object of the study is non-oil export performance and its problems in Azerbaijan. Policies to improve the non-oil sector in general. The subject of the thesis is analyzing the the reasons for weak performance of non-oil export of Azerbaijan. The problems of resource-rich countries in general, the current condition in Azerbaijan non-oil sector, factors affecting non-oil sector developement and succesfull policy models will be researched.

Research Methods. This research will be a quantitative one, employing econometric modeling, such as ordinary least squares. After getting data from statistics agencies, regression analysis is done, which presents the existence or non-existence of a correlation between the non-oil exports and its determinants. Additionally, analysis of the successful policies has been done The information gathered will be used to choose the most compatible development model for Azerbaijan.

Information and emprical base of research. There are a vast number of research papers related to non-oil export and its problems.

Corden and Neary constructed Dutch Disease model in their work “Booming sector and Dutch Disease Economics: Survey and Consolidation”. The author divided the economy into three sectors and analyzed the three effects of the disease on the economy.

There are several famous works the field research by Richard M. Auty. In one of those papers, “Resource-based Industrialization and Country size: Venezuela and Trinidad and Tobago”, the author research-based industrialization and its effects on two mentioned countries. The author concludes that RBI is risky, regardless of country size, it can worsen the economic position of the country. Hence such projects must be implemented with the utmost care and as a part of the large diverse initiative.

In their research of “The Impact of Real Exchange Rate on Non-Oil Exports: The case of Azerbaijan”, Fakhri Hasanov and Ilaha Samadova has used Vector Error Correction Model. The authors have concluded that the real exchange rate has a negative impact on non-oil exports and appreciating it impedes non-oil export growth.

Fakhri Hasanov additional has researched the effects of Dutch disease on Azerbaijan economy. The author has concluded that large government expenditures have led to spending effect, while wage and following demand increases have appreciated the domestic currency leading to real exchange rate appreciation.

In the book “Escaping the Resource Curse”, in chapter 7, Jeffrey D. Sachs writes about how to handle macroeconomic oil wealth. The author writes about how to invest the oil income, save money for future generations through financial assets and good governance.

Osman Nuri Aras, Elchin Suleymanov and Ayaz Zeynalov analysed the situation of non-oil export and import in Azerbaijan. The author has analysed the

week trade performance of the oil-sector and given a list of their suggestions to correct the situation.

In his research paper “Avoiding the Dutch Disease: A comparative study of Three Successfull Countires”, Sarvar Gurbanov analyzed the experience and policies of Norway, Indonesia and Botswana in dealing with resource abundance economy. The author also has also written a very informational and valuable book on Dutch Disease with country examples. The book provides the reader with information about the disease from different perspectives.

Published by Center for Economic and Social Development think-tank and authored by Rashad Hasanov, “Azerbaijan Economy 2018: Results and Perspective” is one of the most informative papers to get information about the most current condition of the economy of Azerbaijan.

Online resources have been used during the preparation of the paper. Analysis of the main problems facing Azerbaijan’s non-oil exports

Pure econometrics books such as Johansen S. “Statistical analysis of cointegration vectors” has been used to develop the econometric model.

Limitations of research. There was a limited data clearly dividing local resource tradable, non-resource tradable and non-tradable sectors performances. Additionally, some data could not be found in more than one currency easily.

The result practical and scientific application. The result is analyzing the current performance paints a very bleak situation at the moment; the GDP still depends on the oil prices and non-oil exports only accounts for roughly 10% of the total exports. There are other problems, such as diversification. Despite exporting nearly 1200 types of goods and services, 31 of them account for 97% of the turnover. Unfavourable exchange rate, low diversification and competitiveness are seen as the main reasons for such a low share for the non-oil sector. But it’s not unsolvable either, using the the examples of successful policy adjusments and strict spending maintains, Azerbaijan can realize its potentional.

The structure and length of dissertation. In the first part of the research, common problems of these countries will be researched. The oil curse, Dutch

disease and their effects on a country will be presented. Effect of Dutch disease on Azerbaijan will be researched briefly.

In the second part of the theses, the Azerbaijan economy is the focus of the research. The current condition of the economy in general and the results of sectors will be presented. Non-oil export levels and its problems will be researched in this part.

The third section of the research is devoted to analyzing of variables affecting non-oil export and successful country models. Policy suggestions related to the resource curse problem will be made here.

The paper ends with a brief summary of the findings, results and suggestions in conclusion.

CHAPTHER I. THE THEORETICAL BASIS OF PROBLEMS FACED BY RESOURCE-BASED ECONOMIES

1.1. Examination of common problems of resource-based economies.

The first part of the thesis is dedicated to researching the economic situation in abundant resource countries. Natural Resource Governance Institute defines resource curse as: "*The resource curse (also known as the paradox of plenty) refers to the failure of many resource-rich countries to benefit fully from their natural resource wealth, and for governments in these countries to respond effectively to public welfare needs*." (NRGİ, 2015)

Resource-based economies are often -although somewhat arbitrarily defined as economies in which natural resources account for more than 10% of GDP and 40% of exports" (Ahrend, 2007). There is a history behind this conclusion. After the oil shocks in the 70s, the impact on oil exporters got attention. Logically countries with significant natural resources should be able to generate more revenue and acquire more wealth. As we know the natural resources are scarcly divied. There have been many conflicts over such resources throught history. The countries with rich resources were considered the lucky ones. Many economists and scientists expected such countries to be the most likely ones to create wealthy nations with low poverty. News of the discovery of a reserve, especially in terms of metals and energy products, is often seen as a key to enrichment with great enthusiasm in such countries. In such countries, having a rich reserve in natural resources is considered a way to get rid of the vicious cycle of poverty. Going through economic history, these expectations were indeed justified. Like the countries with rich silk resources in earlier centuries or United States of America in late 1800s and early 1900s, the countries with natual resources used to prosper and develop more than the countries lacking such resources. During 1970s the oil rich countries were examples to resource-rich nations. But the economic performance of such countries were not at the expected level, especially at 1980s. The slow economic performance led to debates in economic spheres about the phenomenon, i.e. "Resource Curse". Many researchers have painted a negative relationship (increase

in one variable decreases other) between resource abundance and economic performance. Auty (1986, 1993, 2001), Sachs and Warner (1995, 1997) research the relationship between GDP growth and an abundance of natural resources. Simply said, what happened was, resource-rich countries usually had a period of great growth as the country received large revenues from the production and sale of the non-renewable resource. But later, as the countries focus solely on mining and neglect the development of other sectors, such as manufacturing and industry, the economy would become depend on the non-renewable resource's prices. If the prices of commodities in the world market are high, the countries would benefit, but if the prices are low, the negative economic situations, such as recession, take place.

It's been argued by economists that wealth generated from resources such as oil and gas is different from the wealth generated from other sectors of economy. They mentioned some reasons for such behavior:

- site-specific nature
- scale (sometimes referred to as large rents)
- price and production volatility,
- non-renewable nature

The resource curse is usually observed in emerging and less developed economies.

Not all studies support the resource curse thesis either. One study found out that out of 33 studies providing 402 regression specifications 40% report negative, statistically significant effect, 40% report no effect and 20% positive and statistically significant effect on economy. But the trend of resource curse, especially in less developed countries, has repeated itself.

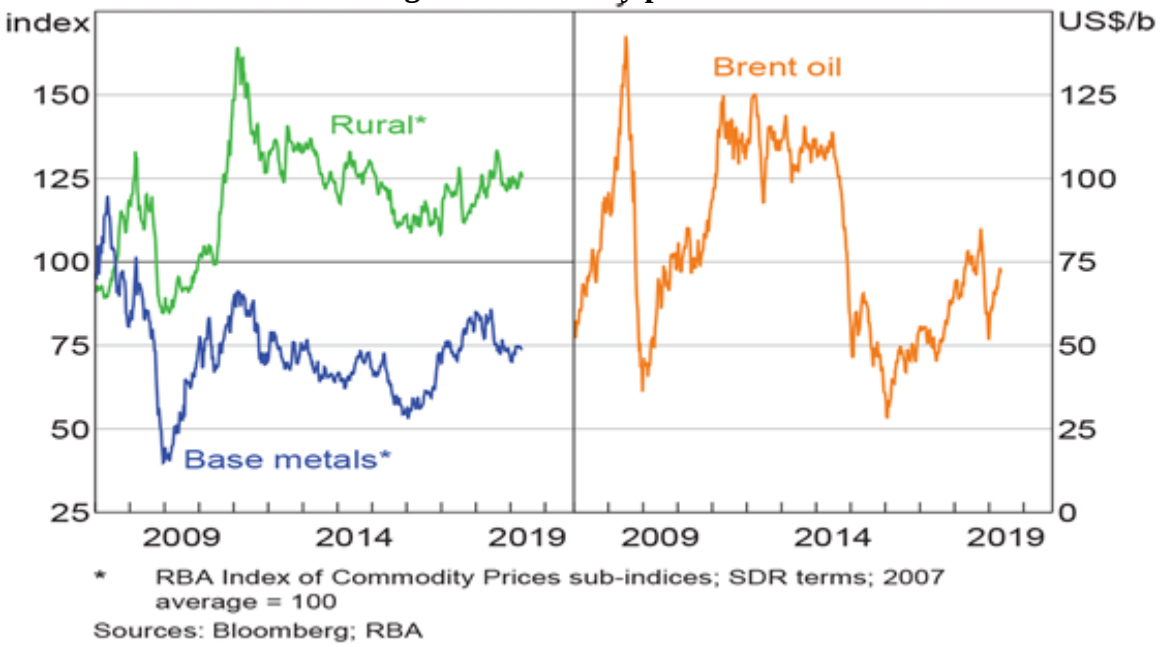
Some of the main problems of resource-based economies are as follows:

1. Revenue volatility

The prices of natural resources, such as oil and gas are very volatile. Looking at image 1, it's possible to have a very big price fluctuation. The decrease in oil prices from $115 per barrel in June 2014 to $35 per barrel in February 2016 is an

example to this phenomenon. Mikesell, economist, found in his research that countries which had high share exported resources experienced two or more times than industrial countries. The revenue volatilty can have devastating effects for a country's economy if it's the largest income source.

Image 1. Commodity prices index



Source: Reserve Bank of Australia. www.rba.gov.au ,2019

2. Overborrowing

During the 70s the resource prices were high. Resource-rich nations decided to use the resource income as a guarantee to acquire foreign debt and to cover consumption and investment projects. But the prices did not stay forever, they decreased in 80s. The countries' high external debt was no longer sustainable, and balance of payments crises arose. Another adverse effect of such debt levels is, when it is higher than 60% of GDP, the annual economic growth starts to decline. The percent of decline depends on the level of debt, at 60% level it's 2%, but may equal to half of growth at higher levels.

3. Inefficient spending and borrowing

As mentioned before in revenue volatility the prices of natural resources are very volatile. It's been studied by several economists that using, investing such unpredictable revenues are very challenging. One of the most repeated mistakes made by the governments is cycle base spending. When the price of commodity

rises, revenue inflows start to get bigger, governments increase their spending, usually in goods market, large construction projects are an example of such fiscal policies. But when the price start to decrease, governments are no longer able to finance the projects and start unexpected cuts. Such governments usually spend resource income on salaries, subsidies and large projects while underfunding important areas such as manufacturing and education.

4. Volatility as a Transmission Channel

One negative externality of Dutch disease is, the commodities with high price volatility may take the largest share of export products. Unlike industries such as manufacturing, resource prices are very risky and volatile. A bigger risk arises when governments base their spending on resource income. As mentioned in Dutch Disease part, spending based on resource income leas to exchange rate volatility through spending effect. Many economists and scientists have documented that volatility constricts the investment and growth levels in the country. As mentioned many times, REER volatility has especially negative significant consequences for growth.

1.2 “Oil Curse” and “Dutch Disease: implications for economies

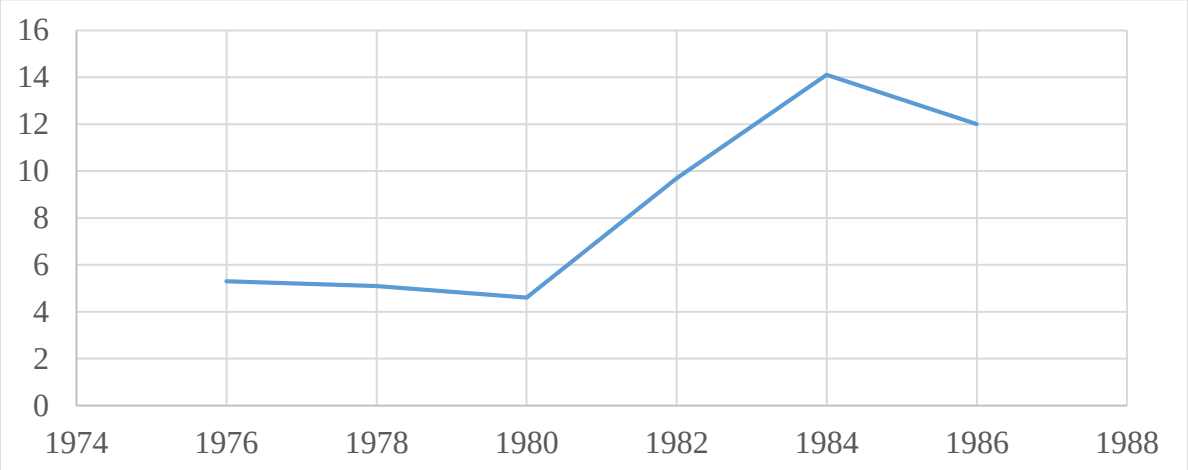
The second part of the first chapter examines the “Oil Curse" problem in detail. As the export of Azerbaijan is oil-dependent, it is necessary to research this problem. As examined on the first part, depending on natural resources creates too much volatility which can have serious negative consequences. If a country is dependent on a high rate of natural resource sector in exports, this results in a high level of poverty. As a result of this research, it is seen that the governments of these states are generally not successful in education and health sector. One of the other reasons is that a certain part of the revenues can be recorded in the country where the earnings boom in the natural resource sector is recorded. Revenues from the earnings boom in the natural resource sector are exceedingly high by the state. Another reason is the rapid increase in the prices in the natural resource sector and

the downward trend of the country's economies negatively and weakening the institutions in the country at the same time.

One consequence might be "Dutch Disease" which is adverse effects of export on tradable sectors. The term was first used by The Economist in 1977. The journal referred to Netherland government's poor management of the revenues generated by the natural gas sector which lead to the appreciation of the national currency followed by negative economic growth. During 70s Netherland had incurred a high level of revenues from oil export. While the country was creating a vast amount of wealth, it's manufacturing sector lost competitiveness due to the rising exchange rate, which led nearly three times increase in unemployment (Graph 1). The model was formalized by W.M. Corden and J.P. Nearly in 1982. The authors differentiated three processes in the country affected by Dutch Disease:

- Share of resource based exports grows larger in total export of the country.
- Through spending effect (will be discussed in detail later), the real exchange rate appreciates.
- Due to unfavorable exchange rate, and resource movement effect (will be discussed in detail later), the non-resource-based sectors of the economy lose competitiveness, de-industrialization of the economy happens.

Graph 1: The Unemployment level in the Netherlands.



Source: Prepared by author, data retrieved from World Bank, https://data.worldbank.org/indicator/sl.uem.totl.ne.zs, 04.01.2019

Corden and Neary divided economy into three categories:

1. Resource tradable sector
2. Non-resource tradable sector
3. Non-tradable sector

While Dutch disease is primarily associated with natural resource discovery, it can also be the result of any foreign exchange inflow to a country, including significant increases in foreign direct investment, hot money, foreign aid or natural resource prices.

Investopedia.com describes two main effects of the problem: “a decrease in the price competitiveness of exports of the affected country's manufactured goods and an increase in the quantity of imports. The reason behind the creation of this situation in an economy is the negative effects of Dutch Disease.

The main problems effects of Dutch Disease include:

1. Resource movement effect. As a result of revenue streams, the natural resource sectors start to grow, which leads to growing demand for production factors in the sectors. The wages will start increasing in the booming sector and employees will move from other sectors, especially non-tradable sectors, to natural resources sector. This trend continues until wages are stabilized in all sectors. This is also called direct de-industrialization.

Reduced labor and capital in non-tradable sectors will result in excess demand and higher prices. The consequence will be an appreciation of real exchange rate and decline of international competitiveness.

2. Spending effect. The revenue stream from the natural resource sales leads to higher disposable income for individuals and the public and private sectors. Higher disposable income, in turn, translates to higher demand and spending. The result of high demand will be higher salaries in nontradables sector. Rising wages in the economy will squeeze profits in the nonresource tradables sector (such as manufacturing), because prices in that sector are fixed at international levels.

Economic changes likely to occur in countries with Dutch disease are as follows:

1. The appraisal of the national currency as a result of the excess foreign exchange obtained as a result of the increase of the export in the resource sector during resource boom.

2. The loss of competitiveness of the manufacturing sector as a result of the appreciation of the national currency and the decrease of its exports

3. Decreasing employment in this sector as a result of the narrowing of the manufacturing sector, the attractiveness of other sectors and the flow of labor and capital.

4. The economy becomes dependent on only one sector

5. Unbalance between demand and supply in the country. The economy becomes dependent on imports

6. Probability of global oil prices to cause shocks in the economy

As mentioned, both effects lead to real exchange rate appreciation which decreases the global competitiveness of traded sectors (such as manufacturing) as the prices in traded sectors are set on international level. On the other hand, increasing wages will raise the cost of capital in these sectors. A consequence of rising cost is bankruptcies -because tradable sector is not capable to compete at international arena- and unemployment. Let’s look at some of the impact on economy.

Let’s look at country examples to see the effect of Dutch Disease

Netherlands

It would be a good start to first discuss the country which gave the name to the disease. Netherlands main resource was its gas deposits. When they were first found many economists suggested that it would be better to extract and sell it. Netherlands was investing in atomic enegery at the time and spending money on gas was not a logical step. Start 1973, Netherlands started to gather large revenues due to oil boom.

80% of the revenue from the sale of natural gas in the domestic and foreign market has entered the state coffers. This new source of income has led to the growth of public expenditures, in particular transfer payments. This development led to the growth of public expenditures, in particular transfer payments. The government allocated large amounts of resource revenues to social security expenditures. The main concepts of the legal regulation can be summarized as follows. In the first year of the disease, any sick worker received 80% of the current wage. If the worker coud not return to work life, the person would receive up to 70% of the potential wage from the social security agency till retirement age. Such high benefits led to negative consequences and abuse of the system. Firstly employees got reports from for minor illnesses and received benefits, while continuing to work in another job. Second, employers used used to face heavy reparations to dismiss a worker, using disability reports enabled them to dismiss workers without reparation. Total of 600 thousand workers in the labor force included in the list of disabled workers. At any given time, 300,000 workers were in the state of illness. Considering that there were 460,000 unemployed people, 25% of the Dutch labor force was either not working or has been part-time employed. General public expenditures accounted for 67% of national income in 1981 with transfer payments.

Between 1963 and 1973, industrial sectors grew faster than the service sectors. In the first oil boom period (1973-78), the services sector had a relatively rapid growth in terms of both value added and quantity relative to the industrial sectors. The development until 1977 is similar to other European countries and does not seem to be specific to the Netherlands. But in 1978, the decline of the industrial sector accelerated and the discussion of the Dutch Disease began at this time. The Dutch experience may be characterized by the fact that traded sectors contract in favor of non-tradable sectors. Moreover, a significant portion of natural gas revenues has been spent in the non-tradable goods sector.

In the Netherlands experience, it is observed that the public has taken an active role in the symptoms of Dutch disease. First, the state did not provide

assistance to companies that did not have a good economic situation. The state budget is devoted to private sector investments and innovations. Business models such as Fokker aircraft have been developed in cooperation with government, business and academic environment. Austerity policy has been implemented for social assistance. The public has developed a risk-sharing model for the private sector. 40% of the risk for large firms and 70% of the risk for small firms and the risk capital provided by the public at low interest rates.

Nigeria

Nigeria is an interesting case among the countries effected by Dutch Disease. When a country is hit by Dutch Disease, usually de-industrialization happens but in the case of Nigeria what happened was de-agriculturization (S.Gurbanov, 2012). In the table 1, GDP share of sectors has been shown. It's observed that while share of industy grows, share of agriculture shrinks. This phenemenon has led to economists to use de-insdtrialization for developed countries, while using de-agrculturalization for developing ones.

In the 1970s, the Nigeria experienced first oil boom. While the economy was gathering large oil inflows, the government was following exponsialist policy. Large infrastructural projects were undertaken in constructuion sector. The public spending was so large that all oil revenue between 1970 and 1976 were spent. Adding current public spending to that figure, the budget slided to deficit. The deficit was covered with government davings and increasing supply of money.

Table 1. Sector shares in Nigeria GDP.

	1970-71	1975-76	1979-80	1981	1982	1984	1985	1986
Mining	44.6	26.7	21.5	25.5	28.1	35.7	35.1	36.3
Industry	12	14.4	16.8	22.3	18.7	15.8	16.5	12
Agriculture	7.5	4.8	6.5	10.8	12.3	9.5	10.7	11.4

Source: Dr. S. Gurbanov, Hollanda Hastalığı: Teori ve Ülke Örnekleri, 2012, based on ELLİ 1992, page 127

Between 1970 and 1982, Nigeria's agricultural sectors showed great decline. The export share of agricultural sector declined from 72% in 1970 to 2.4% in 1982. In the money terms, it decrease from 332 million Naira to 120 million Naira.

Looking at the data presented, it's become clear that oil sector became enclave in Nigeria economy. The oil boom has resulted in growth mining and urban services. In general urban ares benefitted greatly from oil boom. The wage in creases lead to migration from rural areas to urban areas. As a result of spending in industry and services sectors, labour force moved from agricultural sector to these sectors. Industrial sector employment was 4,69 million workers in 1975, an increase of 7.2% compared to the previous eight years; The employment in the agricultural sector decreased by 7.7% compared to 1967.

As it was in other economies affected with Dutch Disease, real exchange rate appreciation was a main result of the crisis. Expansionary fiscal policy led to inflation and appreciation of exchange rate in Nigeria. The public sector covered its needs through imports which led to decline of performance of the domestic sectors. In Nigeria, where the fixed exchange rate is valid, the increase in domestic demand caused the prices of domestic products to rise against the foreign product prices, which further strengthened the real exchange rate appreciation. Consumption was mainly directed to foreign import products. Which led to further deterioration of the domestic industry.

To summarize, the implementation of a fixed exchange rate regime in Nigeria strengthened the real exchange rate appreciation, one of the main results of the Dutch disease. As the industrila sector was too weak, the agriculture was the main export sector. Nigeria used to be net exporter in agrilculture. But as a result of real exchange rate appreciation, and spending effect rising from public sector investments in the industry and services sector, the agriculture sector has contracted and lost its position. Resource movement effect has been as a migration from agriculture to industry and from rural to big cities. Inefficent spending practice increased spending effect and impacted both agriculture and industry negatively.

Columbia

Colombia is the only country that can influence coffee prices after Brazil. The National Federation of Coffee Growers, founded in 1940 and responsible for the

management of the National Coffee Fund, was initially more production than the quota agreed with the US and Latin American countries.

Therefore, the fund is not seen as a means of price stabilization. Along with Brazil, it was directed to gain cartel power and to obtain market power. In 1958, price stability became a function for the Fund, with coffee prices falling significantly throughout the world.

Within the scope of the Dutch disease, in addition to oil-producing economies, the economy of Colombia will be taken into consideration, which is dominated by non-oil basic goods. Generally, the study has been carried out in accordance with the Dutch Disease theory regarding the agricultural sector and in particular the country where coffee production is of great importance.

The agricultural sector, on average, accounted for 60% of real exports of goods during 1970-1983. In this period, 32% of agricultural production was coffee, 35% was other coffee products, 33% was from livestock sector. Between 1970 and 83, coffee exports accounted for 45% of the total exports of basic goods. In this period, the increase in coffee prices increases in the demand for non-traded and non-traded goods and at the same time, the resources employed in other sectors have shifted to the coffee sector. Higher coffee prices resulted in higher export figures which led to higher revenue inflow, which resulted in an increase in the rate of monetary expansion and an increase in inflation. After 1975 the peso lost 30% of its real value. The main reason behind coffee price increases were bad climate in Brazil, civil war in Angola, earthquake in Guatamela. The declining supply led to increase of the price from 66 cents to 3.21 USD.

Alongside the increasing coffee revenue, there were price increases in domestic goods prices. Compared to 1970, the price were 11% higher in 1980. At the same time non-resource tradable sector showed shrinking. This result is a clear indication of Dutch Disease.

Columbia also experienced high debt accumulation. The country's international reserves show huge growth from 448 million USD in 1974 to 5.6 billion in 1981. The government used these reserves to increase the volume of the

borrowings. Increasing of required reserve rates caused deterioration in financial markets. Banks transferred funds to accounts with lower mandatory reserve requirements, leading to new items that are not subject to the required reserve ratio.

Colombia's economy exhibited a different view from other resource dependent countries. Coffee production, which caused a boom in earnings in Colombia, was produced by the private sector and a significant portion of the earnings remained under the management of the private sector. The Coffee Producers Association (Federaction Nacional de Cafeteros, FEDECAFE) has purchased coffee from producers at the declared reference price. Coffee is sold to foreign markets by both FEDECAFE and private exporters. FEDECAFE has played a key role in determining the base price in the domestic market. While some of the coffee revenues were taken as tax by the state, the other part was kept against the price stability fund and the producers tried to protect against the decrease in world prices. As the exports were taxed at low rates, more stringent monetary and fiscal policies were used to reduce domestic demand. According to the estimates, 25% of coffee incomes were obtained by FEDECAFE, 34% by producers, 30% by exporters, while only 11% of the total income was left in the public sector. Thus, domestic prices and the effects of real exchange rate on the sectoral output were weakly explained with the current model, while non-coffee exports were damaged as a result of real exchange rate appreciation.

The full employment assumption of the Dutch disease has led to the emergence of different results in the studies for the Colombian economy. In the case of a living economy, in which an idle capacity and underemployment are present, the effects of the Dutch Disease theory will be lower and the real increase in output will result. In a study, covering the years 1969 - 1999, it was found out that money supply decreased by 179 billion pesos in the next 5 years after the first shock. This situation, which is in contradiction with the Dutch disease prediction, is accepted as proof that Colombia can sterilize coffee revenues. The cumulative impact of the price of coffee for the same 5 years was considered as proof of the

impact of spending on consumer prices. Again, it was concluded that coffee prices caused real exchange rate appreciation.

Another noteworthy case in the same study is that in 5 years after the shock of coffee incomes, the cumulative real GDP increased by 3,775 billion pesos - an annual average of 755 billion pesos. Between 1969 and 1999, when the average GDP was 47,005 billion pesos on average, the average annual contribution of coffee revenues to the real GDP was 1.61%. The same positive contribution continued in the 10-year period. The long-term output effects of the earnings boom in coffee revenues should be regarded as an important finding in this sense. Because, according to the Dutch Disease theory, long-term growth should be adversely affected by the sector of earnings boom. In an economy where underemployment occurs, such as the Colombian economy, this thesis seems not valid. The Dutch Disease theory is not a suitable term in this sense, and is seen to provide chances to further strengthen the economic situation in the developing countries during the boom of basic goods.

The Colombian economic authority has not been able to sterilize its export revenues as required in the short term, and therefore, it is seen that export revenues have affected the economy in the period of earnings boom. Only taking the monetary sector into account, it is been found that the relative success is achieved in the period of middle term. This situation, which was highlighted earlier, is mainly due to the flow of coffee revenues to the private sector. In the countries of the oil exporting countries, the public sector receives a significant natural resource income through state monopolies and taxes.

To conclude, it is seen that as a result of the increase in world prices of coffee production in 1980s, the effect of spending and the resource distribution effect have been found together with real exchange rate appraisal in Colombia economy. A significant portion of the revenues of coffee exports are obtained by the private sector.

It was observed that, in a line with the accumulation of coffee profits, the effect of spending began to be processed immediately. This complicates the

management of the economic authority, while in the medium term coffee revenues are relatively more sterilized. Studies conducted in Colombia in the 1980s suggest that the symptoms of the disease in the Netherlands are more dominant.

Recent studies suggest that the coffee-centered earnings boom in the agricultural sector does not adversely affect long-term GDP growth, but offers Colombia a unique opportunity for economic development. The existence of unemployment had a decreasing effect on the volume of resource distribution effect.

CHAPTHER II. DESCRIPTION AND ANALYSIS OF THE MAIN PROBLEMS OF NON-OIL EXPORT OF AZERBAIJAN

2.1. Current situation and problems of the non-oil export sectors in Azerbaijan

Azerbaijan got its independence from Soviet Union in 1991. The country's industrial infrastructure was based on soviet technology and methods which was not in the global standards. The war with Armenia over Karabakh had devastating effect on the young country. The country had lost 20% of its land, thousands young people had died. The only good chance for the country was its s hydro resources, specifically oil. Azerbaijan has been an oil-producing country for a long time. First oil well was drilled in 1846. Between 1885-1890 many foreign investors participated in drilling activities in Azerbaijan, and the country could produce half of global oil. Famous families, like Nobles, arrived in the Baku and started to make large investments into the oil mining and production. After the invasion by Soviet Union, all oil rigs and production plants were taken under the government control. The oil industry kept growing during soviet occupation. After independence large scale projects was generated to develop the oil production. In 1994, the contract of the century was signed. The cash flows from this mega project would go on to play a major role formulating the Azerbaijan economy for the next decades. While the cash inflows improved economic situation and living conditions it had negative effects too. As government controlled the oil companies, the revenue stream was also directly collected and spent by the government. As manufacturing and industry was not capable of competing in global scale, the economy was dependent on government budget and oil revenues. The problem with this development was most research done on the economy of Azerbaijan has concluded that main driving force behind economic growth is oil industry and related fields. As described being dependent on a single resource may have devastating results for an economy. That's why it's important to find the weaknesses of overall economy and improve them. By doing so a government makes the economy more diverse and reduces economic risks.

Let's have a look at main macro-economic indicators of Azerbaijan economy.

Table 2. Main macro-economic indicators of Azerbaijan economy.

Years	2016	2017	2018
GDP mln. USD Growth rate %	37,868 -3.1%	40,748 0.1%	46,940 1.4%
GDP Per capita USD	3928.6	4198.5	4780.1
Non-oil GDP, mln. AZN	20545	23535	41589
Consumer Prices index	12%	13%	2%
External trade balance, mln USD	4618	6964	9841
Export, mln USD	13108	15746	20794
İmport, mln USD	8489	8782	10953

Source: State Statistics committee and Central Bank of Azerbaijan, www.stat.gov.az, www.cbar.az, 2019

As one can see from table 2. after the stagnation period during 2015-2017 real GDP grew by 1,4% in 2018 and reached 79,8 billion AZN. The important fact is GDP growth was mainly driven by the non-oil sector. The growth in these sectors were 1,8% (Ministry of Economy, 2018). The overall share of non-oil sector in GDP has been 58.5% or 46.7 billion AZN. According to Azerbaijan Ministry of Economy 2018 non-oil industry report, the growth in non-oil sector industries were as follows; non-oil industry 8,5%, information and telecommunication industry 9,3%, truism and hospitability 7,6%, trade 3,0%, agriculture 4,6%, transportation and warehouse 7,8%.

Center for Social and Economic Development has identified three following reasons behind the economic growth:

- The initial estimate for oil prices by Azerbaijani government was $45 per barrel, which was updated to be $55 per barrel during the year. The actual price of the oil was $71 per barrel. Higher prices created better foreign environment for the country.
- Radical fiscal expansion: The government rapidly increased the state budget expenditures which affected the volume of aggregate demand.
- The boost in the natural gas production. In 2018, Azerbaijan economy incurred high revenue from gas producing and sale too.

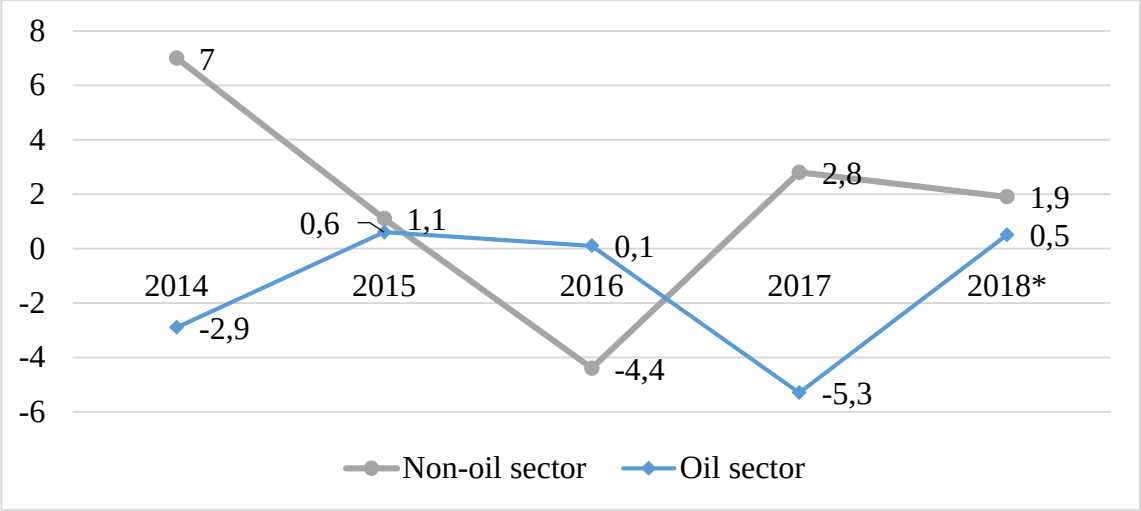
Table 3. GDP production by oil and non-oil sectors

Year	Total GDP, mln AZN	Oil sector GDP, mln, AZN	Non-oil sector GDP, mln AZN
2009	35,602	16,066	16,726
2010	42,465	20,410	19,179
2011	52,082	25,830	23,196
2012	54,744	24,487	26,864
2013	58,182	23,778	30,526
2014	59,014	21,405	33,196
2015	54,380	15,382	34,139
2016	60,425	19,553	35,951
2017	70,338	25,005	40,328
2018	79,797	31,759	41,811

Source: State Statistics Committee, www.stat.gov.az, 2019

In the table above GDP has been divided between oil and non-oil sector. The rest of the amount is taxes. If taxes are shared then, oil sector becomes 33 billion AZN, and non-oil sector reaches 46,7 Billion AZN. It can be observed that share of oil sector has been on the gradual increase since 2015 crash.

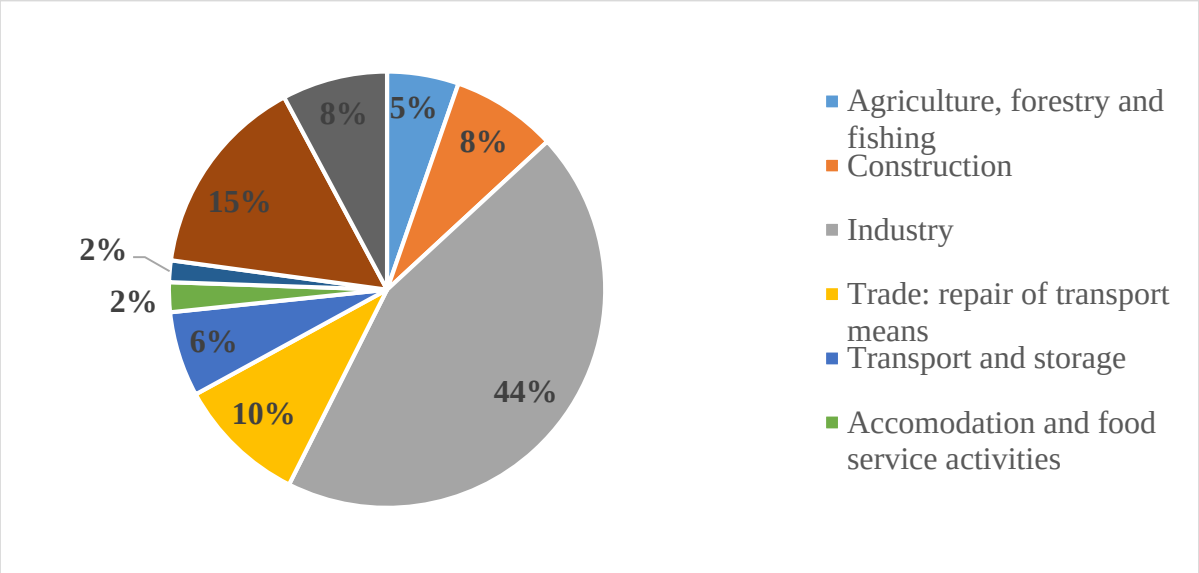
Graph 2: GDP Growth in oil and non-oil sectors.



Source: State Statistical Committee, www.stat.gov.az, 2019

In the graph 2. it can be seen that that non-oil sector growth has been voliatile, charactherized by high rises and declines. It dropped by 0.6 percentage in 2018 compared to that of 2017. The reason for the change is the 9 percent decline in the construction sector (Center for Economic and Social Development, 2018).

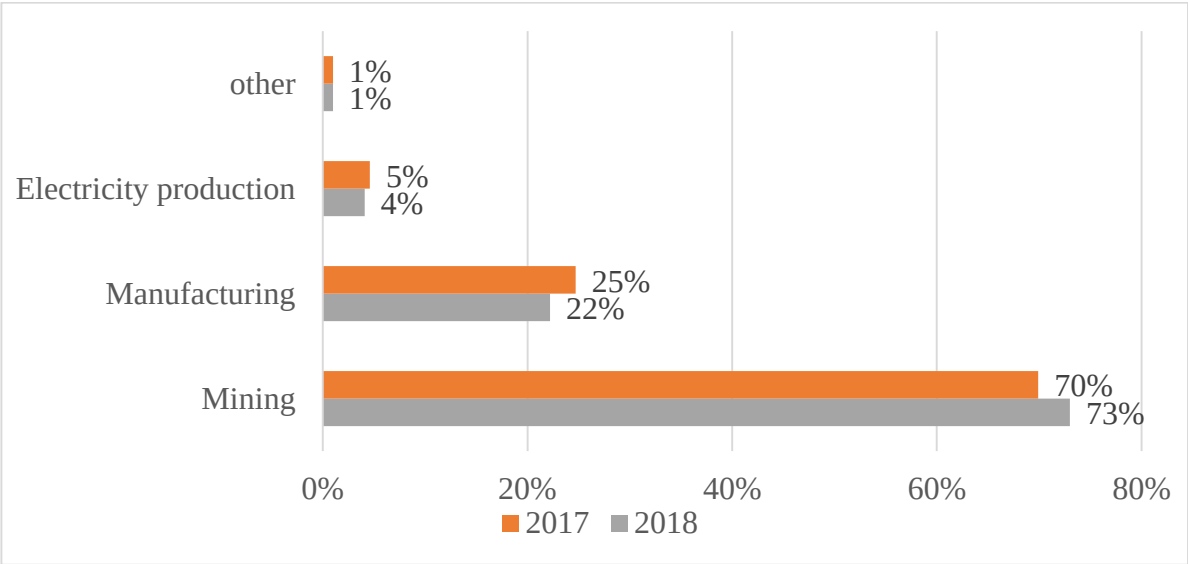
Graph 3: Division of GDP by industries.



Source:Azerbaijan Ministry of Economy, www.economy.az, 2019

In the graph above GDP division by industries has been shown. As it can be observed 44.2% of GDP was creasted in industry. The industrial output in 2018 was 47.7 billion AZN, which is 1,5% more than the same figure for 2017. 73% of the industrial production belonged to mining industry, 22.2% to manufacturing, and 4.1% to electricity production.

Graph 4: Share of industry in total industrial growth.



Source: State Statistics Committee, www.stat.gov.az, 2019

It can be observed in the graph 4. above manufacturing decreased in 2018 by 3% while share of mining industry has increased. The reason for the change in shares is the increase in gas production by 5.8%.

Now that we have analyzed the general recent situation in non-oil sector, the second step is to have a look at the non-oil export's problems specificly.

Table 4. Main Export Commodities

Commodity Groups	2017	%
Mineral prodcuts	12,403,616.0	0.9
Plant based products	518,356.7	0.0
Low value metals and goods made of them	245,050.6	0.0
Pearls, precious stones and metals, goods made of them	141,565.0	0.0
Ready-made meals, spirits, soft drinks, vinegar	110,900.0	0.0
Plastic mass, rubber and articles made of them	102,514.2	0.0
Other	287,426.9	0.0
Total	**13,811,624.4**	**1.0**

Source: State Statistics Committe, www.stat.gov.az, 2019

An interesting area to look at is main export commodities. Exports of the country was 13.2 billion AZN in 2017. Analysing the figure reveals that majority of the export came from few categories of goods. Commodites under 30 name accounted for the 98% of total income (BakuResearchInstute.org, 2018). Oil and mineral resources accounted for 90% of the income. With other words 2,6% of goods accounted for 98% of income. It's also observed that the other goods are majority agricultural products. Taken this into account it's safe to say Azerbaijan exports have diversification problem. Government should invest in the weak industries to increase their shares in total export. We can pinpoint a couple of problems of non-oil export.

Low product diversity

As it is obvious from the table 5, if we exclude the first five export products, the total value of the remaining export products would not be that much. The highest indicator of the non-oil sector's export dependency on one product was 10% (fresh tomatoes with the export value of $151.6 million). Just by looking at the product types in the table above, it can easily be concluded that out of the main 31 export products, top ten with the highest share in the export are related to metallurgy, 8 agriculture, 5 oil, 3 chemical and 2 food industries. This is obviously a very concerning situation. It's an indication to how weak Azerbaijan industry is

at the moment. Solving this problem, increasing the share of industry and diversification of product types must get higher attention.

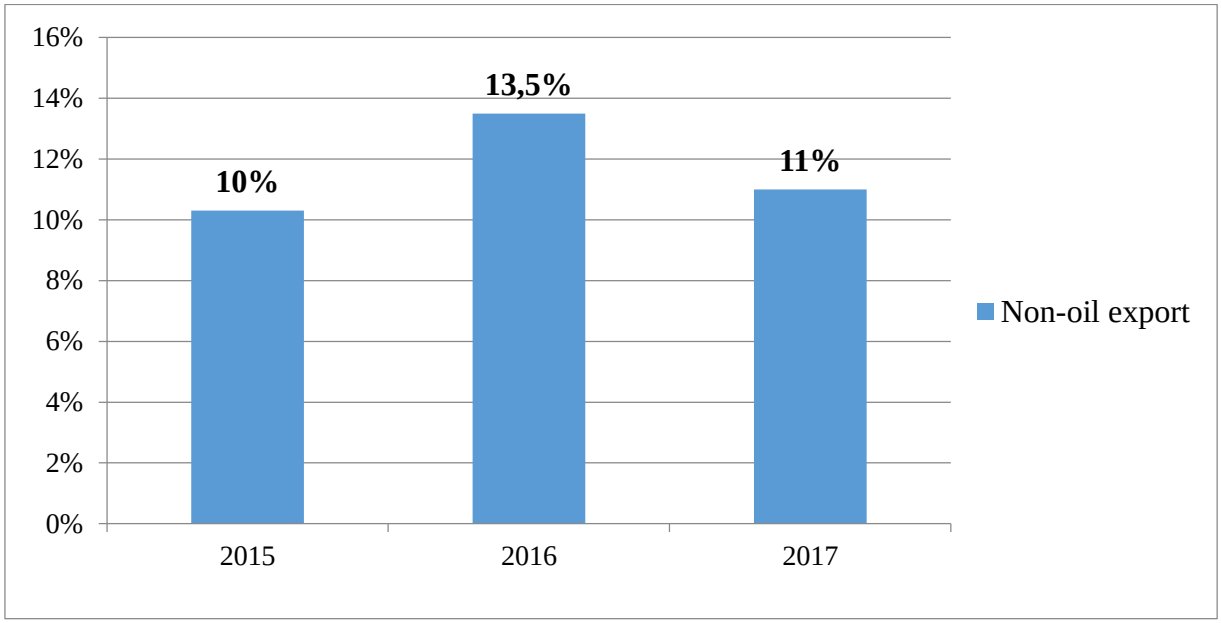
Table. 5. Main non-oil commodities in Azerbaijan export.

Commodities	**Value, thous. USD**	**%**
Heavy distillates or gas oil for other distillate range products	241,872	17%
Tomatoes	151,595	11%
Gold (not used for coin-minting and other raw forms); Gold (used for coin-minting)	139,016	10%
Shelled hazelnuts	114,532	8%
Persimmons, fresh	90,981	6%
Jet fuels	82,187	6%
Polyethylene – specific gravity <0.94 in primary form	75,353	5%
Electrical energy	50,569	4%
Plates, sheets and strip, of aluminum alloys, of a thickness of > 0,2 mm	42,889	3%
Methanol (methyl alcohol)	42,779	3%
Cane or beet sugar and chemically pure sucrose	39,443	3%
Oils and other products of the distillation of high temperature coal tar	34,596	2%
One thread cotton yarn	32,548	2%
Unwrought aluminum alloys	28,563	2%
Potatoes, fresh or chilled	25,822	2%
Cherries and wild cherries, fresh, other	23,155	2%
Semi-finished products of iron or non-alloy steel containing, by weight, >= 0,25% of carbon	22,733	2%
Aluminium, not alloyed, unwrought	22,666	2%
Plates, sheets and strip, of non-doped aluminum, of a thickness of > 0,2 mm	22,616	2%
Other substances in primary form obtained by polymerization	21,596	2%
Copper ores and concentrates	19,494	1%
Turnip-like onions	15,672	1%
Petroleum coke, not dehydrated	15,468	1%
Spirits obtained by distilling grape wine or grape marc (cognac, grappa, brandy, other)	14,058	1%
Refined copper cathodes and sections of cathodes	12,003	1%
Cucumbers and gherkins, fresh or chilled	10,716	1%
Tubes and pipes, having circular cross-sections and an external diameter of > 406,4 mm, of flat-rolled products of iron or steel	9,543	1%
Total	**1,433,338**	**100%**

Source: State Statistics Committee, www.stat.gov.az, 2019

As mentioned earlier another problem for export is low volume of non-oil export. As see in graph 5. there has been no valuable change in the share of non-oil export between 2014-2017.

Graph 5: Non-oil share in total exports.



Source: State Statistics Comittee, www.stat.gov.az, 2019

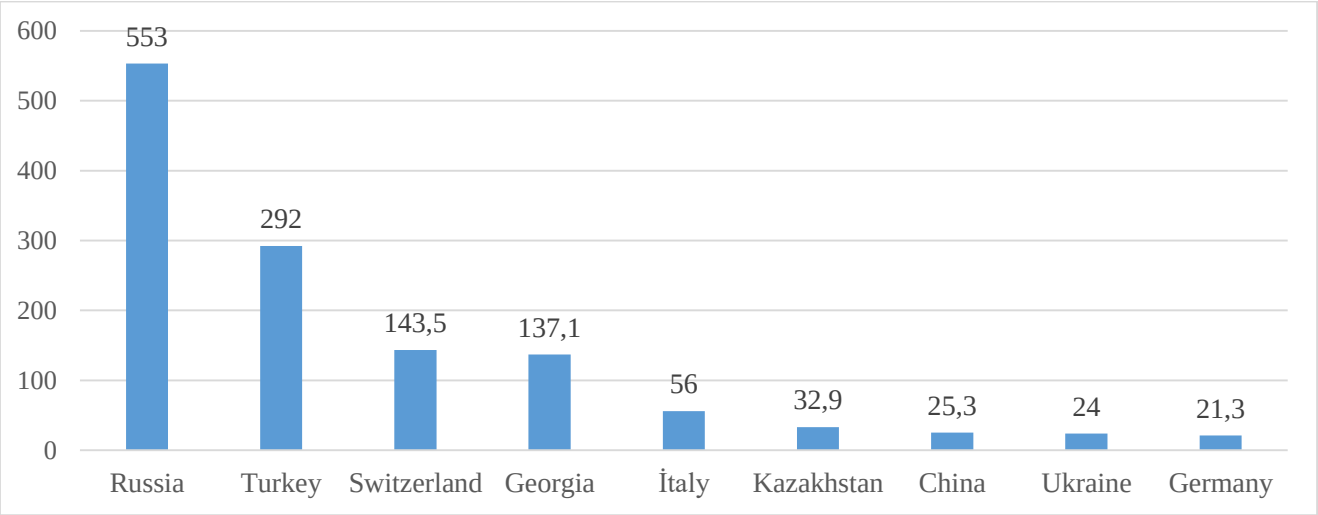
The current situation of non-oil export Even though the volume of non-oil exports surged by $ 150 million (+11%) in 2017 compared to 2015 and by $ 300 million (+22%) compared to 2016, it was $170 million less (-10%) compared to 2014. The interesting point is that in parallel to the decrease in oil and gas export revenues as a result of falling oil prices in global markets, there was decrease in the total volume of non-oil export revenues and it is quite challenging to find a sound answer to this phenomenon in economic terms.

Low geographical diversity.

In the graph 6. main non-oil export partner of Azerbaijan is displayed from highest to lowest. Azerbaijan made trade with 187 countries in 2017. But from chart it can be seen that 77% of the non-oil export products were divided among five countries: Russia, Turkey, Switzerland, Georgia and Italy. Analyzing the products in detail it's found that some of the goods with highest share has been exported to few countries. As an example, almost all of the fresh tomatoes were exported to Russia, gold to Switzerland, majority of hazelnuts (73%) to Italy and Russia and electrical energy (89%) to Georgia and Russia. The dependency level of Azerbaijan's non-oil export on one country (Russia) is 35%, on three countries (Russia, Turkey and Switzerland) is 65% and this is quite high indicators (in terms

of country with the high risk export geography diversification indicator).It's clear that Azerbaijan needs to diversify its export geography. Low diversity creates higher risks. If something, like political instability, war or natural catastrophe to happen in one of the leading no-oil export countries, a very important share of the total share would be lost.

Graph 6: Main export partners of Azerbaijan.



Source: Baku Research İnstitute, https://bakuresearchinstitute.org/analysis-of-main-problems-facing-azerbaijans-non-oil-exports/, 2019

Low capacity of private sector.

Another problem is high state share in on-oil exports. For example, in 2017, the state sector was responsible for around 33% of the country's total non-oil exports (around $500 million). The share of the private sector in total exports was around 65%, a little bit higher than 1 billion. Additional important fact is diversity in private sector. Around 33% of the non-oil export turnover of the private sector was the share of top 10 companies.

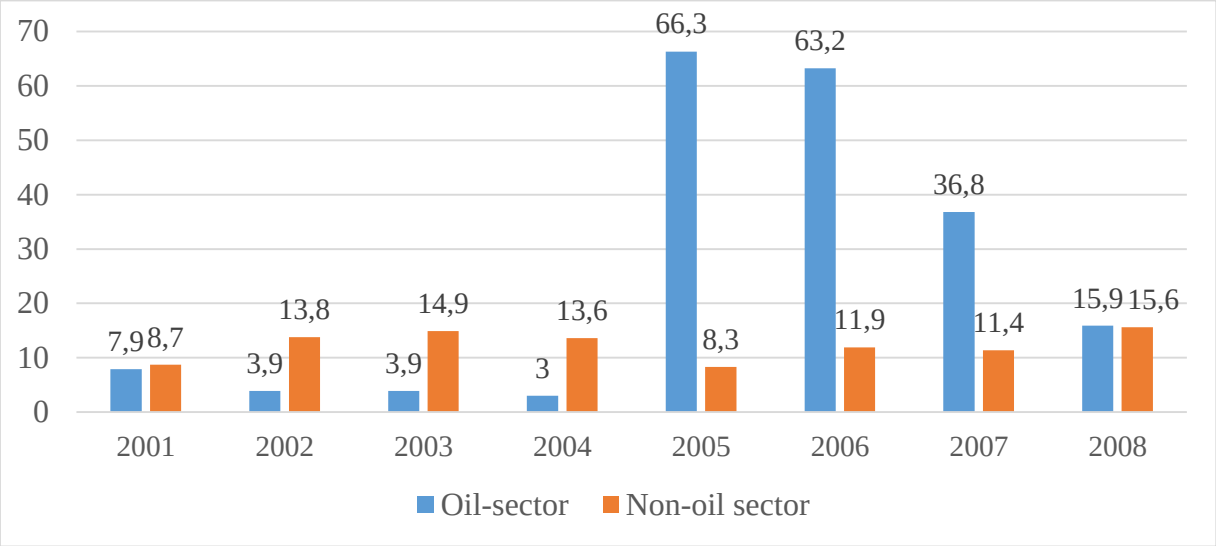
Financial-banking and construction sectors continued to be the weakest parts of the economy. Poor access to financial resources and fiscal burdens have diminished the effectiveness of government policies for the improvement of small and medium-sized businesses.

Another problem in Azerbaijan economy is low spending in research and development. The result of low investment in research and development is not being able to create goods capable of competing in global scale.

At the end it would be better to discuss the Dutch Disease effects on Azerbaijan.

As our country, Azerbaijan is also rich with minerals and has been using it for last 15 years. The country has gained a lot from the usage of those resources. Large sums of income has entered in to the country economy, large spendings has been funded by oil. The oil revenue has affected every piece of economic and social life in Azerbaijan. That's why it'd be interesting to see the Dutch Disease and its effects, spending effect and resource movement effect, on Azerbaijan economy. We will look at the the effect of oil revenue on non-oil gdp, labor movements between sectors and exchange rate change effect (F.Hasanov, 2013). We will look at the changes between 2000 and 2008, as at the time period large oil revenues started to flow in the country and have impact on all sectors of the economy.

Graph 7: GDP Growth by sectors of Azerbaijan Economy.



Source: State Statistics Committee, www.stat.gov.az, 2019

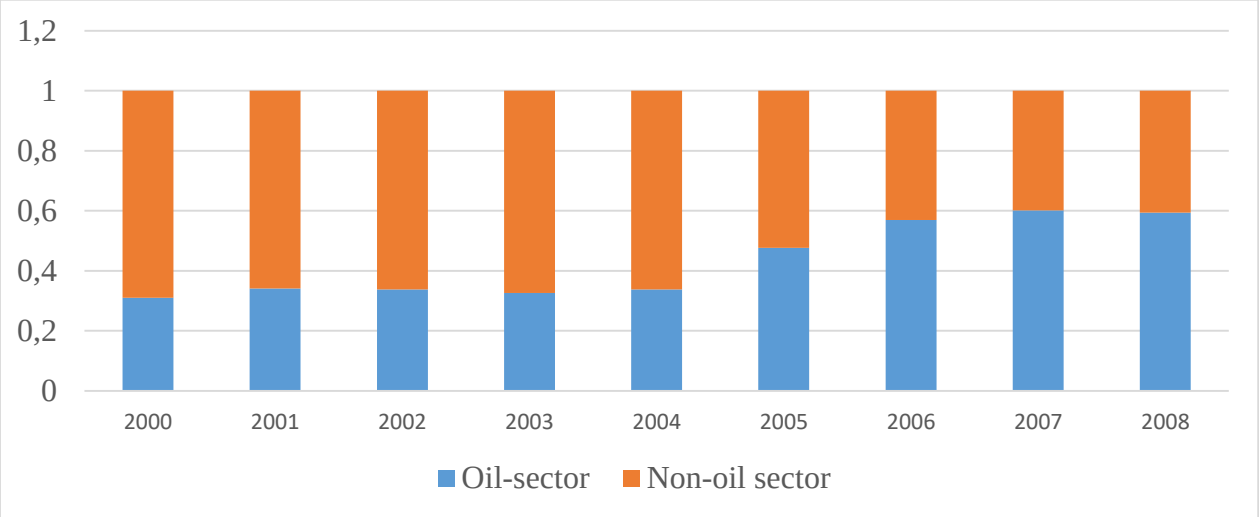
In graph 7. GDP trend for oil sector non-oil sectors are shown. From the first look it can be seen that the period is divided to two parts. The period untill 2005 is more stable and there no extreme changes in Real GDP levels. But the period after 2005 is very volatile and charachterized with sharp rises in oil sector GDP. In this period grows a gap between the production outputs of oil sector and non-oil sectors. In the second part of the graph , the growth rate of the of the sectors is

displayed. The growth in the oil sector has grew rapidly and in a volatile pace since 2005.

Additional analysis found out that, the non-tradable sector gdp growth grew upward while non-oil tradable sector gdp growth slowed down. While non-tradable sector gdp growth increased from 6.3% to 12.3% from 2005 to 2007, non-oil tradable gdp growth declined from 10.1% to 5.8% for the same period. One important point to note is that, although the GDP Growth of non-oil tradable sector declined, it never was negative figures. With other words, while Azerbaijan economy observed relative de-industrialization, it never experienced an absolue de-industrialization.

In the graph 8. sectoral share of total GDP is displayed. It's seen that during 2000-2004 the share of oil sector GDP in total GDP were around 30%. Starting 2004 and onward this share started to increase and reached 60% in 2007. It's share passed the share of non-oil Sector GDP in total GDP. The reason for this is the large sums of revenue from the contract of the century started to enter the economy starting from 2004. Egert has described in his research that the first indication of Dutch Disease affecting an economy is the change in the share of sectors in total nominal GDP, and in the graph this indication is clearly. With other words, taking Egert's work in consideration, we can say that, a sign of the Dutch Disease has been observed in Azerbaijan Economy.

Graph 8: Share of oil sector GDP and non-oil sector GDP in total GDP.



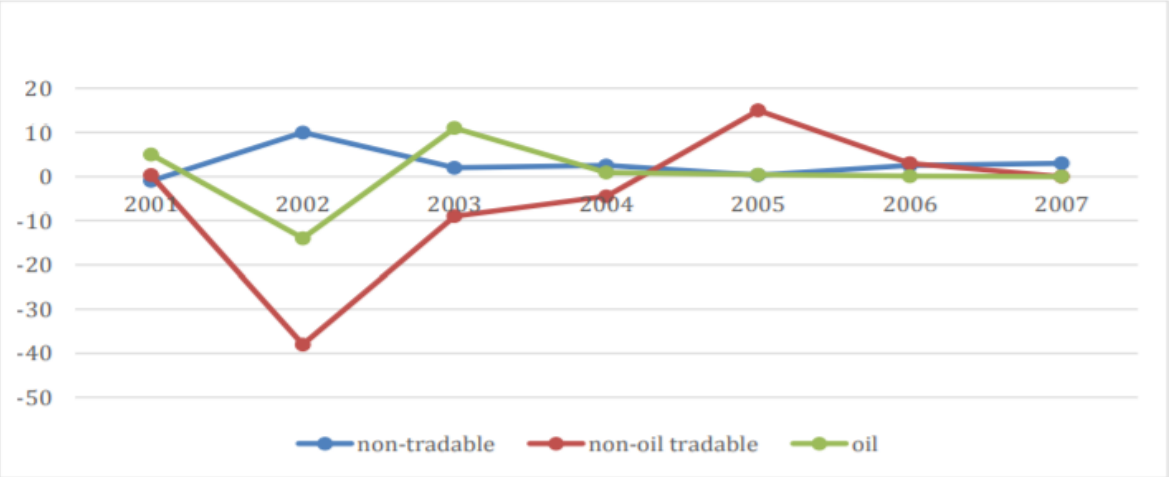
Source: State Statistics Committee, www.stat.gov.az, 2019

Labor force movement

Labor and capital are central factors of production, and a change in these variables is directly reflected on the changes in production. That's why it is critical to obseve the progressions of work labor force in the economic sectors. The dynamic of changes in workspace in each of the three segments over the period 2001-2007 was outlined in image 2.

As it can be seen the image 2, the employement growth has been very volatile till 2004. Non-oil tradable and oil divisions moved in downward pattern while nontradable segment moved in upward pattern since 2004. To put precisely, work development in the non-tradable segment has expanded from 1.4 percent in 2005 to 3.5 percent in 2007, while employement in oil and the non-oil tradable areas have diminished from 2.8 percent and 15.5 percent to - 0.2 percent and - 1.0 percent respectively. Taking this development into account, one can presume that recourse movement impact of Dutch Disease has not been significant on Azerbaijan economy since there's not been large job creation in oil sector or large movements to this sector from other parts of the economy. In fact, during 2005-2007 there has been a descending pattern. It's actually similiar to Indonesia and Russia cases. There are not noteworthy work versatility between oil segment and different segments.

Image 2: Growth of employment by sectors



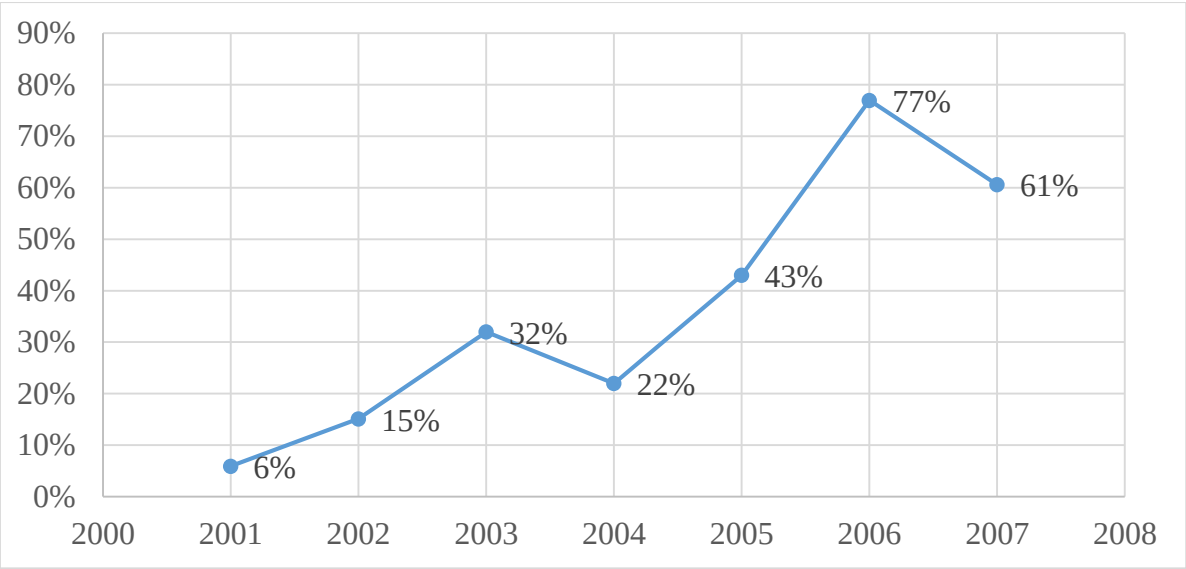
Source: State Statistics Committee, www.stat.gov.az , 2019

Let's have a look at the graph 9. Government expenditrure and government investments has been shown in these graphs. As one can see from the graph 9,

there has been very significant rises in government expnditure starting from 2004. Using oil revenue, large investments has been made to non-tradable sectors. A lot of infrastructural and construction projects has been realized in this sphere After 2004. It is clear that these projects were funed using resource reveneu. The problem with this approcah is, it is biased, the spending is not correctly shared between sectors of economy in order to create better future business climate. Additionally these type of spending on non-tradables sectors do not lead to income-generation. Taking large construction projects has another negative effect too. Spending such large amounts means, less share from the oil revenue is transferred to country savings. In case a bust happenes, oil prices fall and revenue stream declines, the country would face a dangerous crisis, recession risk. The crisis is of 2015 is an example to that.

By taking job creation level of oil sector and spending levels shows in the previous paragraph, one can conclude that "spending effect" is more critical than the "resource movement effect" in the Azerbaijani economy since 2004. This result is actullay correspondent to Corden and Neary's findings. They said that resource movement effect usually decresease the non-tradable sector production, while spending effect increases it. Since Azerbaijan non-tradable sector productivity never decreased, actually it increased a lot.

Graph 9: Government expenditure growth %.

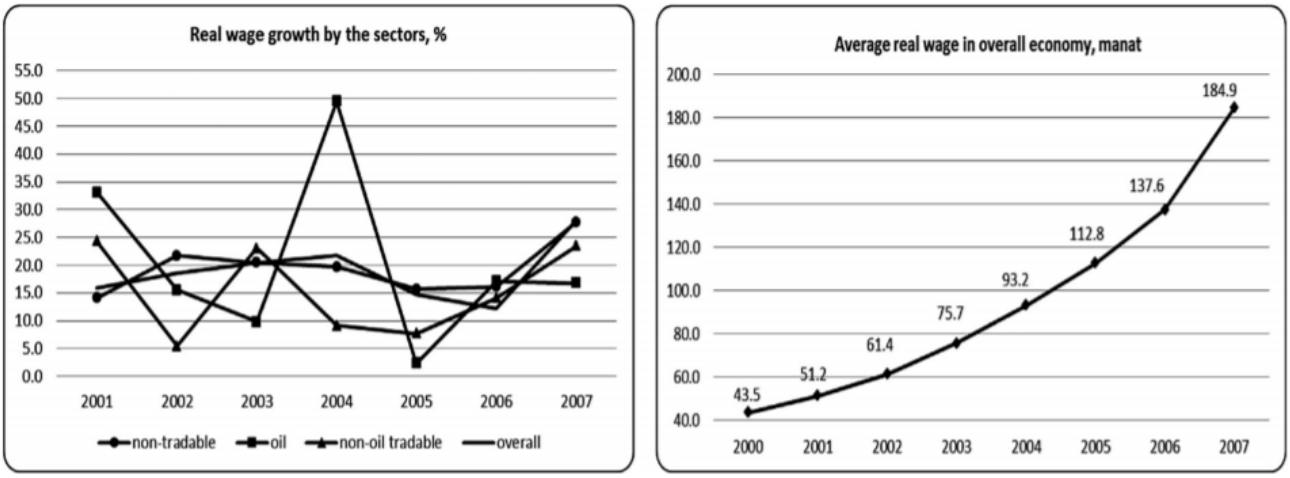


Source: State Statistics Committee, www.stat.gov.az, 2019

An increase in wage growth in overall economy

As it was determined, one of the testable speculations for testing an indication of the Dutch Disease is wage development in general economy. Image 3. Shows average real wage and its development rate in general economy and furthermore by divisions.

Image 3. Real wage growth by sectors and average real wage in overall economy



. Source: Created by F.Hasanov using State Statistics Committee Figures.
F. Hasanov. 2013 "Dutch disease and the Azerbaijan economy, Communist and Post-Communist Studies", https://doi.org/10.1016/j.postcomstud.2013.09.001

Let's have a look at the right graph in image 3. The right graph exhibits that avarage real wage has grown sharply and upwardly since 2004. As appearant from the left diagram in image 3, real wage growth in the oil area had high and unpredictable growth. The cause behind this unpredictability is very like the nature of oil prices.

On the opposite side, real wage growth has been generally low in the non-oil tradable division, while it has been very high in the non-tradable area. Additionaly we can see in left graph that the real wages in the overall economy and in non-tradable sectors are usually moving in the same trend. It can be considered that wage growth in the whole economy has been set based on that in the non-tradable sector.

Looking at the Dutch Disease concept, it can be decided that, high wage growth in the non-tradable sector is a consequence of "spending effect", created by high government spendings. Spending effect leads to higher demand, and higher

demand raises the prices of goods. The result of higher prices is more need for labour and higher wages in non-tradable sectors. The process concludes with higher production level for non-tradable sector. This was shown in the case of Azerbaijan in the early part.

While there some discussion that, wage increase might be a result of de-shadowization. It means that the wages which was not shown in official statistics before 2004 was included after that year. Unfortunately the lack of informaiton unables the economists and scientists to properly research this quesiton.

Real exchange rate appreciation

If we are learning Dutch Disease effects, leaving RER aside would be unthinkable. Many economists in various countries and in Azerbaijan has done econometric analysis tests RER effects on economy. This paper also includes a regression analysis between non-oil export and other variables including RER. In this model and many other models, it's been seen that there is a negative significant relationship with RER and non-oil export. Hence, we can say that, real exchange rate effect of Dutch Disease has been observed in Azerbaijan.

Let's bring everything so far discussed together. We saw that there has been an absolute de-industrialization in Azerbaijan economy. The present effect is relative de-industrialization in the non-resource tradable sectors.

The resource movement effect has not demonstrated to have a noteworthy presence in Azerbaijan economy as the job creation in oil sector has not been high.

Spending effect has been very significant for the economy. Riding of government expenditures, this effect has led to a rise in non-tradable employment while leading to a decrease in non-resource one. High wage increases are also a consequence of this spending effect.

There has been seen a real exchange rate appreciation in the economy which affects the non-oil sector competitiveness negatively.

Taking these into considerations, it would useful to go through successful policy models which would help the development of non-oil tradable sector.

2.2. Policies adopted to develop the non-oil sector in Azerbaijan

As stated earlier in the paper, Azerbaijan economy was in disorder after independence years. Political instability, Karbakh war and loss of 20% of territories, uncompetitive situation in manufacturing and industry has worsened the economic coniditin in the country. In 1994 GDP was 30% lower than 1990. The expansion rate was at its record level – 1764% . Exchange volume, industry, farming diminished separately half, 62%, and 45% between 1991 – 1994. While the oil-sector generates large sums of income for Azerbaijan, it's not a reliable for an economy to be dependent on. The commodity prices in global sphere are very volatile, and sudden changes may have devastating results for unbalanced economies. That's why it was important to invest and renovate the industrial complex. To reach this goal, state program initiatives were started.

The first State Program on the socioeconomic development of regions (2004-2008).

Azerbaijan government implemented socioeconomic development of regions plan in order to reestablish the industrial base. To achieve this new manufacturing plants was established, the road was renewed, and productions of agricultural products were reorganized. In Ganja – Kazakh region an aluminum plant was constructed in Ganja. In Gadabay a factory of manufacture of gold was built. In Gazakh bentonite producing enterprise was established. In Aran region, a sugar production plant was constructed. In

Salyan milk and butter mills, in Goychay pomegranate-producing object was commissioned. In Zagatala region, the production of silk was reorganized.

To improve electricity and heating situation 9 power stations were built, supply of natural gas to the number of regions increased. To improve transportation system, highways were reconstructed. As a result, total length constructed and reconstructed highways exceeded 1000 km, while state important ones exceeded 600 km. Additionaly airports were commissioned in Nakchivan, Ganja, Lankaran and Zagatala.

As a result of the program, agriculture industry grew, more specifically, production of vegetable 17,4%, grape 78,1%, potato 17,4%, wheat 40,1 % milk 18,3%, egg 47,9%, meat of cattle 30,6% grew. Over 766 thousand workplaces were created, 547,5 thousand of them were permanent. Over 27 thousand enterprises were created.

GDP of the country increased by 2,6 times, while GDP per capita rose 5 times. In accordance with this program, the construction of enterprises and facilities, and the creation of new workplaces concerning Azerbaijan's non-oil sector has been increased by 6,2 times, and its share within total investment made up 69%.

State Program on Socioeconomic Development of Regions (2009-2013).

The main goal of the second state program for development of regions was to accelerate development of the non-oil sector, diversification of the economy and further improvement of welfare of the population in the country.

The State Program designated the following goals as stated by Ministry of Economy (Economy, 2012):

- *"To ensure fast development of the non-oil sector, while efficiently using natural and labor resources of the country;*
- *To carry on measures aimed at improving infrastructure provision;*
- *To implement purposeful measures on improvement of business climate and further acceleration of development of entrepreneurship;*
- *To continue attracting investment for development of the economy;*
- *To stimulate production of export-oriented goods;*
- *To establish modern infrastructure facilities and align existing facilities to international standards;*
- *To improve provision of population with public services;*
- *To carry on measures aimed at improving employment of population;*
- *To decrease poverty level."*

To achieve the goals significant amount was invested in different industries and regions. In 2010, Granite and Marble Plant was constructed in Baku, Elevator Plant was opened in Sangachal, in Nakhchivan a car manufacturing plant started

activites. Construction of an hydroelectric power plant in Ordubad helped to better the energy sharing capabilites of the region. With activation of Oguz-Gabala-Baku water pipeline supply quality of fresh water to Baku population was improved.

To improve the industry and create new job places a series of plants were built on regions. These plants included: in Nakhcivan building materials factory, Lankaran ice-cream and tea plant, in Zagatala tobacco factory,in Jalilabad a water reservior, acanned food factory in Bilasuvar, in Agstafa mineral water producing plant, a piano mill, a storehouse for fruits and vegetables, and a bus terminal in Gabala, 7 modern sport centers as well as tens of hotels and recreation centers, and medical objects in Baku, Ganja, Mingachevir, Gabala, Balakan, Jalilabad, Bilasuvar and other regions of the country were commissioned. In the meantime,

As a result of the implementation of state programs, between 2003 and 2013, socio-economic development of the regions has resulted in rapid growth of macroeconomic indicators of the country.The average annual economic growth in our country was 12.9%. During the 10 years implemention process, strategic currency reserves increased 31 times, foreign trade turnover - 6.6 times, exports - 9.3 times, imports - 4.1 times, non-oil exports - 4.7 times. During this period 101,8 billion manat were invested in economic and social spheres. 51.2% of these invesments were by state sector, while 48,8% were by private sector. Fixed capital was funded at 9,3 billion manat. Of the total investment, 54,5% were spent for manufacturing, and 45,5% for services. In 2003-2013, 32,5% of total investing into a fixed capital was available due to foreign sources, and the rest 67,5% at the expense of internal potential. The increase of financial potential shows itself on the fact that in 2013, 26,8% funding was managed at the expense of domestic sources whereas in 2003 this figure has made 62,5%. In the first half of 2013, 75% of the new jobs were created in the non-capital regions of the country. Azerbaijan shares 4/5 part of the state budgets in the Caucasus. In 2004-2013, investments of domestic sources has risen by 14,6 times whereas the corresponding growth by non-oil sector was 12,9 times as much. 37,1 billion manat or 36,5% of investment has gone for oil sector while 64,7 billion or 63,5% were spent for nonoil sector.

Successful results were gained against poverty. The policy of equaling the minimum wage to the country's living standards continued. More than 1.2 million new, including 900,000 permanent work places were created in the country.The annual increase in the average monthly wage for those employed as a result of labor policy and labor remuneration increased the living standards of the population. Average monthly wages rose by 5.5 times, pensions 9.6 times, population deposits 27 times. During the 10 years period, the minimum wage in the country has increased 11.7 times, and the poverty rate has dropped from 44.7 percent in 2003 to 5.3 percent in 2013.

Azerbaijani economy was ranked 39th in the world and first in the CIS for competitiveness. The country was included in the "top-middle income" and "high-tech" countries of the world for the first time. All influential rating agencies (Fitch Ratings, Standard & Poor's and Moody's) have issued an investment credit rating to Azerbaijan making the country first with investment rating among the Caucasus countries.

State Program on SocioEconomic Development of the Regions of the Republic of Azerbaijan for 2014-2018

The program was impleneted to improve people’s lives by:

• Providing access to the necessary skills and resources for the unemployed,

• Engaging with the private sector for continued growth,

• Improving environmental management and mitigating 30 climate change effects

• Promoting macroeconomic stability

• Expanding entrepreneurship in the regions,

• creating new businesses and businesses

• Implementing large-scale infrastructure projects,

• Improving utility services

The work done within the framework of the State Programs provided serious support to the overall socio-economic development policy carried out in the country, resulting in GDP growth of 3.3 times in real terms in 2004-2018,

including non-oil sector by 2.8 times. During this period, the industry increased 2.6 times in real terms, including non-oil industry 2.4 times and agriculture 1.7 times. The US currency reserves increased 24.3 times compared to 2004 and increased by 45% on 1 January 2019 billion US dollars.

The promotion and stimulation of investments into the Azerbaijani economy has become the main line of economic policy strategy and has invested $ 244.9 billion in the country's economy in 2004-2018. At the same time, state-funded expenditures in the state budget have also increased dramatically to ensure sustainable socio-economic development, with investment expenditures being significant in the state budget.

In order to increase the competitiveness of the country's economy, the application of innovative technologies continued, new enterprises were created, production potential of the enterprises increased and the real growth of 2.6 times in the country's industry was recorded. The share of the private sector in the total volume of industrial output was 56.8 per cent in 2003, while currently more than 80 per cent

Entrepreneurship development and improvement of the business climate have been one of the priorities of economic development strategy. Throughout the period of adoption of state programs, complex measures have been undertaken to develop and expand entrepreneurship in the country, to strengthen state support for entrepreneurs and to create reliable protection mechanisms for their rights. The number of entrepreneurs has increased, has become a leading force. As a result of the work done, the share of the private sector in 2018, has exceeded 80 percent of GDP ,more than 75 percent of employment, and 950 thousand new entrepeneurs have been state-registered. Majority, 66.6%, of the registered business entities fell to the share of regions. As a result of purposeful measures in the field of socio-economic development of the country, more than 2 million new jobs were created, with a permanent residence of 1.5 million in 2004-2018, 75% of these jobs fell to the regions.

The next stage in the development of social-economic life the regions will be cover the period from 2019-2023. The main objective of the program is to upgrade the country's new generation of specialists through the use of cutting-edge scientific achievements, innovative training technologies and modernization of content and quality indicators of the Azerbaijani higher education system with international bilateral diploma programs.

All this shows that the development urgency of country’s infrastructure has not been left out of attention. These type of infrastructural are very important for rebuilding the industrial sphere. The main objective of the new stage is to ensure the sustainability of dynamic socio-economic development in the country in the longterm perspective, while improving the competitiveness of the national economy and effectively integrating into the global economic system. But without serois fiscal and spending policies, which will discussed in the next part, and reforms, the potential of the nation would never be realized. That’s why it’s crucial to plan, forecast and implement strategies which will bring positive, meaningfull changes to the economic and social life in Azerbaijan.

CHAPTHER III. EVALUTATION AND SUGGESTION FOR NON-OIL EXPORT OF AZERBAIJAN

3.1. Variables affecting non-oil export of Azerbaijan: OLS analysis

Now we it's been presented that the situation is not desirable in the non-oil sector, it's time to think about how to make it better. The first step to solve a problem is to analyze and select the causes or with other words variables contributing the most to creation of such situations in the first place.

The econometric model chosen to test the effect of different variables on non-oil export is as following.

LNNOX=a1LNRER+a2INF+a3LNOPEN +c

LNNOX= Log of Non-oil export. Taken from State Statistics committee.

LNRER= Log of Real exchange rate. Using Cbar data.

LNINF= Log of Inflation. www.worlddata.info figures

LNOPEN= Log of Economic Openness. Calculated by author by adding export and import and then showing it as a share of GDP.

The data is taken from Cbar, State Statistics Committee and online databases such as world data info First, let's have a look at the statistical properties of variables in table 6.

Mean is calculated as the average of the of the all number in data series of the variable and is also known as average or archimetic mean.

Median is the middle number in the series. Median is found by ordering numbers in order of size and then choosing the one in the middle. If the sequence is an even, average of the two numbers in the middle is calculated.

Max and Min finds the maximum and minimum numbers of the data.Using this information other calculations like range can be made.

Standard Deviation is the square root of the variance which is average of the squared differences from mean. It's caluclated by finding square root of variance, which is calcualted by finding squared differences from mean and then averaging. It's generally accepted that the lower the deviation the better.

Skewness is used to find the disortion of the series from normal distribution.

There are three results of a skewness test:

- Zero, when it is normal distirbution;
- Negative, when the distribution is left-tailed;
- Positive, when the distribution is right-tailed.

LNER and LNOPEN has positive values which mean they have right tailes while LNLP and LNNOX has left tail.

Kurtosis tests the shape of the distribution. If the series are normal, then the kurtiosis is three. When the result is higher than three, it means the distribution extands more than the normal one. If the result is lower, 3, it means the distribution extends less than the normal. LNER and LNOPEN has leptokurtic while the other variables has platykurtic.

Jarque-Bera is a test statistic for testing whether the series is normally distributed for large sample size. If the probability of the Jarque-Bera exceeds the observed value in absolute terms, then the series is normally distributed. In case it's vice-versa, the hyphotesis is rejected and the series is not normally distributed. In our test only LNOPEN is rejected. The other variables are normally distributed. It's possible that LNOPEN is normal distributed at lower statistical level.

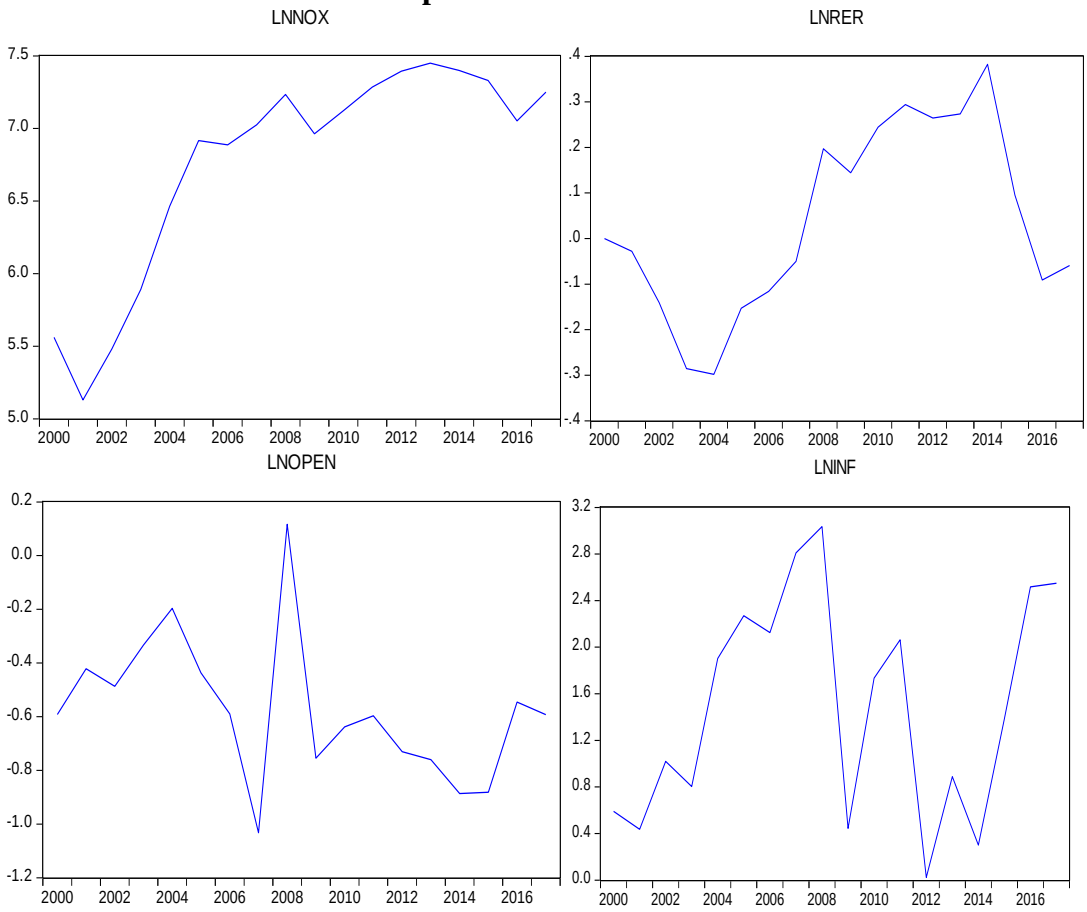
Table 6. Statistical properties of variables

	LNINF	LNNOX	LNOPEN	LNRER
Mean	1.494498	6.768803	-0.575287	0.037465
Median	1.560389	7.038685	-0.592291	-0.014011
Maximum	3.035914	7.45008	0.117181	0.382469
Minimum	0.022739	5.129899	-1.032332	-0.297932
Std. Dev.	0.955576	0.739439	0.268818	0.20623
Skewness	0.036948	-1.133489	0.739593	0.038639
Kurtosis	1.635456	2.817812	3.811247	1.850811
Jarque-Bera	1.40058	3.879284	2.134583	0.994955
Probability	0.496441	0.143755	0.343939	0.608063
Sum	26.90096	121.8384	-10.35517	0.674372
Sum Sq. Dev.	15.52313	9.295078	1.228472	0.723026
Observations	18	18	18	18

Source: Prepared by student, based on State Statistics Committee figures, www.stat.gov.az

Let’s have a look at the trend of the varibales over the years.

Graph 10: Trend of the variables



Source: Prepared by student, based on State Statistics Committee figures, www.stat.gov.az

The graph 10. shows a significant change in openness. The sharp increase in 2008 is related to the oil price increases in the same year. The high resource revenue led to serious increase in export figures, increase share open exports in GDP. The other three variables moves in upward trend untill 2014 and the decreases sharply. LNINF has risen till 2008 but has shown high volatility after that. Taking the price of oil increaseas during that period, it’s possible there has been money demand related relation. The sharp downward trend is more apparent on the real exchangre rate. The reason was decrease in oil prices, devaluation of the currency which led to decrease in GDP levels. LNNOX has kept increasing since early 2000s.

ADF TESTS

Augmented Dickey Fuller Test is used for unit root testing for stationarity. Stationarity means time series have constant statistical properties such as mean,

variance and etc. It's important to make sure the data is stationary before conducting the regression analysis. Hypotheses used for ADF is that:

1. In null hypothesis there is unit root
2. Otherwise the variable is stationary

Let's have a look at the results in the table 7.

Table 7. Augmented Dickey-Fuller test results

Variables	Test Method	Intercept	Trend	Actual Value	P Value
LNNOX	ADF	YES	YES	-5.159481*	0.043
LNRER	ADF	YES	NO	-3.146042**	0.043
LNOPEN	ADF	YES	YES	-7.243831*	0.00001
LNINF	ADF	YES	YES	-5.119876*	0.046
All tests are at first difference. * ** and *** indicate statistical significance of actual value at the 1%, 5% and 10% significance respectively					

Source: Prepared by student, based on State Statistics Committee figures, www.stat.gov.az

The test is done at the first difference, as no variable could pass the test at level. The chosen criterion is Schwarz Info Criterion. Maximum lags are three. Based on these criteria, if p-value here is lower than 5% then we can reject the null hypothesis and the data is stationary. Additionally, t-statistics value is compared to critical values in absolute terms. The variables failed to pass the test at level, so the test was repeated at the first difference. We succeed to reject the hypotheses for LNNOX, LNOPEN and LNINF as p values are lower than 5% at first difference with both intercept and trend chosen. Accurate % of significance has been noted by asterisk. For LNNOX choosing intercept at first difference passes the ADF test.

Regression Analysis

Now that we have established stationary levels for the variables, it's time to run regression with these variables to find out the correlations.

Looking at the results in table 8, it's seen that the probability of the t-statistics for openness of the economy is more than .05. It means that there is not a correlation between openness and the non-oil exports. Which is logical, if we look back the figures presented in the second part of the paper, oil sector dominates the export and imports. Opening the trade only leads to more outflow/ inflow from

oil/gas resources. One deduction can be taken is non-oil industry is not capable of competing in the international sphere.

Table 8. Regression Analysis

Variable	Coefficient	St. Error	T-Statistics	P-value
LNRER	2.222222	0.637	3.488548	0.0036
LNOPEN	-0.737203	0.493	-1.495249	0.157
LNINF	0.444473	0.133	3.325421	0.0050
R-squared= 63%				
Prob(F-Statistics) =0.002451				

Source: Prepared by student, based on State Statistics Committee figures, www.stat.gov.az

On the other hand, the p-values for real exchange rate and inflation are less than 0.05, which means the non-oil export figures are significantly correlated with these variables.

Exchange rate has a negative significant relationship. We have seen it as an effect of Dutch Disease on the non-oil sector. The inflows from the oil and gas trade increased the income in the country which lead to excess demand on non-tradable sector outputs. The prices of these goods start to increase naturally but non-resource tradable sector prices can't change as they are set on international stage. The process ultimately leads to appreciation of real exchange rate. At the same time resources from lagging non-resource tradable sectors move to resource-based sectors as the wages are higher there. The result is indirect de-industrialization. It's also called spending effect, which one of the two effects of Dutch Disease (as mentioned in chapter 1).

We have got an interesting result from inflation. The coefficient is positive, and p-value is less 5%, so there is significant relationship. Considering that an increase of export means a higher money supply to the country increase the overall income level and leads to an increase in the demand for goods and products, and increased demand means higher prices and inflation.

R squared is used to test the what percent of changes in dependent variable by independent variables. In this specific model 63% of changes in non-oil export is explained by real exchange rate, economic openness and inflation.

3.2. Suggestion of policy adjustments to increase the performance of non-oil export.

Before going through appropriate policy adjustments, it'd be usefull to have a look at the economic experience of the countries successfully protected their economy from Dutch Disease effects.

Norway

The first country in our list is Norway. Having access to rich oil resources in North Sea, Norway was one of countries suspectible to fall into Dutch Disease trap. But it was not happening, unlike other oil-rich countries losing competiteveness during boom and boost periods, like Saudi-Arabia, Norway managed to rich top the global rankings. It we valuable to learn how Norway managed real exchange rate appreciation, controlled resource movement effect and designed fiscal policy to avoid spending effect. To control resource movemenet effect income coordination created (S.Gurbanov, 2012). As it's already mentioned, wages in booming sectors rises much above the level in other sectors. Norway created a centralized wage creation system which made manufacturing wage leader in the economy. To make this happen wage ceilings was impelented on wage increases which was based on manufacturing productivity trend.

The second step was to maintain health spending level. The government maintained strict fiscal discipline by not letting timely paying debts and making investments abroad. Spending effect happens when large inflow foreign currency enters the economy and is converted to domestic one. This increases demand and consumption expenditure, which leads to an increase in non-tradable sector output prices and lowers competiteveness. Norway used oil fund to alter the situation happening. The oil companies paid 78% of the profit to the fund. The fund in its turned made lower risk investment to a variety of companies. A little over half of the fund is invested in bonds and equities in Europe. The rest is spread out over America, Asia, Australia and New Zeland, and South Africa. The oil wealth is funneled into foreign stocks and bonds so that it does not have any effect on the Norwegian economy.

Norway succeded at averting real exchange rate appreciation by creating the fund. The other feature of the Norwegian boom is that large coalitions of employers and employees considered public interests over of their own. In case a contrary situation happened, the wages would keep increasing and raise the demand to non-tradable. The end result would be price increases. Because of the exampler behavoir of coalitions, Norway was able to maintain low labor conflicts.

Indonesia

Indonesia is another example to successfully avoid Dutch Disease. The country is rich with oil resources and has followed both expansionary and conservative policies in the past. During the Sukarno years, Indonesia followed agressive starategies. The state used to control means of production (N.Usui, 1997). The government wanted to achieve fast industrialization. To reach this goal they were using multiple exchange rates, nationalist policies. When there were budget deficits, more money was printed and external debt taken. The end result was disaster and large economic problems happened in 1960s.

After Sukarno, Soeharto government took charge of the economy. Working together with its creditors, IMF, World Bank, the government tried to ahcieve economic stability. The government was following conservative policies. They devalued the currency, abolished quantitative restrictions, avoided expansionary spending. But with rise of oil prices, nationalism started to grow again. The oil company, Pertamina, started to enlarge its non-oil business activites, and get in foreign debt borrowing. In 1975, Pertamina, unable to cover its large foreign debt collapsed. This collapse made the nationalists lose more power, and conservatives went on with implementing new balanced policies. Their policies gave fruits when oil prices declined in 1980s. The economy, while grew smaller in size, kept showing good growth rates compared to other countries affected by the disease. Their success in keeping economy safe, gave the technocrats more power in applying new policies.

To combat the Dutch Disease effect Indonesia followed balanced budget principle. The government didn’t follow expansionary policies. By spending oil

money with care, the country managed to sterilizing some part of oil boom income. Instead of heavy spending, the government chose saving. Analyzing the structure of investment, it's found out that, government mainly spent on non-oil tradables sector development. The governmant spent money on developing the infrastructure, improving the agriculture and industry sectors. In agriculture, special attention was given to the appilcaiton of modern technology, irrigation system and availability of fertilizer.

To combat the resource movement effect Indonesia focused on the oil enclave effect. Oil sector contributes little to employement, and has few connections to other sectors of economy. The enclave situation leads to neglectment of resource movement effect. We have already learned in earlier parts of the paper that booming sector do not have a meaningful positive effect on the employement levels. As the booming sector does not create necessary level of job places, the governent takes action by making investments and giving subsidizes to non-resource sectors, in order to keep the satisfying level of employement.

The government avoid going into foreign. It was a major mistake of the nationalist to borrow from foreign creditors to fund agressive spending. By avoiding debt accumuluation, the economy avoided the risk of heavy debt and potentional crisis when resource prices declined. As a result of succesful policies, Indonesia managed to lower its debt from 65% of GDP to 30% of GDP from 2002 to 2008.

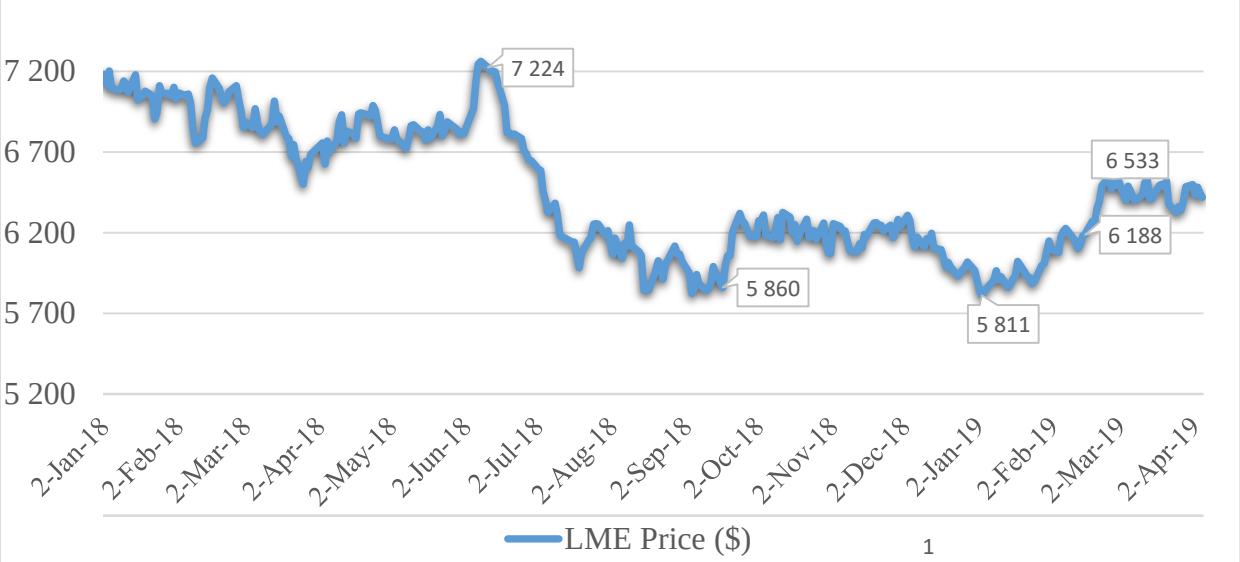
To combat with REER apreciation problem, Indonesia used appropirate demand managent practice. The main parto of this practice was devaluation of the currency. To keep the exchange rate in check, the national currency was devalued. And when there was a devaluation the governmented supported the currency by using accumulated savings and budget surplueses. The end results was actually increasing the real exchange rate, this is not like Dutch, this is a real depreciation. It was different from the real exchangre rate symptom of Dutch Disease.

Chile.

The next country we are going to look at is Chile, with its interesting history.

Chile is rich with copper. It was producing nearly 37% of world copper in 2004. Mining and exporting copper has brought huge revenues to Chilean economy. The share of copper export in total exports were 57% in 2006. As it was shown in the graph 11 on the paper, just comparing last year, copper prices are very volatile and if left uncheked, price fluctuations may lead to unfavourable exchange rates and worsen economic situation in the country. Chile has been an example as a successful model to take negative effects of Dutch Disease under control. It would be wise to have a look at the fiscal and monetary policies impelented to achive this successful result.

Graph 11: Copper sell price in 2018 and 2019



Source: Created by author using LME data. www.lme.com, 2019

Chile's first copper related policy was before the Coup d'etat 1973 and based on import substitution. After military uprasing till 1989 trade liberalisation and open market policies were adopeted. Chile's peso used to be pegged against dollar. This peg was removed in 1982 and peso started devaluating. Peso officially moved from fixed to floating regime in 1999. From 90s to early 2000s were marked with socio-economic development and rise of democratic policies. The reforms adopted in these period constitutes the core of the Chile's protection against Dutch Disease. Since then, Chile has started legal reforming, and pays attention keep macroeconomic stability and strictly managing copper revenues and increase competitevness of the economy.

Chile policies on dependency on resource revenue and spending effect.

As we saw in the case of Norway and Indonesia, fiscal policies are one the chief insturments used to deal with negative effects of Dutch Disease.

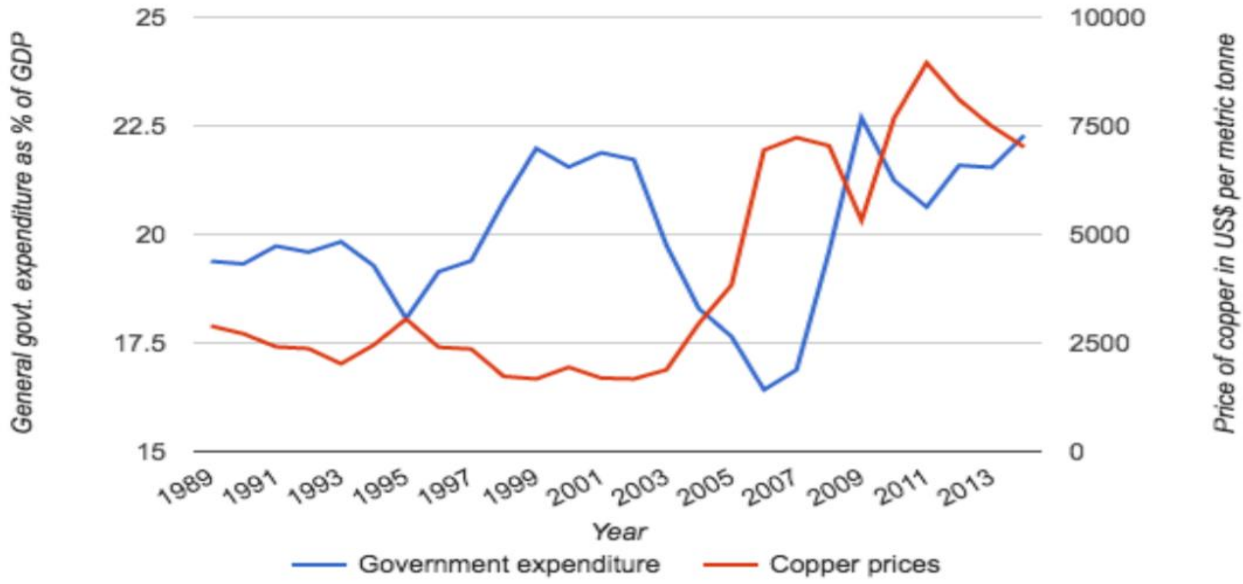
Chile ministry of finance established the structural fiscal surplus rule in 2001. According to this rule, Treasury must produce structural surplas equal to 1% of GDP. To achieve this the department needs to know future price of copper as a reference. Committee of expert economists and scientists forecasted the average price of copper in the next ten years. The findings were used to estimate revenue from copper. A key factor in the estimation procedure was resisting the urge to overvalue. The committee made forecasts on the assumption that copper prices will be around equlibrium in the long term, they will not keep rising permanently.

Between 1989 and 2014, government expenditure fluctuated between 16% and 23%. It seems government has maintaned steady levels of expenditure relativly successful. An important outcome of the structural surplas role is countercycle of government expenditure with copper prices. As the government plan is based on the futures prices when the resource prices rise, the government directs the income to savings because in future a fall in the copper prices is expected, and when the resource prices start to decrease the government increases public spending because expected future prices are high. Problems repeating itself in other resource-rich countries during resource boom are high spending based on high resource income; borrowing more using resource income based savings as a colleteral; reducing taxes, which makes economy more dependent on resource income. When bust happens, these wrong policies get replaced. Chile's policy helps to avoid such expansionist policies.

Another fiscal policy enacted was Fiscal Responsibility Law (2006). The law stated that government must declare the effects of policy changes on structural fiscal surplus budget. With other words surplus rule was made a part of the law. The government started to give reports on the actions it has taken and the results of them. After adoption of the law, real exchange rate fall to three years low.

Structural surplus policy beneffited the economy by helping to stop spending effect. This policy smoothes consumption by seperating government expenditure and income from copper. This fiscal rule removes the uncertainty related to fiscal policy by equiping the economic sphere with expected route of government expenditure. As mentioned before countercyclicality of the rule helps to avoid strong deviations from budget, and saves windfalls. Thanks to this rule Chile managed to maintain stable spending levels even when copper revenues boom.

Image 4: Public Spending and Copper Prices.



Source: Created by Lola Damstrol, using data from Oxford Economics and US Minerals. https://www.researchgate.net/project/Dealing-with-Dutch-disease-The-Case-of-Chile

Revenue management is another important aspect. During the boom, Chile accumulated a large amount of wealth, as a result of fiscal rule and it needed an institution to effectively use that wealth. To that goal, two independent funds were created to handle the resource revenue. Two funds created are the following ones:

- Economic and Social Stabilisation Fund (FEES)
- Innovation for Competitevness Fund (FIC)

Before FEES established the was a Stabilisation Fund, created in 1987. The goal of that fund to maintain the foreign currency income. The fund's goal was to remove upwared pressure on exchange rate, by making investments in abroad instead of spending in domestic market in peso. FEES replaced that fund in 2007. The fund helps to maintain the stability of government expenditures. It gathers

revenues during copper boom and saves them. When bust happens, the fund uses the accumulated savings to cover the fiscal deficit. When 2008 crisis started to take on global economy, the fund resources were used to procted the economy. In the image 6, the usage of fund resources in 2008-09 can be seen on the sharp rise in government expenditure. The fund mainly uses resource to invest in high grade securities abroad. This has led to betterment of Chile's debt rating from BBB (1992) to A+ 2007.

Another fund created was Innovation for Competitevness Fund (FIC). As a part resource movement effect it is possible for booming sector to drow resources from other sectors leading to the loss of the competitive ability in international sphere. The FIC invest in research and development. Investing in human capital FIC aims to satisfy the growing demand from resource tradable and non-tradable sectors and help the development of non-copper tradable sectors. The FIC mainly invests in science and technology, internationalisation, promotion of enterpreneurship, and human development. By helping to increase productivity and promoting use of new technological methods, FIC tries to increase overal competitivness in the country.

Monetary Policy of Chile

The last policy we will discuss is monetary policy. As it was the case with other succesfull countries management of montery policies was given a considerable attention by Chilean government. Chile used inflation targeting. The currency was let free floating, as an instrument inflation rate was used. Chile central bank is very accurate with its effective exchange rate predicitions. Chile decreased inflation rate from 26% (1990) to 1.1% (2004). Central bank also limited CPI increase despite strong growth in copper prices.

Chile followed trade libearlizaiton and activley opened the domestic market to free trade. The country actively participated in free trade agreements and are succesfull in attracting foreign direct investments, especially from US and China. The country managed to create improve business climate in the economy by implementing a series of reforms, such as lowerig costs to start business and

reducing number of procedures and time spent. Additionaly government provided financial assistance to enterprenuers to create new business. All of these initatives led to the creation of healthy business climate increase and increased the diversity of exports, even when the real exchange rate kept appreciating.

Now that we have gathered the experience of various countries. It's time to gather them together in policies.

Fiscal Policy is the first policy we are going to have discuss is fiscal policy. As we have seen in the previous country examples, the fiscal management played important role in the level Dutch Disease affects an economy. Governments need act on planning the spending budget and take the changes in commodity prices in conisderation. It is highly accepted in economics field that fiscal policy is a key tool in managing the adverse consequence of Dutch Disease. The policy is important because:

- It is a tool that can make the increase in wealth permanent
- It can constrain the spending effect
- It can smooth expenditures to reduce volatility.

Studies have proven that there is a correlation between resource based income and spending levels. By keeping the proceeds in a foreign base, and limiting government spending, the negative spending effect can be avoided. Basing the spending level on the future commodity prices and detaching the spending from resource-based income, volatily would be reduced. Implementing limits on the share of resource revenue that can be saved and spent in addition, the economy would be less risk averse. In general it's uselfull create a framework for expenditure in order to implement fiscal policy successfully.

One of the ways to properly manage resource revenues is setting an oil fund. While it is not always needed to set up a fund, number of countries creating one is increasing. Besides setting a fund, a strict fiscal policy rules are set. These rules explicitly govern what revenue is paid into the fund and which payments can be made. As we have seen in the example Chile, there can be more than one fund depending on the its function. Some examples are; to reduce volatility a

stabilizaiton fund (Russia,Oman), to limit spending effect a savings fund and to manage investments an investment fund(Chile) may be created. But a fund on its own is not capable to fix the complicated fiscal policy problems. It's most effective to use funds after first creating sound fiscal policy. A good, reliable fiscal policy must be balanced, which is it must be able to limit spending effects while allowing for reaching development objectives. Some suggested rules are limiting the spending to a percent of the income. We have already discussed spending rule policy of the Chile, another simililar policy is "Permanent Income Hyphotesis". This rules applies to nonrenewable resources. First net present value(NPV) of future income is found by calculating per period annuities. After the figures are present, the government limits the amount of spending to tese anuity figures. The rest of the amount is saved in foreign countries. The benefit of this approach is when renewable resources are depleted, the nation would be able to use the saved amount to finance the needed annual spending.

As spending rule of Chile did, these type of policies help smoothing the consumption. It's also possible that this policy is not suitable for some countries, especially developing ones, as the need to invest in development in these nations are just too big. An optimal, balanced fiscal strategy, which neither wastes revenues on present consumption nor limits the potential development of the economy by allocating main part of the revenues to future periods, is needed. One of the ways to reach the optimal point is spending more of the resource revenue at the begging, while saving more at the end. This strategy would enable the governement both save a part of the resource revenue and make necessary investment and consumption spending.

As mentioned earlier, there are several starategies to properly develop an economy using the resource revenues, but the most important one is strict fiscal control and rules. Without them, any of the policies (included creation of oil funds) would be meaningless.

Spending and Structural Policies are second set of policies to be reviewd. To effectively combat with Dutch Disease. it's very important to have carefully

designed spending policies. As we discussed in the case of successful economies, in order to manage the spending effect, it's usefull to direct the resource revenue into tradable sectors instead of nontradables sectors. Additionaly, selective investment can be made to nontradables sectors to increase the productivity in those fields. If there is signs of spending effect on private sectors, those negative effects can be limited by improving productivity on those fields.

One effect of Dutch Disease is high demand for nontradables products. One of the policies to deal with this issue is trade liberalization. By encouriging the import of much demanded products, the demand on nontradables sectors could be lowered. As seen in the example of Chile it's very important to divert a part of the spending budget to investments on developmental and infrastructural projects. Investing in education, science, research and development would lead to an improvement in the usage of modern technology and methods. Such improvements would increase the productivity in both tradables and nontradables sectors of the economy. Supporting the development of population, for example by funding education in abroad would develop the human capital, and increase the number of qualified labour force. Investing in infrastructure, such as road and logisitics projects, would benefit all aspects of life, help the business climate, create job places and reduce poverty. It's very improtent to take the spending capabilites in consideration before implementing such projects. As mentioned several times, spending all the revenue on projects would left country undefended in the face of future vicious cycles. Govenment should balance it's development goals and future savings.

Infrastructural and developmental projects are not the only policies to develop the economy. There are other, lower cost, policies of which implementation would benefit the general business climate and economy. Refroms such as, elimination of barries to market; lowering the cost and time required to start a business; restructuring the governmnet agenices in order to better serve the business owners, combating the monopolistic practices and etc, helps to raise the productivity in economy. Promoting the FDI to nonresource sector may help the development in

those sectors. Additionally, domestic actors may acquire new technology and skills from FDI.

Exchange Rate Policies are third type of policies are realted to the monetary management. One example to these policies, inflation targeting has been discussed in the example of Chile. While it was successful in the case of Chile, it requires very accurate forecasting and planning, otherwise the result could be too tight policy which would lead to exchange rate appreciation when resources prices rise.

Other policies we observed in the case of Indonesia was prohibition of short term borrowings. As we know such borrowing may lead to high level of debt, which would risk the position of the country if resource prices decline.

Another method used is establishment of a resource fund. By diverting a percent of oil revenue to this fund and investing it foreign money markets, apreciation of the RER could be limited.

CONCLUSION AND RECOMMENDATIONS.

As demonstrated in the earlier part the paper, mining and selling resources may bring large sums of revenue into a country's economy. But it also may lead to deteriotion in other sectors and in economy as a whole. Economists has researched this phenemenon for decades and has coined terms like Dutch Disease. Studying Dutch Disease, it's been clear that there are three major implactions of it on an economy.

But having resoruces doesn't always mean Dutch Disease, uncompetitive economy and crisis risk. Successful countries has managed to avoid this risk. By using prudent and strict fiscal and monetary policies it's possible to avoid the risk. By creating centralized wage system and controlling the level of wages (Norway), it's possible to avoid the resource movement effect. Sticking to serious budgeting and spending the oil revenues on the development of non-oil tradable sectors and development of human capital (indonesia), spending effect can be neutralized. Creating special surplus rules (Chile), and seperating government expenditure from resource revenue, the risks of overspending during boom and crisis during bust can be avoided. Establishing a fund (oil fund) and diverting the revenue flows into that (Norway, Chile); increasing foreign exchange reserves; impelementing demand management policies (Indonesia), real exchange level volatility will be limited. The government must never bow to pressure to spend the large income in the short term, and always be prudent, always plan for the future.

The information in the second part concludes that Azerbaijan economy is still depended on the resource sector. The share of non-oil GDP is higher than the oil one in total GDP, but it's due to high government spending and non-tradable sector growth. The situation is especially bleak for non-oil exports. The non-oil sector only accounts for 10% of the total exports and the majority of these are plant and metal and stones exports. With other words, the heavy industry has still not able to compete in the international area. A sharp change in the price of oil remains a huge risk factor for all sectors of the economy.

But situation is not unsolvable either. There are great potential for the republic.

Azerbaijan has great advantages. It still has large reserves of oil and gas and if the revenue from these resources are managed carefully, would help to improve every aspect of economic and social life in the country. Having these resources has another advantage. Energy stability and sharing in the country has crucial importance for a country and Azerbaijan already has the necessary ones. The country only needs to invest and maintain the infrastructure.

In terms of human capital, the nation of Azerbaijan is dominantly young and has healthy birth rates. By investing in education, funding and promoting necessary spheres, the country can turn its population to very capable and skilled work force.

As we saw, the country has perspectives, but without policy and rules it can't be realized. Reading through several author's research papers, the most important goal for the government is diversification of the economy. I believe completing the following initiatives would help to better the overall situation.

• Implement strict fiscal and monetary policies to control spending and exchange rate level.

• Implement fiscal rules on how much the budget to spend and how much to save

• Increase the role of Oil Fund activities. While Azerbaijan has its own oil fund, it is not as active as the one in Norway or Chile. It's recommended to apply specific policy and rules to make better use of it.

• Increase the investment in research and development. Now main exports of non-oil sector are plant-based goods. To increase the overall turnover and compete in the international sphere, Azerbaijan must be able to produce more industrial products and services.

• Continue implementing State programs for development. The programs implemented for the development of sectors and regions since 2002, is useful to build the deteriorated industrial complex after independence. It's important to continue implementing such reforms to make non-oil sector performance better.

• Stimulate creation of fabrics using domestic raw materials.

• Give importance to maintenance of fair financial sphere. Without the credits, it’s hard for entrepreneurs to create new SMEs or develop existing ones.

• Subsidies entrepreneur costs for most important areas. Credits given to agricultural sphere are good initiatives, such policies need to be applied to other non-oil sectors.

• Give tax relief for certain sectors until they can create competitive products.

• Keep reforming government agencies to eliminate obstacles for entrepreneurs and create a fluid system.

• Implement examples from countries which has dealt with Dutch Disease successfully.

• Be prudent; do not spend income in short without considering all the risks and future benefits.

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