

**T.C**  
**ISTANBUL COMMERCE UNIVERSITY**  
**GRADUATE SCHOOL OF FINANCE**  
**INTERNATIONAL FINANCE PROGRAM**

**MANAGING OIL PRICE RISKS IN THE CONTEXT OF**  
**SOVEREIGN WEALTH FUNDS**  
**CASE: KAZAKHSTAN**

**MA Thesis**

**Dinara KUNAKBAYEVA**

**200000016**

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**Supervisor: Dr. Vahit Ferhan BENLİ**

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YÜKSEK LİSANS TEZİ ONAY FORMU

Uluslararası Finans İngilizce

Yüksek Lisans programı öğrencisi Dinara Kunakbayeva nin  
Managing Oil Price Risks in the Context of Sovereign Wealth  
Funds. Case: Kazakhstan başlıklı tez çalışması,

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## **Abstract**

This paper describes the oil prices, its risks and the management of those in the context of Sovereign Wealth Funds. It also represents the role of oil prices in the economy of Kazakhstan, explains the price formation and price risks, finds out possible ways to avoid and minimize those risks. In addition, the paper describes Sovereign Wealth Funds and compares how they work in Norway, Saudi Arabia and Kazakhstan. It searches how much the Sovereign Wealth Funds depend on oil revenues, oil price risks and how can manage those. The special attention is pointed on Sovereign Wealth Fund of Kazakhstan, in comparison with SWFs of Saudi Arabia and Norway, it notes the similarities and differences and offers the steps forward which sovereign fund in Kazakhstan can use in order to improve.

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## List of Abbreviations

ADIA	Abu Dhabi Investment Authority
AUM	Assets Under Management
BB	Beginning Balance
bbl	oil barrel, approximately 159 liters
CAPEX	Capital Expenditure
CF	Cash Flow
EB	Ending Balance
EMEIA	Europe, Middle East, India, Africa
EU	European Union
EY	Ernst&Young
GDP	Gross Domestic Product
GPFG	Government Pension Fund Global
HSE	Health, Safety, and Environment
IFSWF	International Forum of Sovereign Wealth Funds
IOC	International Oil Company
KZT	Kazakhstan Tenge
NBIM	Norges Bank Investment Management
NBK	National Bank of Kazakhstan
NF	National Fund of the Republic of Kazakhstan
NOC	National Oil Company
OPEC	Organization of the Petroleum Exporting Countries
OPEX	Operational Expenditure
PIF	Saudi Arabian Public Investment Fund
R&D	Research and Development
ROI	Return on Investment
SPU	Statens Pensjonsfond Utland
SWF	Sovereign Wealth Fund
SWFI	Sovereign Wealth Fund Institute
UAE	United Arab Emirates
WTI	West Texas Intermediate

# 1. INTRODUCTION

## 1.1 Research Question

Oil is the most important mineral for humans. The life of modern people is unthinkable without this valuable raw material. Indeed, almost every step of a person is accompanied by the use of oil or oil products. When speaking about oil, usually, people associate it with gasoline, other fuels, and lubricants. The fuel, of course, its dominant role. But the use of oil is not limited to a petroleum station. Oil means much more to every person, because a lot of household items and everyday used things are made of oil. For example: plastic, road surface, detergents, solvents, paints, varnishes, dyes, fertilizers, toxic chemicals, wax, car spare parts, furniture, dishes, toys, stationary, strings and threads, refrigerators, and even food. If we refine just 2% of the annual global oil production, it will be enough to produce about 25 million tones of protein, which is enough to feed more than 2 billion people on daily basis during the whole year<sup>1</sup>. This protein is normally used in production of different nutrition products, replacing the animal protein. For some countries, such as Saudi Arabia, UAE, Norway, Azerbaijan, Kazakhstan, Russia, Venezuela and others, oil plays a particularly important role - it accounts for the huge part or for some countries even main item of state revenues. Therefore, the governments of those countries pay special attention to the development of the oil and gas industry.

The industry is going through hard times nowadays. Therefore, it is very important to research and find out the common specific risks for the industry, in order to eliminate or minimize potential damages and loses, as well as to prevent lower revenues in oil industry.

The next part of the research explores the Sovereign Wealth Funds (SWFs) of the countries, whose economies are highly dependent on oil sector, the purposes of its creation, main strategies and investigates spendings. The main purpose of the current research is to find out the role of SWF in managing the oil price risks. The problems are:

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<sup>1</sup> Hadzi-Vaskov M and Ricci LA, 2017, Does gross or net debt matter more for emerging market spreads? Working Paper 16/246, International Monetary Fund

understanding price risks in the oil industry and how the Sovereign Wealth Funds are resolving these risks.

## **1.2 Methodology**

The purpose of this chapter is to provide a detailed explanation of the research methods used for this research. First of all, this chapter explains the choice of the research approach, then the study design, as well as the advantages and disadvantages of the research tools chosen. Then the chapter explains methods used to analyze the data. The conclusion is a brief discussion of the ethical considerations and limitations associated with the research methodology, as well as the problems encountered during the research.

For this research qualitative methodologies are used: Phenomenological Method, Case Study Model and Historical Model. A qualitative research strategy is applicable for the purposes of the current research, because the relationship between several different variables should have been established for interpretation and comparison purposes. Comparison is made with two countries. First is Norway, as a country whose model of SWF was actually implemented when creating the SWF in Kazakhstan. Second is Saudi Arabia, the country with similar position in terms of economical dependency on oil revenues. This is an advantage for the chosen methodology method, because it can obviously show what mistakes are done in managing the SWF in Kazakhstan and which steps could be used to improve the situation. Observing cases of Norway and Saudi Arabia is very useful, because these are the countries who successfully implement the strategies of management of SWF in such a way, that the citizens are benefiting and wellbeing of the country is high. The only limitation faced during the collecting the data for qualitative research method is lack of information about Saudi Arabian SWF management strategies. Some data is not publicly announced. Nevertheless, the official information was enough to contribute to the current research. Moreover, as a part of current research, Mr. Maxat Dyussenov, who is working at the Accounts Committee for Control over Execution of the Republican Budget was interviewed in Nur-Sultan city, Kazakhstan. Based on that interview it became possible to obtain new data, such as yearly ins and outs, i.e revenues and expenses of the National Fund, so based on that data it became possible to conduct a 10 year approach of future revenues and expenses of the fund.

### **1.3 Literature Review**

In 2016, Angela Cummine described the term “citizens’ wealth”, explaining its main problem, when some countries often view the SWF as tool for realizing its strategical or political goals, and forget about focusing on the main purpose of SWF. She also described that in many countries government debt is extremely high. Nevertheless the government continues to spend national money, so more and more citizens find themselves unemployed, unprotected. The book offers the ways how SWF can help and hinder citizens’ interests, proposes principles to ensure that the management can use the funds with a positive impact on communities: nation, state or city.

In 2012, Christopher Balding, described the technical framework for understanding SWF, providing a history and details of the evolution of SWF, brief history and investment patterns of Russia and Norway and provides analysis of SWF with unique issues. The book provides the positive Assessment of Santiago Principles and makes four recommendations for countries management.

In 2011, Patrick Bolton, Frederic Samama, and Joseph E. Stiglitz, explore the strategic investments by SWFs, search for how can the SWFs protect themselves against financial crises. The book lists the opportunities for long-term investors, states how to reward long-term investors and how to build long-term strategies for investments.

In 2010, Edwin M. Truman reviews the origins of SWF, the potentials for future growth, the policy issues that they face, and different regulation proposals for SWF.

In 2010, Alberto Quadrio Curzio, Full professor of Political Economy, and Valeria Miceli, a lecturer at the Catholic University in Milan, described the term of SWF and the purposes of it, presented a survey, showing how Western governments and institutions helped both their public image and the struggling economies of Western Nations.

## **2. THE ROLE OF OIL PRICES IN THE WORLD ECONOMY AND IN THE ECONOMY OF KAZAKHSTAN**

### **2.1 Oil Prices and Its Differentiation**

Energy resources take a leading position in the modern economy. The main types of energy resources are oil, natural gas, coal, hydropower and nuclear energy. Since the mid-60s of our century, oil and natural gas have begun to play a leading role in the global energy industry. In some countries such as the Federal Republic of Germany and the United Kingdom, 55–60% of the total energy consumption falls on the oil and natural gas, and in the United States and Japan it is about 75–80%<sup>2</sup>. Modern economic value and importance of oil is very high. Oil is unique mineral resource. Compared to other energy sources, oil has several advantages: high energy intensity; the convenience of use; its natural condition is liquid, so it is easy to pump, store and transport. The products of its refining are used in almost all types of industries, with all kinds of transportation, in military and civil construction projects, agriculture, energetics and everyday life. Over the past few decades, various chemical materials were developed and produced from oil in huge quantities: plastic, synthetic fibers, rubbers, paints, detergents, mineral fertilizers, pesticides and a lot of others. Because of such a huge popularity and usefulness oil is called as the “black gold” and the XX century – as the century of petroleum. Oil determines not only the economy and technical potential, but sometimes the political and international relations of countries. Most of economists constantly indicate that oil plays a key role in the global economy. Despite the rapidly growing popularity of the alternative renewable natural sources of energy such as solar, wind, water, the role of oil is still significant. Oil is the most important type of energy consumed since the mid XX century to present. As far as it used in many different purposes, fluctuation in the price of oil affects all sectors of the economy at once. Significant fluctuations in oil prices, especially falls, are unprofitable for many countries, especially for those that produce and export oil and petroleum products. Moreover, the state budget of most of those countries heavily dependent on income derived from oil exports. So, it is difficult to overestimate the role

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<sup>2</sup> Solsvik T. (2017). Norway's sovereign wealth fund celebrates "stunning" \$1 trillion value. Reuters UK

of oil in modern economy. In these later days oil acquired a status of the “world currency”<sup>3</sup>, because the stability of the world economies largely depends on its prices. It is important to point that there is no common "oil price". Oil grades vary greatly in quality and composition, and these characteristics largely depend on the place of origin of the raw materials. The main parameters of oil quality are density and sulfur content. Experts identify light, medium and heavy grades of oil. Each variety has its own name. So, when speaking about oil price, it is very important to remember about the diversification by its types, because it influences the price directly. There are three main benchmark crude types of oil, that have specific composition. They are segregated for the convenience of oil producers and consumers. The names and descriptions of the crude oil types are given below:

- Brent – for oil mined in the North Sea between the coasts of Norway and Scotland, for the markets of Europe and Asia. Prices for about 70% of the world exported types and varieties of oil are directly or indirectly set on the basis of Brent quotes. Moreover, it is the world standard of oil in its quality, properties and composition, which is the most optimal from the point of view of processing and production of petroleum products. All oil extracted in the world (in Saudi Arabia, the North Sea, USA, Gulf of Mexico, Southeast Asia, etc.) correlates to the benchmark of Brent oil, which was once developed by oil-exporting countries (OPEC).
- WTI (West Texas Intermediate), also known as “(Texas) Light Sweet” – for oil extracted in Texas, USA. Mainly used for the production of gasoline, so this and similar grades of oil are in high demand, particularly in the USA and China. For a long period of time in the XX century, (before the start of Brent extraction) was the only benchmark crude oil type in the world. WTI and Brent are almost the same product in composition, but different methods of extraction is used. For a long time, the difference between the prices was not sufficient. Usually Brent was traded at US \$ 1–4 per barrel lower than WTI

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<sup>3</sup> Dyman, T.S. et al., (2001). Geology and Natural Gas Potential of Deep Sedimentary Basins in the Former Soviet Union, Geologic Studies of Deep Natural Gas Resources, Chapter C, U.S. Department of the Interior, U.S. Geological Survey.

due to the higher cost of shipping to the US. However, since 2011, parity has changed and Brent began to bargain at a premium of 10-20 dollars per barrel to WTI prices<sup>4</sup>.

- Dubai Crude – for oil produced and exported from the Arab states of the Persian Gulf to the countries of the Pacific Rim.

Prices for these three crude types of oil are established during the trading on the international stock exchanges on the daily basis. The prices of other types of oil and oil products are formed on the basis of these three crude oil types. Prices of European and Central Asian oil, including those extracted on the territories of Russia and Kazakhstan, are formed out of Brent benchmark. When forming the price, the quality of oil or oil product is considered, and if the quality is better than the benchmark you add a premium, and if worse you subtract the discount. The lower the density of oil and content sulfur in it, the better the quality, and, as a result, the higher the price. As an example, price for one of Russian oil marks Urals forms as benchmark Brent price minus discount, which is usually around 2 (two) US dollars. Urals has fewer light fractions and the higher sulfur rate, than Brent has, which will cost more time and money for the buyer to refine the product. Therefore, a discount should be made.

### **2.1.1 The Role of Oil Prices in the World Economy**

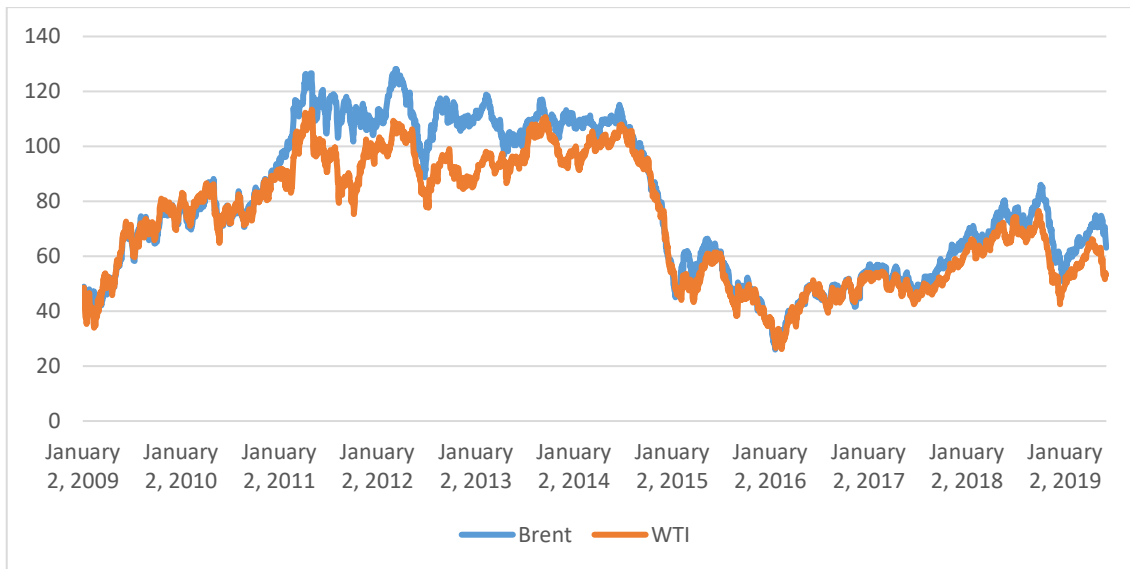
The economic and political importance of oil in the world increased under the conditions when it became the main type of energy raw material. The availability of own oil resources, the ability to organize the export of oil and oil products make it possible for different states to achieve significant economic and social development success. At the same time, fluctuations in world oil prices and the situation on the oil market lead to serious changes in the economic policies of both oil-producing and countries whose industries are based on imported oil. For the period since June 2014, oil prices have dropped by about 65 percent, the decline in oil prices averaged over \$ 60<sup>5</sup> till the end of a year, as it is illustrated in Figure 1.

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<sup>4</sup> Puko T. (2016, January 15). Oil Prices Tumble Below \$30 a Barrel. The Wall Street Journal. Retrieved from <https://www.wsj.com/articles/oil-prices-fall-below-30-a-barrel-1452853918>.

<sup>5</sup> Crude oil prices. (2019). Retrieved from German portal for statistics: <https://www.statista.com/statistics/409404/forecast-for-uk-brent-crude-oil-prices/> (Accessed 10.06.2019)

**Figure 1. Brent and WTI Prices 2009-2019**



**Source:** German portal for statistics<sup>6</sup>

Crude oil prices fell sharply in the fourth quarter of 2014 as a result of imbalance, when global production exceeded demand. After reaching the peaks of \$112 per barrel (bbl) and \$105/bbl in June, crude oil benchmarks Brent and West Texas Intermediate (WTI) fell to \$62/bbl and \$59/bbl in December, respectively. In January 2016, the price for Brent crude fell to \$ 27.72 per barrel as a result of the lifting of sanctions on Iran and reached the 13-year minimum<sup>7</sup>. Currently, as of April 2019, the price per barrel varies between \$ 69-71. The general explanation for this sharp drop of the oil prices in 2014 and keeping prices relatively low to date is that the balance of supply and demand in the market was not preserved and changed rapidly<sup>8</sup>. The most significant causes affecting this balance are listed below:

1. Saudi Arabia versus the United States. The first and the most significant reason for reducing oil prices is the fight for the marketshare of Saudi Arabia and other exporters against the American “shale”. The goal of the traditional oil suppliers was to lower prices to a level that critical is for construction of new oilwells in the United States. The payback

<sup>6</sup> Crude oil prices. (2019). Retrieved from German portal for statistics : <https://www.statista.com/statistics/409404/forecast-for-uk-brent-crude-oil-prices/> (Accessed 10.06.2019)

<sup>7</sup> Puko T. (2016, January 15). Oil Prices Tumble Below \$30 a Barrel. The Wall Street Journal. Retrieved from <https://www.wsj.com/articles/oil-prices-fall-below-30-a-barrel-1452853918>.

<sup>8</sup> Hadzi-Vaskov M and Ricci LA. (2017). Does gross or net debt matter more for emerging market spreads? Working Paper 16/246, International Monetary Fund



threshold for American shale oil is estimated at \$ 30–40 per barrel. Obviously, the price dumping for the Saudis is the great advantage that they use as far as they afford a production at cost of \$ 8-10. The low production cost per barrel of oil in the Persian Gulf countries is due to the fact that the fields are located on the continental shelf and in the coastal zone with a small depth. As a result the extraction processes become easier and faster, and transportation is less costly, as far as there is no need to build and maintain long oil pipelines, since oil is produced near to major ports<sup>9</sup>. For comparison, one of the highest oil production costs is in the United States on the deep shelf of the Gulf of Mexico and Norway in the shallow North Sea. This is because oil platforms need to be built, therefore expensive equipment should be used. Saudi Arabia's position on oil prices and its strong influence on the oil market is related to the fact that the country is much more concerned about maintaining its market share. Therefore, the current prices only help it to remove from the market those competitors who can work only at high prices.

2. China. Starting from second half of 2014, China's economic growth has slowed by almost a third and is being kept at the level about 6% nowadays, according to Lingling Wei (2019).<sup>10</sup> This means that the main importer of oil is no and will not (most probably) be able to consume energy in the same volume. Given China's link with the Asian region, it can be expected a significant decrease in oil demand from that region too.

3. Iran. An embargo was partially lifted from Iran in 2016<sup>11</sup>. Therefore, Iranian oil production is increasing, moreover, oil reserves that were kept in reservoirs during the period of embargo also flew to the market. As far as oil reserves of Iran are counted as one of the largest in the world, it was a huge flew<sup>12</sup>.

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<sup>9</sup> Ulmishek, G. F. (2001). Petroleum Geology and Resources of the North Caspian Basin, Kazakhstan and Russia, U.S. Geological Survey Bulletin 2201-B, U.S. Department of the Interior. U.S. Geological Survey.

<sup>10</sup> Lingling Wei (2019, March 04) China Expects 2019 Economic Growth of 6% to 6.5% The Wall Street Journal. Retrieved from <https://www.wsj.com/articles/china-expects-2019-economic-growth-of-6-to-6-5-11551748675>

<sup>11</sup> Karimzadeh M., Nasrolahi Kh., Samadi S., Dalali Esfahani R., & Fakhar M. (2009). Investigation of Dutch Disease in Economy of Iran. Quarterly Journal of Economics Reviews, 6(4), 147–172.

<sup>12</sup> Cockerham S. (2011, Nivember 14). Legislators Want Permanent Fund to Drop Iran Investment. Anchorage Daily News. Retrieved from: <https://www.adn.com/opinions/2016/10/01/legislators-pack-boxes-for-move-to-new-offices-this-weekend-but-wont-shed-unwelcome-publicity-over-taj-mahawker-for-months-or-years/>.

4. Illegal production and sale of oil. Due to illegal, unrecorded goods, oil surplus is formed on the market - on average, 250–300 thousand barrels (30-36 thousand tons) of oil daily<sup>13</sup>. Such oil has been produced in war-torn countries, that is, in Libya, Syria, Yemen, and Iraq.

5. OPEC - the Organization of the Petroleum Exporting Countries - is an intergovernmental organization of 14 nations: Algeria, Angola, Ecuador, Equatorial Guinea, Gabon, Iran, Iraq, Kuwait, Libya, Nigeria, Republic of Kongo, Saudi Arabia, United Arab Emirates and Venezuela. This organization was created with the mission to "coordinate and unify the petroleum policies of its member countries and ensure the stabilization of oil markets, in order to secure an efficient, economic and regular supply of petroleum to consumers, a steady income to producers, and a fair return on capital for those investing in the petroleum industry", according to OPEC official web-site<sup>14</sup>. Qatar terminated its membership on 1 January 2019. Most probably the reason for this quit was the plan of OPEC to decrease extraction and Qatar wants to extract at the same level with no reduce in production and export. Taking this fact into the account, it becomes obvious that OPEC can not act as a regulator in the oil market anymore. Moreover, this happens due to the difference of interests and planning horizons. It is important for Saudi Arabia to maintain its presence in the market, for which it can sacrifice the current market situation, and Venezuela needs money here and now, because its export revenues are 95% dependent on oil<sup>15</sup>. Now there is a crisis in the country, which has significantly affected the standard of living of the local population. Venezuela does not cover domestic food needs, there is no money in the budget to buy food in foreign markets. Most of the time the store shelves are empty. When bread, rice and coffee are brought to the market, they sell it at "fair prices" according to presidential decree of Maduro, a crowd is built up behind them. Crowding for cheap food that has become scarce; insanely expensive on the black market is all that the state offers to its citizens at such a difficult period of time. In

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<sup>13</sup> Puko T. (2016, January 15). Oil Prices Tumble Below \$30 a Barrel. The Wall Street Journal. Retrieved from <https://www.wsj.com/articles/oil-prices-fall-below-30-a-barrel-1452853918>.

<sup>14</sup> Organization of the Petroleum Exporting Countries. (n.d.). Retrieved from [https://www.opec.org/opec\\_web/en/about\\_us/23.htm](https://www.opec.org/opec_web/en/about_us/23.htm)

<sup>15</sup> Clemente J. (2017, November 5). Venezuela's Oil Problems Abound. Forbes Magazine. Retrieved from <https://www.forbes.com/sites/judeclemente/2017/11/05/venezuelas-oil-problems-abound/#740c29ce6104>

addition, tens of thousands of Venezuelans run across the border to Colombia to buy food and medicine there<sup>16</sup>.

6. Storage. In 2016, there was a significant shortage of space in the oil reservoirs. In total there are about 4 billion barrels of oil in it<sup>17</sup>. Construction of new ones is quite expensive, and companies so far prefer to simply sell all the oil from their reserves from reservoirs to the market.

Oil market shocks changes the behavior of the government authorities, entrepreneurs and consumers. For Saudi Arabia, the period of low oil prices did not have such a huge significant impact, as for other countries, because the country has enough reserves to live through this period without any problems. However, it was also a shock situation, for Saudis, so many government programs were in jeopardy, construction started to decline, and certain infrastructure projects have been frozen<sup>18</sup>. Possession of one of the world's largest oil reserves has become an advantage for the country and at the same time a major disadvantage following the 2014 drop in oil prices<sup>19</sup>. The economy, which is almost entirely dependent on oil revenues, became less competitive in recent years. Budget deficit in 2015 amounted to 362 billion riyals (\$ 98 billion) and 297 billion riyals in 2016 (\$ 80 billion)<sup>20</sup>. This situation pushed the government for the first time to foreign borrowing in the amount of \$ 17.5 billion in October 2016 and another \$ 9 billion in April 2017 with issue of Islamic bonds that not only enabled the government to infuse additional funds into the economy, but also to avoid increasing the tax burden. Revenues not related to oil sales accounted for 38% of total revenues in 2016, and by 2020 the government expects to bring this figure to 50%. Saudi Arabia's GDP declined after 2014 and in 2016 amounted to \$ 646 billion (World Bank, Statista, 2017)<sup>21</sup>. As for China, the largest importer of oil: reducing prices allows it to spend less on raw materials. That helps

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<sup>16</sup> Clemente J. (2017, November 5). Venezuela's Oil Problems Abound. Forbes Magazine. Retrieved from <https://www.forbes.com/sites/judeclemente/2017/11/05/venezuelas-oil-problems-abound/#740c29ce6104>

<sup>17</sup> Puko T. (2016, January 15). Oil Prices Tumble Below \$30 a Barrel. The Wall Street Journal. Retrieved from <https://www.wsj.com/articles/oil-prices-fall-below-30-a-barrel-1452853918>.

<sup>18</sup> Algahtani G. (2016). The Effect of Oil Price Shocks on Economic Activity in Saudi Arabia: Econometric Approach. International Journal of Business and Management; Vol. 11, 8 p.

<sup>19</sup> Puko T. (2016, January 15). Oil Prices Tumble Below \$30 a Barrel. The Wall Street Journal. Retrieved from <https://www.wsj.com/articles/oil-prices-fall-below-30-a-barrel-1452853918>.

<sup>20</sup> Mardom salari Newspaper. Iranian budget in 2014.

<sup>21</sup> Plecher, H. (2019). "Saudi Arabia: Gross domestic product from 2010 to 2020". Retrived from: [www.statista.com/statistics/268059/grossdomestic-product-of-saudi-arabia/](http://www.statista.com/statistics/268059/grossdomestic-product-of-saudi-arabia/)

to accelerate the country's economic growth. Concerning USA and Canada. The American oil industry had significantly increased their production volumes (by 60% in 2009–2014), but the oil prices collapse is damaging to the producers of shale oil. They have reduced thousands of workplaces, closed hundreds of drilling rigs and are now using the fields with the lowest cost of production. In Canada, the country which is also considered to be one of the main beneficiaries of the “shale revolution”, the situation is much worse. Unlike the US, Canada's economy depends heavily on oil revenues (the oil and gas sector accounts for 10% of the country's GDP). European Union. Stable supplies of raw materials are vital for the development of the European economy. For the EU, as a consumer, the situation is very favorable: the current oil prices will help increase investment, the number of workplaces and, as a result, speed up the economic growth.

### **2.1.2 The Role of Oil Prices in the Economy of Kazakhstan**

Talking about the influence of oil and oil prices to the economy of Kazakhstan: there is a common opinion that the Kazakh economy directly depends on the price of oil, and that the basis of the state budget is mainly formed of oil revenues. According to Mr. Daniyar Akishev, the Governor of the National Bank of Kazakhstan, the economy of the Republic of Kazakhstan is 85% dependent on oil exports<sup>22</sup>. He also clarified that all oil revenues go to the National Fund, and from there a fixed amount is going to the budget. This, according to Akishev, allows the government to protect the economics from both falling oil prices and its growth. "We are dependent on the price situation, we understand that if oil prices drop sharply and will stay at that level for the long period of time, the national currency rate will react to that situation. I think the ruble rate will also react. However, now we don't see big risks for the oil market." said the Governor of the National Bank of Kazakhstan during the interview<sup>23</sup>. By the August 2014, after an oil prices fall, Kazakhstan's foreign trade turnover fell by 9.1% – from \$88.5 billion to \$80.5 billion, including exports – by 6%, imports – by 14.7%. Exports to Russia have fallen by 20%. GDP growth was 4% against 5.7% previous year<sup>24</sup>. As a result, in October 2014, the government of Kazakhstan started the revision of the 2015 year's budget in connection

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<sup>22</sup> M. Gareeva (2018) Kazakhstan is more dependent on oil prices, than Russian Federation

<sup>23</sup> M. Gareeva (2018) Kazakhstan is more dependent on oil prices, than Russian Federation

<sup>24</sup> Kazakhstan imposed a ban on the import of gasoline from Russia.

with the downward trend in oil prices. Kazakhstan consumes only 12% of the produced oil, and the rest 88% is exported. Currently, oil exports form almost three quarters of the national GDP. Thus, in the structure of Kazakhstan's exports, 78.4% is oil and gas; 8.2% - metals; and in the imports 43.6% - machinery, 14.3% - products of the chemical industry and 10.3% each - food. At the same time, according to experts, the positive growth of Kazakhstan's GDP is possible in case if the selling price for oil is more than \$ 60 per 1 barrel, that is, if the price of oil is below these values, the country may face a recession and difficult times with a large-scale crisis<sup>25</sup>. Such over-dependence on oil prices makes the Kazakhstan economy extremely vulnerable to price fluctuations.

Kazakhstan, as a country extracting the oil, is in not favorable conditions against the oil price fluctuations. There are very few oil refineries in the country, among them three oil refineries: "ATYRAU REFINERY" LLP, "Pavlodar Oil Chemistry Refinery" LLP, "PetroKazakhstan Oil Products" LLP; and two mini refining plants: "Condensate" JSC, "Aktobe Refinery" LLP. These five plants have an overall capacity of 17 million tons of oil per year, when the total volume of extracted oil in a year is about 90 million tons. Every year the volume of production grows by about 8% and the capacity of refining plants in Kazakhstan remains the same since very long period of time. It is obvious that the production capacity of existing refining plants is not enough. Also, oil refining production facilities are outdated technically. The yield of the useful product is low, the waste in the form of fuel oil is high. Fuel oil is also exported<sup>26</sup>. Revenues from such exports are relatively low, which is reflected in the state budget. Considering the above mentioned reasons, there is no other chance aside from exporting the crude oil without any refining. And later buying the petroleum products from nearest neighbors, such as Russia, Belarus, China. Deputy Minister of Energy of the Republic of Kazakhstan Bolat Akchulakov announced the following figures in his interview: 900 000 tons of gasoline; 400 000 tons of diesel and 250 000 tons of jet fuel is imported to Kazakhstan from Russia every year<sup>27</sup>.

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<sup>25</sup> Effimoff, I. (2000). Future Hydrocarbon Potential of Kazakhstan, AAPG, presented at the 2nd Wallace E Pratt Conference, Petroleum Provinces of the 21st Century, San Diego, CA, January 12-15.

<sup>26</sup> Brunet, M.F. et al. (1999). The Geodynamic Evolution of the Precaspian Basin (Kazakhstan) Along a North-South Section. Elsevier Tectonophysics, 313, 85-106.

<sup>27</sup> D. Pokidayev (2018) Minenergo: The ban on the import of Russian gasoline to Kazakhstan. Kursiv-The Wall Street Journal.

But the most interesting fact is that local refineries reservoirs are full and even over loaded. As Mr. Kanat Bozumbayev, the Minister of Energy of Kazakhstan says: “It is very critical to start exporting gasoline to prevent overstocking of the market, as there is a surplus of gasoline in the republic”<sup>28</sup>. Therefore, aiming to unload the local reservoirs, the Minister of Energy of Kazakhstan signed an order dated February 18, 2019 “On some issues of the supply of petroleum products to the Republic of Kazakhstan from the Russian Federation”, which forbids the import of gasoline to Kazakhstan from the Russian Federation by railway for a period of three months. This order will slow down the supplies, but will not stop it, because there are a lot of companies and petroleum stations who can still buy and bring the goods by auto transport.

The Minister of National Economy Timur Suleimenov said that the government of the country has developed seven development mechanisms that should make the Kazakh economy sustainable and independent of oil price fluctuations<sup>29</sup>. The government believes that the economy can grow at a rate of 4-5% per year, despite the crisis. This year, according to estimates of international monetary funds, growth is expected to be about 3-3.5%<sup>30</sup>, but the official authorities of the country say about 3.8%. In the 2000s, during the oil boom, the economy of the republic at times grew at a rate of 10% per year, the average growth rate was 7%, so the current 3-4% seem absolutely insignificant.

## **2.2 Conclusion of Section II**

Coming back to the role of oil in world economics, it is necessary to point a special attention to its direct function. Nowadays it is hard to imagine global transportation without it. Oil is the fuel for the transportation vehicles, electric power raw material and chemical industry raw material. Road transport is dependent on oil for 98%. Oil accounts for 36% of the world's energy consumed and produces 9% of the entire planet's electricity. Moreover, oil is used for pesticides production, building asphalt roads, medicine,

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<sup>28</sup> Ulmishek, G. F. (2001). Petroleum Geology and Resources of the North Caspian Basin, Kazakhstan and Russia, U.S. Geological Survey Bulletin 2201-B, U.S. Department of the Interior. U.S. Geological Survey

<sup>29</sup> Bukeeva, A. (2017). Suleimenov told why Kazakhstan tenge is weakening. Forbes Magazine. Retrieved from [https://forbes.kz/process/economy/trudnosti\\_adaptatsii\\_1512993357/](https://forbes.kz/process/economy/trudnosti_adaptatsii_1512993357/)

<sup>30</sup> International Monetary Fund (2019). GLOBAL PROSPECTS AND POLICIES. Retrieved from <https://www.imf.org/~media/Files/Publications/WEO/2019/April/English/ch1.ashx>

cosmetics, building materials and many more. Taking all that points into account we can conclude that the world heavily depends on oil and oil prices. Especially countries-oil exporters, the countries, economy of which is significantly depends on the volume, such as Saudi Arabia, Norway, Venezuela, Iran, Nigeria, Mexico, Kongo, Azerbaijan, Russia, Kazakhstan, and others. The high level of oil consumption in the world serves as the basis for the assumption made by a number of scientists and specialists that imminent depletion of oil reserves is inevitable. The most frequently expressed view predicts that world oil reserves will be exhausted by the end of the 21st century<sup>31</sup>.



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<sup>31</sup> Vidal, J. (2005, April 21). The end of oil is closer than you think. The Guardian. Retrieved from <https://www.theguardian.com/science/2005/apr/21/oilandpetrol.news>

### **3. UNDERSTANDING PETROLEUM INDUSTRY RISKS AND OIL PRICE RISKS**

#### **3.1 Petroleum Industry Specific Risks**

Generally, risk is characterized as a negative phenomenon leading to adverse consequences. But it should not be forgotten that the risk can lead to a positive outcome of the taken decision. Risk is characterized by a combination of opportunities to achieve both: undesirable adverse effects and intended beneficial, positive results.

The risk, if implemented, can lead to three possible economic outcomes: negative, i.e. to possible damage, loss, loss of income, inability to achieve the intended predicted result; to zero, i.e. the consequences of the risk will not influence in any way to the future situation; to positive, to the probability of increasing the expected income, to more successful and profitable results than those that were originally planned. The best example of a high-risk business in modern world is the petroleum industry. The industry is generally defined as an uncertain, this uncertainty mostly arises from the results of drilling oil wells. It can not be foreseen if the well is going to give oil or going to be "dry"<sup>32</sup>, therefore companies operating on those wells are always facing that major risk. Subsequently, that issue was added to the list of risks influencing petroleum and petroleum products prices, making plus one more risk to those already present in the industry. Although oil firms are one of the world's biggest ones, they usually operate in partnership with other firms. In order to spread exploration and production risks, majority of companies enters to so called co-operations<sup>33</sup>. The co-operation agreements also apply to the initial joint management and development of open fields. Moreover, companies enter into agreements with the so-called service companies providing drilling services, surface and underground equipment maintenance. In case when several companies decide to co-operate and to carry out joint activities or to realise joint investments, the differences of opinion can take place. Therefore, if the partners can not come to the common decision and same principles for working together, then such joint activities are becoming less

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<sup>32</sup> Dalyan, I.B. (1996). Tectonics of Subsalt Rocks of the Eastern Margin of the North Caspian Basin in Connection with Petroleum Potential: *Geology of Oil and Gas*, no. 6, p. 8–17

<sup>33</sup> Maximov, S. P., & Ilinskaya, V.V. (1989). *Physicochemical Characteristics and Hydrocarbon Composition of Oils and Condensates of the Soviet Union*. Nedra Publication House, Moscow, p. 296



effective. For example, in matters of technical preferences, differences of opinion may appear. Firms might have own preferences in hardware, software and technical standards<sup>34</sup>. One firm might be the owner of any service company or a pipeline and might want to involve those in the project, this is the simplest example how a conflict of interest may arise. Various areas specialists, including engineers, economists and scientists might have different views on the assessment of oil reserves, well productivity, infrastructure facilities design, a forecast of oil prices changes. One more important point is personal relations between firms' top managers. If executives of co-operating companies have lack of trust in terms of each other, then something good is unlikely to come out of such kind of partnership. The sources of risk for oil production projects and the oil business as a whole are much higher than it might appear. But at the same time, despite the uncertainty and numerous risks that are always present, most oil companies manage to perform quite successful operations and provide the enough level of energy to the world. One of Big Four Companies, EY, have performed the research on oil and gas industry risks, they have found out that all the companies working in that industry are subject to financial, compliance, operational, and strategic risks<sup>35</sup>:

- Financial risks, mostly arising from instability at the market and the economy in general
- Compliance risks, arising from corporate governance, active laws and regulations in the country, politics, or corporate governance
- Operational risks, arising from actions and decisions taken regarding to company's processes, systems and its employees
- Strategic risks, arising from ability to build the proper relationships with customers, competitors, and investors

Taking these factors into consideration, it can be stated that almost all risks can be defined as one of those four general types of risks. Below are the ten major risks for companies in the oil and gas industry, they are presented in the format of diagram in Figure 2, showing the relation of each particular risks to its general type of risks.

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<sup>34</sup> Cockerham S. (2011, Nivember 14). Legislators Want Permanent Fund to Drop Iran Investment. Anchorage Daily News.

<sup>35</sup> U.S. Energy Information Administration, based on Bloomberg

**Figure 2.** Top 10 Risks for Oil and Gas Companies



**Source:** Public Risk Management Organisation<sup>36</sup> <https://www.primo-europe.eu>

### 3.1.1 Access to Reserves: Political Constraints and Competition for Proven Reserves

For several reasons, access to reserves is at the top of the risks. First, the political instability in North African countries and the Middle East has led to the confusion about future oil access in these areas as there is no assurance that countries' governments will proceed with cooperation, or that these regions will be safe. Second, high oil prices may lead governments to attempt to increase their revenue share, leading to more government-backed oil companies being formed. These firms will have a clear advantage over an International Oil Company (IOC) competing in their country for the same reserves. Third, in hard-to-reach areas (tar sands in Canada, deposits in the Arctic and deep-water), there are many oil and gas wells. This significantly increases the exploration and production costs, but also increases the risks associated with the need for additional investment. Fourth, businesses could face a number of political factors that could potentially restrict

<sup>36</sup> Top 10 Business Risks. (2012). Retrieved from <https://www.primo-europe.eu/top-10-business-risks-radar/> (Accessed 10.02.2019)

or even deprive them of access to oil wells. In the United States, for example, the introduction of relevant tax amendments and other regulatory acts aimed at subsidizing electric vehicle production, promoting renewable energy sources and other alternative fuel and energy sources, leading to industry slowdown.

### **3.1.2 Energy Policy Uncertainty**

In the industry, there is increased regulatory oversight, experienced by many IOCs and NOCs, involving environmental issues that may restrict reserve access. In addition, the 2010 oil spill in the Gulf of Mexico has created new supervisory bodies and more stringent requirements that could cause the non-majors to cost offshore drilling in the Gulf. Uncertainty in energy policy reduces the effectiveness of planning activities, investment strategy, and ensures sustainability for changes in supply and demand. This, in turn, increases the probability of supply and demand imbalance due to the investment slowdown. Generally speaking, the lack of certainty about the upcoming changes in legislative and regulatory requirements adversely affects the industry's future development and makes long-term plans and investments difficult to make<sup>37</sup>.

### **3.1.3 Cost Containment**

It is becoming increasingly difficult to extract oil and gas from accessible acreage, requiring not only the development of new technologies, but also a technically skilled workforce capable of operating this technology. Increased environmental and safety reporting requirements also affect operating costs. It is well known that cost control strategy can be implemented effectively to optimize cash flow. However, regardless of the strategy used, a certain risk associated with a negative impact on the Return on Investment (ROI) rate is always involved in cost containment. Additionally, cost containment implementation can lead to disruptions in operating activities, adversely affecting the company's revenue, customer relationships, and the quality of performance of supply contract obligations. According to the EMEIA (Europe, Middle East, India, Africa) Oil and Gas Leader John Avaldsnes, cost containment will always remain a

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<sup>37</sup> Parker C. (2000). Reducing The Risk Of Policy Failure: Challenges For Regulatory Compliance. Organisation for Economic Co-operation and Development, pp. 42-50

priority in an industry such as oil and gas, characterized by intense competition and unstable profit level.

### **3.1.4 Worsening Fiscal and Contractual Terms by Host Countries**

Governments can make regulatory changes to their own advantage when oil prices rise, often using tax claims to cause foreign businesses to give the host country a higher share of revenue. In many developing countries, there has been a sharp decline in budget revenues from the implementation of public investment programs, as well as tax revenues. In this regard, it is expected that oil and gas companies will continue to face higher tax rates and other tax measures. In such cases, the terms of cooperation with national oil and gas companies may need to be reconsidered by international oil companies, where the focus will shift to national interests. There is also a risk of tightening the industry's financial and tax regimes in developed countries. The governments of these countries are considering the possibility or have already started to implement measures aimed at raising tax rates, reducing tax breaks for exploration, revising royalties, under the influence of economic and political factors.

### **3.1.5 Health, Safety, and Environmental (HSE) Risks**

The other major factor is environmental risk. In general, pollution and carelessness to the ecological surroundings is recognized as an environmental risk, but there are other items that also important, such as personal safety, damage to equipment, fire, flood, and disaster. It is necessary to consider and quantify all environmental risks that can affect the economics of the project<sup>38</sup>. The cost of not following HSE principles can be extremely high, same it was for British Petroleum company and its partners. In 2010, April 20 as a result of explosion on the oil platform in the Gulf of Mexico, about 15 million barrels of oil spilled into the waters, the oil spill reached an area of 75 thousand square kilometers. This accident entailed the death of 11 people, injure of 17 people, huge damage for the

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<sup>38</sup> Box, S.E. et al. (2010). Sandstone Copper Assessment of the Chu-Sarysu Basin, Central Kazakhstan, Global Mineral Resource Assessment, Scientific Investigations Report 2010-5090-E, U.S. Department of the Interior, U.S. Geological Survey

ecology and millions of dollars for companies, working at the oil platform<sup>39</sup>. That is why strictly following HSE principals is extremely important. In addition, it can directly affect the potential to bid and win projects on the global market, because nowadays everyone is focused on how well businesses manage health and safety and based on this, are willing to respond to an event. Companies with increased capacity for health and safety do usually have a competitive advantage.

### **3.1.6 Human Capital Deficit**

The human capital deficit creates a greater focus on employing, training, and building a retention program of a world class. Regardless of the economic situation, the issue of lack of highly skilled staff remains important. For a while after the crisis, the businesses have a growing need for qualified and skilled specialists. Otherwise, it can affect to a delay in implementation of projects and works, or even cancelation of those, as a result these consequences will lead to a reduction of production and a raise of operating costs. The above mentioned risk type is mostly applicable for private oil companies, because they always wide their production and enter new markets. One more point is that the majority of the leading senior executives, engineers, and other high qualified professionals in developed countries are close to their retirement age. Furthermore, no one can be sure and there is no guarantee that young specialists will be able to replace those retiring employees at their working places. According to statistics published by universities in Europe and the USA, today the world faces a tendency to reduce the number of applicants entering engineering, geological and physical specialties. At the same time, educational institutions in developing countries offer a record number of such graduate specialists. Wherein, it should be borne in mind that they will need several years of active practical training in the course of professional life in order to meet the needs of the modern rapidly growing industry.

### **3.1.7 New Operational Challenges, Including Unfamiliar Environments**

Businesses move the processes and start the drilling operations in the deep waters of

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<sup>39</sup> Lehner, P (2010). In Deep Water: The Anatomy of a Disaster, the Fate of the Gulf, and how to End Our Oil Addiction. OR Books. pp. 52-60

Arctic, that poses new challenges and new risks, such as buying, exploring and implementing new technologies, including new equipment and machinery, managing new operations, facing new safety issues. Very often, starting such projects enables the management to start using the absolutely new technical tools and operating strategies, organize unique training and support for the employees who is actually involved in that particular production facility. The development of such new oil wells much more expensive and dangerous for humans, comparing with development of oil wells in the past, thereby enlarging the list of risks faced by companies operating in oil and gas industry. Moreover, there is small probability that prices in the future will remain at a level that justifies such major investments.

### **3.1.8 Climate Change**

Companies operating in oil and gas industry that publicly show their concerns over global climate change and caring about it are usually much more competitive on the market. For instance, a number of firms are working on carbon dioxide reporting procedure. Debates on climate change, particularly global warming and consequently the greenhouse effect,

as well as the gas emissions, continue till nowadays. Therefore, different states' governments have adopted special regulations and reforms that affect the companies in oil and gas industry. The European Union (EU) developed a list of environmental objectives and standards, following which the world can reduce the emission of carbon dioxide (CO<sub>2</sub>) by 20% by 2020 as minimum. Furthermore, EU government implemented the reform, the major goal of which to encourage a shift from petroleum energy production to renewable energy. China, in its term developed several environmental standards, that are focused on minimizing the greenhouse gas effect and its consequences, as well as on encouraging businesses and people to use more atomic energy, together with energy from renewable sources, such as sun, water and wind. These reforms are mostly aimed on minimizing carbon dioxide emissions appearing as a result of operational processes of oil and gas industry companies, such as the burn of minerals. Nowadays, oil and gas companies are not only subject to state scrutiny. Companies working in this industry are facing with increasing pressure from stakeholders, who are demanding the release of detailed information on environmental issues. After the ecological catastrophe

in the Gulf of Mexico which happened as a result of oil spill, some investors are demanding full disclosure of threats in the area of offshore drilling and potential consequences for the environment which can result from offshore drilling operations, as well as measures taken to prevent such accidents in oil and gas companies, minimizing their consequences and managing the relevant risks<sup>40</sup>. Therefore, the growing concern of the global community about the environment will continue influencing the process of taking decisions regarding strategic development by companies.

### **3.1.9 Price Volatility**

Oil prices may also be dependent on political and economic forces, as a result all of them affect the decision of an operating company or investor to invest in projects or not. While national oil firms and supermajors may be able to cover greater price volatility than smaller operating firms can do, oil prices affect the entire industry. For various petroleum companies, the problem of price volatility has different degree of relevance. The most vulnerable in the face of declining prices for oil and gas are those enterprises that are involved in the implementation of capital-intensive projects. Falling commodity prices leads to a revenue decrease, and result in lower ability of the company to implement off-balance sheet funding. From another point of view, the increase in commodities prices might lead to a negative effect on the net profit of oil refineries, as of buyers.

### **3.1.10 Competition on New Technologies**

Different sources of renewable energy, such as solar, wind, water and geothermal are becoming more and more competitive in comparison with traditional sources of energy, if looking from everyday use point of view. Therefore, in order to stay competitive against new developing technologies, petroleum sector companies have to monitor and follow the innovation in the industry constantly, create a culture for that and always give the priority for investment in those innovation. Moreover, with the aim to decrease the risk of lowering competitive advantages, petroleum industry companies have to constantly introduce new technologies. This also includes the following implementation of

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<sup>40</sup> Lehner, P (2010). In *Deep Water: The Anatomy of a Disaster, the Fate of the Gulf, and how to End Our Oil Addiction*. OR Books. pp. 52-60

strategically important actions in the field of Research and Development (R&D), the periodical distribution of production facility modernization funds, together with the building the strong relationships with the suppliers of modern technological solutions. Despite all 10 major risks already were mentioned above, it will be fair to mention one more type of risk. It was in top 10 for many years. The risk of supply disruptions. It also refers to operational risks and takes a special place in this list of risks, as far as it influences the price fluctuations in significant way.

### **3.1.11 Supply Disruptions**

This type of risk always retains its relevance for petroleum sector companies in connection with geopolitical situation. The unpleasant situation in the sector might be a result of a prolonged conflict in the Middle East; sabotage on pipelines, refineries and in port infrastructure; changes in relations between Russia and the republics of the former USSR<sup>41</sup>; political unrest in North Africa, especially Algeria and Sudan; increasing political tensions in Nigeria; the overall dynamics of development and the unpredictable nature of Latin America's political situation. A negative outcome of these risks may be the growth in price volatility, which complicates the strategic planning of the firm and the investment activities in future. More significant problems may arise in the event of an unexpected expansion of the boundaries of intervention in the work of the industry by the state, changes in the conditions for carrying out joint activities, cancellation of contracts, as well as social unrest.

All of the above-mentioned risks are long-term. The level of its significant relevance in the period of every single year depends on the current situation of the economy and general conditions on the market. As a result of higher and higher importance of corporate social responsibility, together with increasing role of economic situation and the control of the governments, it becomes clear that these risks are required to be managed both: first in order to make sure short-term profitability of the business and second for the long-term sustainable growth of petroleum industry companies in general.

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<sup>41</sup> Beck R., Kamps A., & Mileva E. (2007). Long-term growth prospects for the Russian economy. European Central Bank, 58, 1–32.



## **3.2 Managing Specific Risks**

In the nowadays reality of rapid changes of improving technologies, instable economies and politic situations, as well as environmental changes, it is very important not only to identify the potential risks to the industry, but also to find the ways of most appropriate management of those risks. Possible measures to manage above mentioned risks are listed below.

### **3.2.1 Access to Reserves: Political Constraints and Competition for Proven Reserves**

- To set enough time and sufficient funds for a detailed analysis of the risks faced in the operating environment in which the firm is running the business. There are no similar conditions for every company in the country or every company in the industry. To achieve the goal of easy and quick adaptation to the political situation of a country and successfully use the present opportunities as much efficient as possible, an International Oil Company (IOC) can find a local partner or National Oil Company (NOC) for itself and learn all the specific details from its experience.
- To expand the right of access to the resources by increasing the amount of enterprises and co-operations; re-evaluate the productivity and competitiveness of current operations. In addition, the risk of loss of rights to the main deposits of commodities in the event of prices growth or in connection with the unstable political situation can be lowered by strengthening relations with NOCs in the framework of alliances and partnerships.
- To consider alternative opportunities. Despite the fact that for some time oil will remain among the important types of raw materials, companies should consider the situation in perspective. Gas is likely to become a more important energy component since it is cheaper than renewable energy sources. The main difficulties of working with gas nowadays are the location of fields and the complexity of transportation, can be solved as technology improves and new infrastructure is created.

### **3.2.2 Energy Policy Uncertainty**

- To apply a well-organized strategy of informing to government and the public about the need for a comprehensive and consistent energy policy, as well as campaigning this issue in political society. Surely, this is a long-term project that is difficult to be realize immediately, the implementation of it probably will take some time and serious funds.
- To understand and be able to foresee the way of following development of the energy policy in the country in which the business operates. To achieve this goal, it might be necessary to involve local political consultants, which is relevant even for small enterprises.
- To implement some large-scale initiatives which would ensure the conformance with laws and legal requirements of the country, its new forms of reporting, together with the implementation of other measures that will help to adapt to the expected changes in the government regulations. It is also advised to think about the shift a part of business activities to countries and regions with lower costs of compliance with legal requirements.

### **3.2.3 Cost Containment**

- An effective measure is to reduce operating expenses. It concerns some simple processes, such as more efficient use of common services, like IT, adjusting business processes, reducing costs at all levels of the supply chain.
- To ensure accountability of managers responsible for implementing cost-cutting programs. The firm has to be able to provide the information on the strategy in an effective way, as well as implementation plan of it. Businesses have to line up all cost reduction initiatives in accordance with the implementation strategy, strictly follow it. Companies where cost reduction strategy have been implemented already should periodically review and control the results of the measures taken.
- To focus on initiatives to tighten working capital management processes in order to improve liquidity ratios, introduce new technologies to increase operational efficiency, outsource activities that are not sources of income (for example, accounting, payroll accounting and payroll).

### **3.2.4 Worsening Fiscal and Contractual Terms by Host Countries**

- To understand features of the national tax regime established by the tax laws of the country where the business operates. In emerging markets, it might be noticeable differences between the tax legislation requirements and the application practice of it. The best way out to solve that issue might be the start of cooperation with a local tax consultant.
- To strike a balance between managing risks linked to more strict tax requirements and implementing new investment opportunities, including outcome planning and tax risks analysis, taking different economic conditions into account.
- To optimize the work of the distribution chain from a tax perspective by transitioning to a unified strategy, covering issues such as transfer pricing, business reorganization, entering into partnerships for tax credits, and others.
- The significance of building proper business relationships with local regulatory and government bodies is especially apparent when the conditions start to change. In addition, it might be appropriate to have in the contracts' provisions on international arbitration.
- For IOCs: to check and control the terms of cooperation with NOCs, where the focus will shift towards national interests.

### **3.2.5 Health, Safety, and Environmental (HSE) Risks**

- To make sure that all the regular workers and contractors are aware of risk assessments and to control their awareness of health and safety issues on site; to make sure they also inform health and safety information to the personnel who did not visit the site before.
- To check that the company is aware of health and safety issues that must be used as a major criterion in the selection processes of new employees and contractors.
- To make sure all new contractors are informed on health and safety provisions on site.
- To instruct managers to challenge contractors and employees, if they see them working in an unsafe way.
- Avoid slips and trips: provide and control: floors generally in good condition; good lighting; equipment should be stored in special area; staff wearing safety shoes.

- Manage possible hazard from workplace transport: good on-site measures for both pedestrians and vehicles, such as separate entrance to the factory for the pedestrians, specially defined walkways, railings were deemed necessary; all personnel working outside, must wear high visible tabard; employees and contractors must not drive any vehicles belonging to the company, including lift trucks without a special permit.
- All employees and contractors have to be instructed regarding HSE regulations before they start working on site.

### **3.2.6 Human Capital Deficit**

- In order to prevent duplication of processes and tasks, as well as minimize the operational efficiency, companies must define and arrange personnel processes, after that - securely manage them. This allows HR staff to focus on issues of working with personnel.
- To generate a desirable industry image for young professionals. For instance, to use new technologies to inform the society about the sectoral technological advances and show that the industry is developing and modernizing.
- Effective usage of the older generation employees' experience. Innovative strategy to the organization of pensions, which are oriented at preserving intellectual capital. It is worth considering the mechanisms of delayed or gradual retirement and (or) attracting retirees to the state as part-time consultants.
- Professional development of both local and regional employees make investment in the forming the corporate culture for the firm; training employees in foreign languages. These measures should help to minimize language barriers and misunderstandings between the employees and contractors, as a part of cultural differences.
- To focus on hiring, training, creating and rising a world class employees.

### **3.2.7 New Operational Challenges, Including Unfamiliar Environments**

- To establish cooperation with a straightforward hierarchal structure promoting risk minimization and the emergence of new opportunities for joint ventures between IOCs, subcontractors, NOCs and governments. As part of joint activities, firms have to frequently assess actual and prospective political risks and threats affiliated with

counterparties in order to make sure timely adoption of measures needed to minimize those risks and manage them in an effective way.

- Procurement of strategically important assets taking place in various geographical regions or under adverse climatic conditions. Such procurement can contribute to the expansion of operations and productions activities, the recruitment of professional experts, also obtaining the possibility to carry out the works in the R & D field.

- Organization of efficient management for investment projects. To coordinate project management and investment programs activities, taking the capital structure into account, together with approved capital construction projects. This allows to find out and decrease the risks of the implementation of a particular investment program. Moreover, it will improve the control over the expenditure of the project, and the compliance with the deadlines.

### **3.2.8 Climate Change**

- To take the actions concerning the global climate change, same as environmental problems to the major business strategy model, rather than taking them into account separately. Issues of global climate change and issues of environmental protection are accounted to be one of the main business risks, and its management is very important and must become a common practice.

- To carry out enterprise-wide risk assessments by segment in order to ensure that there are effective risk minimization and incident response plans.

- To initiate changes and investing in accordance with the prospective tightening of governmental requirements for greenhouse gas effect. Firms who are trying to take a first position in low-carbon power engineering, have all the necessary points for it.

- To build good relationships and create cooperations with the NOC of the country where the company operates its business, in order to ensure a more concrete and full understanding of the requirements of local government's environmental laws.

- To improve the quality of all types of reporting, including financial and non-financial, disclose the data on the emissions of greenhouse effect to the atmosphere, and information on the environmental impact of company's operations. Petroleum industry companies can engage independent specialists to check and control the reliability of

presented environmental data, such as the outcome of operations and statements about the positive consequences of using the goods they produced, or the services provided.

### **3.2.9 Price Volatility**

- To reevaluate the investing strategy, take actions like a review of the percentage of investments between oil exploration and oil products production; reconsider the investment planning scenario implementation, as well as planning scenario of asset sales, considering the oil price fluctuations, ranging it from the lowest to the medium level. In addition, before starting the procedures of investing, it is important to provide enough liquidity as the protection against any possible future price fluctuations.
- To make an econometric modeling, allowing a deeper understanding of the trends in the development of petroleum sector. With the exception of international oil companies, this technique is often overlooked by enterprises in the industry, while being potentially effective in terms of forecasting price fluctuations.
- To use rational management techniques, involving cost reduction, assessment of the effectiveness of the supply chain, as well as the reassessment of the investment plan and income forecast.
- In order to ensure higher profitability ratios and costs reduction, companies may consider applying a hedging strategy, and to optimize cash flow - tax planning.

### **3.2.10 Competition on New Technologies**

- To invest actively in various technological developments, such as those aimed to make better the technologies used in the processes of extraction of hard-to-recover oil and gas in non-traditional fields. Generally, the leaders among the companies who develop new technologies for exploration, production and transportation need for commodities and raw materials are international oil companies. Despite that fact, future technological progress, that made it real the possibility of extraction hard-to-recover natural gas reserves, made it possible mostly because of the handwork of private oil and gas companies. In order to remain competitive and provide favorable conditions for the development, petroleum sector companies have to continue to contribute in new technologies.

### 3.2.11 Supply Disruptions

- To invest more to stable markets, nevertheless sometimes it might result in the lower incomes.
- To implement a differentiated capital structure, that will have a shorter turnover cycle. It will maximize profits at the periods of high demand and relieve recessions without serious consequences in future. Pay the attention on assets that makes production rates higher during the periods between sharp growth and falls in the supply curve.
- To revise the conditions of contracts and make sure the reliability of supply. Businesses have to analyze the level of current efficiency, as well as the potential of the current supply chain, in order to identify not efficient links and other weak points.

### 3.3 Oil Price Risk Definition

The global demand for oil is inelastic — it remains almost unchanged with price fluctuations. Price increase have little effect on demand, since oil is one of the main energy resources and cannot be replaced by any other resources in areas where it is used most widely, such as fuel for most types of transport, chemicals. However, even a tiny decrease in the supply of petroleum results in a sharp increase in commodities prices. Spot prices for crude oil are liable to recognizable fluctuations, because they are directly dependent on political and economic situations in a global market. As practice shows, the supply and demand balance is the major factor which affects oil prices. Net price of oil is an overall monetary value of total costs incurred by the company at all the stages of production. These costs contained from capital expenditures (CAPEX) and operational expenditures (OPEX). Capital expenditure, or CAPEX, is financing with the aim to secure physical assets or to upgrade existing assets of the company<sup>42</sup>. CAPEX usually takes two forms; maintenance expenditure in which a business buys asset that extend the useful life of existing assets, and expansion expenditure in which a business buys new assets in an effort to grow the business. Oil exploration process usually have the highest level of CAPEX. It is also called one-time cost. OPEX, recurring cost, consists of regular costs, such as facility expenses, salaries, rent, etc<sup>43</sup>. The net cost of oil is a sum of several

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<sup>42</sup> Kumar, R. (2016). Capital Expenditure. Valuation, pp. 119-143

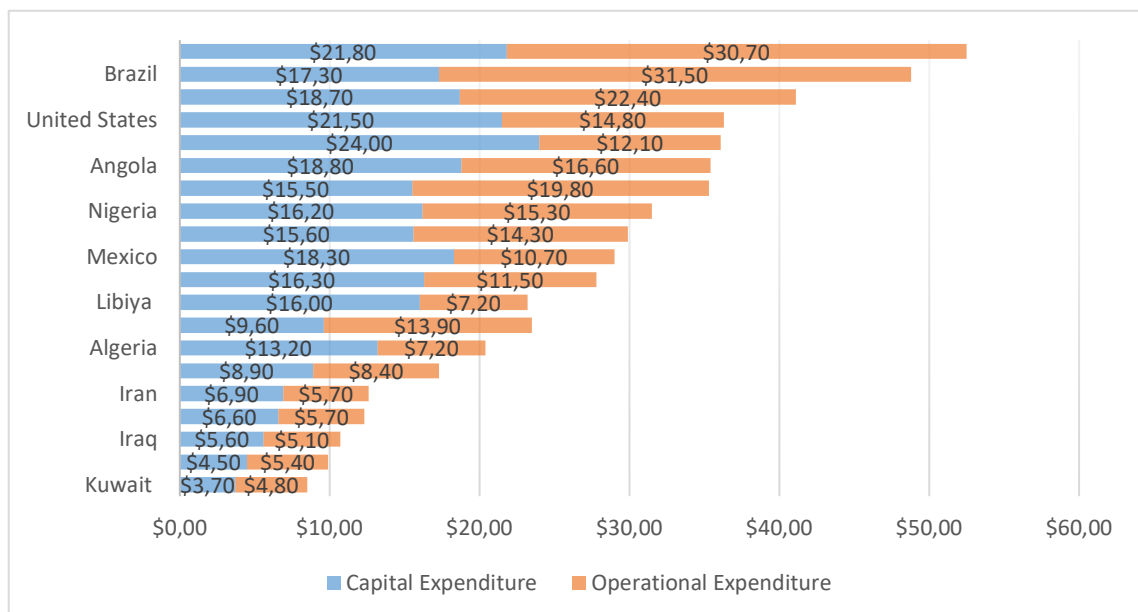
<sup>43</sup> Schmidt, M. (2019). Operating Expenses OPEX. Explaining Definitions, Meaning, OPEX in Accounting and Budgeting. Solution Matrix Ltd. pp. 18-25

components of both CAPEX and OPEX:

- 1) Lifting costs and taxes – maintaining the work of existing wells and oil preparation equipment, plus taxes and fees for the use of bowels of the earth.
- 2) Finding costs, development costs – include the costs of land acquisition, exploration and development of deposits.
- 3) Transportation costs
- 4) Decommissioning cost – for offshore fields (approximately 30% of all petrol in the world is extracted from offshore), an expensive process of decommissioning the oil platform and equipment use.

Capital expenditure is the total expenditure related to exploration costs, oil field site development, and the development of pipeline infrastructure. Operational expenditure includes lifting the oil, employees’ salaries, and other repeated expenses. The average CAPEX and OPEX costs are illustrated in the Figure 3. It shows costs incurred by different countries from highest to lowest. As it is depicted in Figure 3, the highest costs are incurred in such countries as United Kingdom, Canada, United States and Norway. The lowest costs are incurred in such countries as UAE, Iraq, Saudi Arabia and Kuwait. This is mostly due to operational costs incurred during the extraction, as those countries with lower OPEX have easier access to oil reserves.

**Figure 3.** Capital and Operational Expenditures by Countries



**Source:** War of Words<sup>44</sup>

<sup>44</sup> Gordon K. (2016). War of Words: OPEC Nations and the Crude Oil Market. Market Realist. Retrieved from <https://marketrealist.com/2016/01/will-2017-2018-mark-return-bulls/>



There are number of risks associated with all the above mentioned components of net cost of oil. They are:

- 1) Lifting costs and taxes
- 2) Finding costs, development costs and development of oil wells.

The activities of companies engaged in exploration activities and production processes of oil are conducted in fast developing regions all around the world. Running business in the terms of constant uncertainty adversely affects the possibility of these businesses to predict and manage risks beforehand, as well as plan and successfully implement the long-term investments. The following is information about major risks for businesses who have their main activity in the exploration and production sectors of petroleum industry:

- Energy Policy Uncertainty
- Access to proven reserves: political issues and competition
- Price volatility
- Climate change and environmental issues
- Fiscal and Contractual Terms
- New operational difficulties, work in unexplored conditions
- Energy Policy Uncertainty

- 3) Transportation costs

The activities of firms in this industry are mostly concentrated on the field gathering, preparation, transportation and storage of crude oil, petroleum products and natural gas. Usually, firms that are involved in the transportation and storage of oil and oil products are less sensitive to the risks of commodities price volatility in comparison with their partners who are involved in the exploration, production, processing and marketing of commodities. The following is the information on major risks for companies that are dealing with transportation and storage.

- Cost containment
- Energy Policy Uncertainty
- Climate change and environmental issues

- 4) Decommissioning cost

The development of oilfield services, including decommissioning, is still due to the competition between its participants in the evolution, progress and implementation of new technologies. At the same time, in this segment there is a shift of emphasis towards the establishment and development of partnerships with companies who are dealing with the

exploration and production of commodities. The risks inherent in the field of decommissioning services are not less significant than those with which participants in other segments have to deal. The following is information about key risks for oilfield services companies. Risks are listed in order of importance.

- New operational difficulties, work in unexplored conditions
- Cost containment
- Mutual duplication of services offered by international oil and oilfield service companies
- Climate change and environmental issues
- Outdated infrastructure

Moreover, the cost of oil is significantly affected by a number of conditions: the depth of the oil reservoir; climate; remoteness of the field from the sea routes; remoteness of the field from the main consumers; quality and modernity equipment. The low production cost for a barrel of oil in the Gulf countries is due to the fact that the fields are located on the continental shelf and in the coastal zone, commodities reservoirs are located on a small depth, there is no need to build and maintain long oil pipelines, as oil is produced very close to large ports. In Russia and Kazakhstan, the higher cost is due to the difficult climatic conditions at sites, the remoteness of the deposits from the main consumers and ports. Oil production in the sea has a relatively high cost of production. This type of operations is being successfully conducted by the UK, Norway and a number of other European countries in the shallow North Sea, and by the USA on the deep shelf of the Gulf of Mexico<sup>45</sup>. High costs are associated with the necessity to construct modern platforms and thus use the expensive equipment. As it was mentioned above, the major factor for oil prices stability is the balance between the supply and demand. As far as demand is stable and more or less predictable, the level of supply takes a huge role in price fluctuations. Here is the brief history of sharp changes in prices.

After the defeat in the Yom Kippur War (Ramadan War, or October War) of 1973, the Arab countries took a decision in 1973–1974 to reduce the production of oil by 5 million barrels a day in order to “punish” the West. Although other oil exporting countries

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<sup>45</sup> Levintal, O. (2009, February 26). Financial Crisis, Equity Capital and the Liquidity Trap. Interdisciplinary Center (IDC) Herzliyah.

managed to increase their production by 1 million barrels per day, the total world production became less by 7%, and as a result prices increased 4 times<sup>46</sup>. That is how Oil crisis of 1973 happened. Oil prices remained high in mid 70s and reached their peak in the early 1980s as a result of Iranian revolution of 1978-1979 and start of Iran-Iraq war in 1980. Later in 1983, oil futures were first announced on the New York Stock Exchange and Chicago Mercantile Exchange, that led to prices fall. From that moment financial instruments and markets started taking role in price formation. After Iraq's incursion to Kuwait in the year 1990, prices start to rise, but later quickly fell down again, since it was clear that other exporting countries can easily increase the production as they did it before and stabilize the total supply<sup>47</sup>. After the defeat of Iraq in 1991, prices were continuously falling and reached their minimum in 1998, the price became 11 dollars per barrel<sup>48</sup>. This was due to the 1997 Asian Financial Crisis. In Russia and Kazakhstan, this led to a decline in the oil industry in general and became one of the major reasons for the 1998 default. Capital outflows and falling commodity prices contributed to the 1998 Russian economic crisis<sup>49</sup>. Repeated depreciation of the ruble against the US dollar while maintaining the current ruble prices led to a sharp depreciation of Russian goods on the Kazakhstan market. In order to support Kazakhstani producers, the government tried to restrict imports first, and then devalued the national currency. At this time around the world there is a drop in oil prices to nine dollars per barrel. The decline in world prices for the main export goods of Kazakhstan led to a fall in state GDP by 2.5%, and the inflation rate began to rise again and reached 117%<sup>50</sup>. At the same period the devaluation of national currency in Belarus happened. The growth rates of the economy in such countries as Ukraine, Moldova, Georgia, Lithuania, Latvia, Estonia slowed down. Later in 2000, when OPEC countries have agreed on a reduction in oil production prices had reached \$ 30 per barrel. From the end of 2003 to 2005 inclusive there was a new sharp increase in prices. In January 2008, for the first time in history, oil prices exceeded \$ 100 per barrel, in March

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<sup>46</sup> Gordon K. (2016). War of Words: OPEC Nations and the Crude Oil Market. Market Realist. Retrieved from <https://marketrealist.com/2016/01/will-2017-2018-mark-return-bulls/>

<sup>47</sup> Youssef M. Ibrahim (1990). Iraq Threatens Emirates And Kuwait on Oil Glut. The New York Times. Retrieved from <https://www.nytimes.com/1990/07/18/business/iraq-threatens-emirates-and-kuwait-on-oil-glut.html>

<sup>48</sup> OilPrice.com. (n.d.). Retrieved from <https://oilprice.com/>

<sup>49</sup> Wiel, I. (2013, September 16). The Russian Crisis 1998. Economics Report Journal. Retrieved from <https://economics.rabobank.com/publications/2013/september/the-russian-crisis-1998/>

<sup>50</sup> A. Galiyev (2016) "Four global crises in the history of independent Kazakhstan. How did Kazakhstan overcome the world's largest financial turmoil?", Almaty

high growth rates prices continued and became \$ 110. In October 2008, as a result of the global economic crisis, the price of oil dropped below \$ 67 per barrel. In 2009, prices recovered to the level of 60-80 dollars as a result of production reduction of OPEC countries, then rising to 100-125 dollars in 2011-2013<sup>51</sup>. Since mid-2014, because of the overabundance of oil in the market, which was caused by a slow growth in world's general consumption and an increase in shale oil production in the United States, oil prices decreased twice and by the end of 2014 reached five-year minimum: \$ 57. One more reason for the decrease was the failure of OPEC to reduce production in November 2014. The average price for Brent in 2014 was \$ 99.3 and in 2015 it became \$ 52 per barrel. In January 2016, the cost of Brent crude fell to \$ 27.72 per barrel because of lifting of sanctions against Iran, so renewing the 13-year minimum<sup>52</sup>.

### **3.4 Conclusion of Section III**

Against the backdrop of the current economic situation in the global economy, petroleum sector companies are facing risks that have been considered as part of current research. Almost all of those risks identified above considered to be a long-term. However, the level of their relative importance during each year will be dependent on the current situation of the economy and market conditions. In fact, the problems that oil and gas companies had to face throughout the previous years, for the most part remains relevant. The petroleum industry is one of the most environmentally unfriendly sectors of any country's economy, however, both today and in the past times, this industry is the basis of the world's economy. It is very important to lower the negative effect of the industry on the environment. There is a belief that industrial enterprises, following the path of innovative development, are programmed for success. But by taking this path, firms inevitably face problems related to the instability of the external environment, as well as outrage within the firms. Such moments require quick response from managers, as there is uncertainty in matters of firm management and innovation policy implementation. It manifests in incompleteness, as well as in the inaccuracy of information held in the hands of company managers, which inevitably leads to situations of risk. These situations can

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<sup>51</sup> Gordon K. (2016). War of Words: OPEC Nations and the Crude Oil Market. Market Realist. Retrieved from <https://marketrealist.com/2016/01/will-2017-2018-mark-return-bulls/>

<sup>52</sup> Puko T. (2016, January 15). Oil Prices Tumble Below \$30 a Barrel. The Wall Street Journal. Retrieved from <https://www.wsj.com/articles/oil-prices-fall-below-30-a-barrel-1452853918>.

lead to a loss of efficiency, as well as to the emergence of some benefits that in the future often contribute to the rapid growth of firms. Risks are present in any activity. In assessing the performance of a company, risk assessment holds an important role, since the success of the implementation of the plan depends on many factors - personnel, equipment, external conditions. Since innovation is closely related to investments, the risks concern not only the firms themselves, but also the investors. Investments are often carried out in the form of the development of individual projects. One of the main goals is to minimize the loss of the effect of investment. Thus, consideration of risks, its assessment and use of controls allow to have a qualitative new look at the situation. This aspect has particular importance in the petroleum industry, since the capital and current costs here are quite big, projects are planned and implemented with international standards and participants. Moreover, the projects are strategically important both for the participating companies and for the industries and countries representing them.

## 4 THE ROLE OF SOVEREIGN WEALTH FUNDS IN WELL-BEING OF THE COUNTRIES

### 4.1 Definition of Sovereign Wealth Fund

Sovereign wealth fund (SWF) is a state-owned investment fund or an entity funded by the government from its reserves, such as the surplus balance of payments or from the budget surplus<sup>53</sup>. These funds are allocated for future investments to benefit the economy of a particular country and wellbeing of its citizens. The funding for a SWF is coming from reserves of central bank, that they accumulate as a budget and trade surpluses, same as official foreign currency transactions, funds from privatizations, government operations payments and revenues coming from the exporting the commodities. Sovereign Wealth Funds are created by states in order to reach financial stability in times of crisis. Moreover, SWF are organized as a tool for global investment. The appearance of most of those funds are due to income from the export of hydrocarbons. During the financial crisis, states have to revise their fund management strategy. By the purposes of creation, sovereign wealth funds can be divided into several groups:

- stabilization, which involve the use of the fund in times of crisis;
- savings, redistribution of income in favor of future generations;
- investment;
- strategic development funds, whose activities are aimed at stimulating the sectors of the national economy, forming sources of "long money" and compensating for the instability of budget revenues. The SWF is an investment fund (usually a public one, although there are some exceptions - the Alaska Oil Fund, China Investment Corporation, etc.), which consists of shares, bonds, real estate, and other different financial instruments denominated in foreign currency. The main functions of a sovereign fund are to cover the budget deficit in the event of an unfavorable economic situation or to accumulate excess export earnings, which can later be invested in promising projects<sup>54</sup>. The appearance of the first sovereign funds relates to the 50s of the last century (Kuwait, Venezuela), and it became a popular practice at the turn of 20th and 21st centuries. However, the term

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<sup>53</sup> Sovereign Wealth Fund Institute (n.d.). What is a Sovereign Wealth Fund? Retrieved from <https://www.swfinstitute.org/research/sovereign-wealth-fund>

<sup>54</sup> Sovereign Wealth Fund Institute (n.d.). What is a Sovereign Wealth Fund? Retrieved from <https://www.swfinstitute.org/research/sovereign-wealth-fund>

sovereign wealth fund was first introduced in 2005 by Andrew Rozanov in his article 'Who holds the wealth of nations?' published in the Central Banking journal<sup>55</sup>. The biggest sovereign wealth funds in world are the Norwegian Government Pension Fund Global (NGPF), China Investment Corporation and the sovereign fund of Abu Dhabi (UAE) - Abu Dhabi Investment Authority (ADIA). The top 10 SWF by its assets are listed in Table #1 below.

**Table 1.** Top 10 Sovereign Wealth Funds ranked by total assets

Rank	Name	Total Assets	Region	Country	Creation
1.	Norway Government Pension Fund Global	\$1,072,840,000,000	Europe	Norway	1990
2.	China Investment Corporation	\$941,417,000,000	Asia	China	2007
3.	Abu Dhabi Investment Authority	\$696,660,000,000	Middle East	UAE	1976
4.	Kuwait Investment Authority	\$592,000,000,000	Middle East	Kuwait	1953
5.	Hong Kong Monetary Authority Investment Portfolio	\$509,353,000,000	Asia	China	1993
6.	SAFE Investment Company	\$439,836,526,800	Asia	China	1997
7.	GIC Private Limited	\$390,000,000,000	Asia	Singapore	1981
8.	Temasek Holdings	\$374,896,000,000	Asia	Singapore	1974
9.	National Council for Social Security Fund	\$341,354,000,000	Asia	China	2000
10.	Public Investment Fund	\$320,000,000,000	Middle East	Saudi Arabia	1971
23.	Kazakhstan National Fund	\$59,878,000,000	Asia	Kazakhstan	2000
28.	Turkey Wealth Fund	\$40,000,000,000	Middle East	Turkey	2016

**Source:** Sovereign Wealth Fund Institute (2019)<sup>56</sup>

According to the Sovereign Wealth Fund Institute, there are 81 sovereign funds in the 51st country, and 31 of them are gaining from oil sector. The quantitative and qualitative development of sovereign funds is primarily associated with the period of high oil prices

<sup>55</sup> Central Banking Journal (May 2005, Volume 15, Number 4).

<sup>56</sup> Top 81 Largest Sovereign Wealth Fund Rankings by Total Assets. (2019). Sovereign Wealth Fund Institute. Retrieved from <https://www.swfinstitute.org/fund-rankings/sovereign-wealth-fund>

in the beginning of the 21st century. But due to the crisis in the commodity markets, sovereign funds are changing the strategy of investing in favor of investing in high-yielding stocks and alternative assets (for example, real estate). As an example, the Norwegian Government Pension Fund (SPU) invests in high-tech companies such as Apple, Alphabet, Microsoft and non-oil and gas sectors such as Nestle. The Sovereign Fund of the Kingdom of Saudi Arabia over the 2016 has invested \$ 50 billion in foreign assets, most of it in technology companies. For example, in June 2016, the fund invested \$ 3.5 billion in Uber. The government of Qatar plans to open an office in Silicon Valley (USA) to invest in technology start-ups. Most funds have a discreet asset allocation. In average, 35-40% of assets of the funds are bonds, 50-55% - stocks, and 8-10% - alternative investment products such as liquidity, real estate, etc.<sup>57</sup> Pension, investment and insurance funds have a similar allocation of resources. Pension and insurance funds give greater preference to debt securities. The average distribution of their assets is 60%-20%-20% accordingly, with a slight deviation towards alternative investments<sup>58</sup>. Obviously, as any other organization, SWF has risks. Regarding the activities of sovereign funds and their influence on the rest of the world, researchers often note the following problems:

1. Lack of transparency in the reporting of funds. Often funds are not publishing financial statements, also they do not disclose the rules for the distribution and accumulation of fund assets. It becomes difficult to determine the size of the fund, its investment policy, tools used and sometimes even the geographical location of investments.
2. Since sovereign funds are public institutions, they can be guided by non-market motives and pose a threat to the national strategic institutions of another country<sup>59</sup>. Governments, for example, may use SWFs to take advantage and control of companies in important sectors of another country to promote their own political agenda or may threaten the national security of another country.

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<sup>57</sup> Fernandez David G, Bernhard Eschweiler (2008). *Sovereign Wealth Funds: A Bottom-Up Primer*, New York, J.P. Morgan Research. Retrieved from: [ftp://139.82.198.57/mgarcia/Seminario/textos\\_preliminares/SWF22May08.pdf](ftp://139.82.198.57/mgarcia/Seminario/textos_preliminares/SWF22May08.pdf)

<sup>58</sup> Alberto Quadrio Curzio, & Miceli, V. (2010). *Sovereign Wealth Funds: A Complete Guide to State-owned Investment Funds*. Harriman House Limited, p. 82

<sup>59</sup> Zhao Feng (2009), "How should sovereign wealth funds be regulated?," *Brooklyn J. Corporate Fin. Commer. Law* 3 (2), p. 20



3. The threat to market stability. There are concerns that sovereign funds, buying up government debt securities due to any political reasons can quickly sell these assets to upset the balance of the market.

As a step forward to minimize above mentioned risks, in 2008, the largest sovereign funds created an independent professional association - the International Forum of Sovereign Funds (hereinafter - the Forum), who is engaged in the collection and provision of statistics on funds, and in the framework of which publishes numerous reports on their activities. On the basis of this Forum, a set of 24 principles accepted on voluntarily basis was formed, the name of it is The Santiago Principles<sup>60</sup>. It assumes that countries should publish detailed reports of their sovereign funds, including the rules for filling and distribution of gained profit. They should also conduct an annual audit by audit agencies, and in the case of investing in another country, they should warn the relevant authorities. Despite the fact that the principles are voluntary and not fully implemented even by those participants of the Forum who subscribed to them, it was a huge step in enhancing the transparency and discipline of the activities of SWF.

#### **4.2 The Role of Sovereign Wealth Funds in Managing the Oil Price Risks**

As it was described in part 3, there are four types of risks which are directly influencing the prices for crude oil and its products: financial, compliance, operational and strategic risks. One of them can be controlled and managed by the SWF of the countries-oil exporters, and that is financial risk. Those risks could be minimized by the simple action of accumulating funds at the period of high prices for crude oil. The prices fall in 2014 confirmed how much is it important to keep and accumulate the liquidity and to develop a strategical fiscal policy. In general, SWF might have several different goals, including stabilization of budget at the period of commodities prices fluctuation, accumulation of wealth and keeping it for future generations. Among mentioned, these are two major types of SWF: first is stabilization-oriented and savings-oriented. Those SWF oriented on stabilization have the opportunity to protect the national budget from the price volatility

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<sup>60</sup> International Working Group of Sovereign Wealth Funds, 2008, Sovereign Wealth Funds: Generally Accepted Principles and Practices – Santiago Principles. Retrieved from: [https://www.ifswf.org/sites/default/files/santiagoprinciples\\_0\\_0.pdf](https://www.ifswf.org/sites/default/files/santiagoprinciples_0_0.pdf)

and the potential shocks from sharp decline in revenues in current year. Moreover, that type of SWF minimizes the government spending fluctuation<sup>61</sup>. The other group of SWF, oriented on savings, have the possibility to contribute to the national economy by the diversification method of risk management. It means the investing the revenues coming from commodities to other different assets. The excellent example for implementation of such a risk management program is UAE. They used the money coming from oil businesses and started to invest to construction, medicine, education and tourism. In the 1990s the income from oil was almost 25% of national GDP, today it is only 1,5%<sup>62</sup>. The country did their best and now are gaining from sectors other than petroleum. Moreover, accumulating the liquidity is the step forward to lower net debt of the particular country, that is the huge advantage for potential investments to the country<sup>63</sup>. In order for SWF to operate successfully and manage the arising and potential risks, coming from oil prices fluctuation, both strategies: stabilization and savings are playing important role. That is why some SWF prefer to use both of them. For example, Norway is the best example where combination of stabilization- and savings-oriented strategies work together perfectly. As a result, today the SWF of Norway is the biggest in the world, and, as it is shown in Table 1, has a total assets more than 1 trillion USD<sup>64</sup>.

SWF, accumulating the funds from revenues of commodities markets are very sensitive to price fluctuations, and there not many ways to manage the price risks. However, it should be remembered that in order to be effective and sustainable against the price risks, it is crucial to be absolutely transparent, have the exact management strategy and rules for accumulation of funds, as well as the rules of spending those funds. These are the key factors for SWF to succeed.

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<sup>61</sup> Sugawara, N. (2014) From volatility to stability in expenditure: Stabilization funds in resource-rich countries, Working Paper 14/43, International Monetary Fund, pp.8-10

<sup>62</sup> Economy of UAE (n.d). Economy and Vision 2021. The United Arab Emirates' Government portal. Retrieved from <https://www.government.ae/en/about-the-uae/economy>

<sup>63</sup> Hadzi-Vaskov M and Ricci LA, 2017, Does gross or net debt matter more for emerging market spreads? Working Paper 16/246, International Monetary Fund

<sup>64</sup> Holger D. 2019. Norway's Sovereign-Wealth Fund Boosts Renewable Energy, Divests Fossil Fuels. The Wall Street Journal.

## 4.2.1 How The Oil Price Risk Can Be Managed by SWFs

### 4.2.1.1 Management with Hedging Techniques

Oil and gas companies' earnings are heavily affected by fuels price fluctuations. Price volatility generates uncertainty about future income from raw material sales and exports. This becomes an enormous challenge for governments of developing countries that are commodity-dependent, where government revenues are mainly derived from commodity exports. A precise prediction of future profits is essential for investment and investment financial planning. Thus, uncertainty induced by price risk contributes to the risk of public development programs being sustained and consistent. This in turn creates a risk in commodity-dependent developing countries to reach the Economic development Goals.

Similarly, manufacturers, market participants and exporters of commodities in developing countries dependent on raw materials face price risk in terms of the uncertainty of their future earnings. There are several financial instruments, also known as derivatives, that can be used to hedge price risk in the case of commodities. SWF, as a governmental organization can initiate appropriate actions to motivate both International Oil Companies and National Oil Companies to use those hedging techniques. In general, these instruments consist of futures and forwards contracts, options and swaps.

**Futures** are contracts for the purchase or sale of goods at certain future date. Commodity futures contracts are regulated and traded on Exchanges and are therefore standardized in terms of quantity and quality, i.e. characteristics of the product.

**Forward** contracts are similar to futures contracts that they are based on an agreement on the future sale of goods. The main difference between the two instruments is that the forward contracts are not standardized and, as a rule, are traded on the OTC market and not on Exchanges. Forward contract terms are agreed between counterparties in OTC markets are not standardized. Thus, forward contracts can be tailored to the specific needs of counterparties.

**Options** are tools that allow buyers and sellers of goods to fix respectively the minimum and maximum price. The option buyer pays a premium to the counterparty for the right to purchase or sell the underlying item at a predetermined price ("strike price") on the day or before its expiration. Purchase options give the holder the right to buy the underlying

product, and sale options give the right to sell the underlying product. Options do not entail any obligation to buy or sell goods, and if they are not used, only the costs of paying the premium are borne by the holders. Options are traded both on Exchanges and in the OTC market. Exchange commodity options often include a contract with commodity futures rather than their underlying assets with physical commodities.

*Swaps* are financial instruments that allow counterparties to exchange cash flows based on the price of the underlying product. Consumers of commodities often use swaps to settle medium to long-term commodity prices.

The best example for the SWF, which successfully uses some of hedging techniques, is National Council for Social Security Fund, China. Currently, it is #9 in top 10 Sovereign Wealth Funds ranked by total assets. In accordance with the relevant provisions of the investment management of the National Council for Social Security Fund, the fund is allowed to invest to the following<sup>65</sup>:

- Domestic Investments: bank deposits, interbank negotiable certificates of deposits, bonds, trust investments, asset-backed securitized products, stocks, securities investment funds, equity investments and equity investment funds, etc.
- Overseas Investments: money market products such as bank deposits, bank bills and large transferrable deposits, bonds, stocks, securities investment funds and financial derivatives such as swaps and forwards for the purposes of risk management.

However, in order to eliminate possible investment operation risks, the usage of swaps and forwards are limited to 20% out of total assets structure.

#### **4.2.1.2 Management by Accumulation of Reserves**

Another way to reduce price risks negative effect is accumulating reserves during periods of elevated commodity prices to enhance economic stability and stabilize government budgets during periods of low commodity prices. *Stabilization funds* and savings funds can play a significant role in risk management in commodity-dependent developing countries. Stabilization funds help to protect the annual budget against shocks of

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<sup>65</sup> National Council for Social Security Fund official website (n.d.). Board of SSF. Retrieved from [http://www.ssf.gov.cn/Eng\\_Introduction/201206/t20120620\\_5603\\_1.html](http://www.ssf.gov.cn/Eng_Introduction/201206/t20120620_5603_1.html)

commodity revenue volatility. Government can invest oil revenues to other different industries. Moreover, in resources rich countries, the existence of stabilization funds decreases the volatility of government spending. This enhances public development programs sustainability and consistency. *Savings funds* can also assist handle risk by diversifying, i.e. transforming natural resources into assets of other types. Furthermore, the accumulation of assets helps to enhance the net debt of the country, which is an significant factor in determining the expense to the state of raising funds. However, it should be noted, that stabilization and savings funds, accumulating raw materials revenues are only effective and stable in case if they are transparent, clearly managed and accumulation / expenditure guidelines are fixed and regulated by a well-developed model of budget policy standards.

### **4.3 The Role of Sovereign Wealth Funds in Managing Oil Industry**

#### **4.3.1 Case Norway**

The Government Pension Fund of Norway consist of two entirely separate sovereign wealth funds belonging to government of Norway. First, Government Pension Fund Global (Norway GPFG or SPU) is a largest Sovereign Wealth Fund in the world. It is located in the capital of Norway, Oslo, Europe and was created in 1990. Current Assets Under Management (AUM) for Norway GPFG is \$1,072,840,000,000 including 1.3% of global shares and stock<sup>66</sup>. It also has portfolios in real estate sector and fixed-income investments<sup>67</sup>. It is also known as the Oil Fund, because the foundation changed its name in 2006, and before that it was called The Petroleum Fund of Norway. Moreover, in reality it is not a pension fund, since it is formed on the basis of oil revenues, but not pension contributions. The second one, The Government Pension Fund Norway is much smaller than the Oil Fund, it was created in 1967 as a different type of national insurance fund. It is managed independently from the Oil Fund and is restricted to domestic and Scandinavian investments only, that is why it is a key stockholder in a number of large

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<sup>66</sup> Solsvik T. (2017). Norway's sovereign wealth fund celebrates "stunning" \$1 trillion value. Reuters UK

<sup>67</sup> Curzio, A. Q., & Miceli, V. (2010, July 5). Sovereign Wealth Funds: A complete guide to state-owned investment funds. Petersfield, Hampshire: Harriman House Ltd.

Norwegian companies, mainly traded at the Oslo Stock Exchange. The Government Pension Fund Global (Norwegian: Statens pensjonsfond Utland, SPU) is a fund where the surplus wealth gained by Norwegian petroleum companies is saved. The goal of the fund is to keep and generate the surplus gained by the Norwegian petroleum industry, mainly from taxes and exploration licenses, together with the State's Direct Financial Interest and dividends from the partially state-owned petroleum multinational company Equinor (ex- Statoil ASA, was renamed in 2018), which operates in thirty-six countries. Revenues from the petroleum industry which we see nowadays are estimated to be at its peak and they are estimated to decline in the future decades<sup>68</sup>. The Petroleum Fund was created in 1990 as a decision by the country's government with the aim to overcome the effects of incomes decline and to soften the disruptive impacts of highly fluctuating commodities prices. As its understandable from its name, the Government Pension Fund *Global* is investing to international financial markets, so all the risks are not dependent on the Norwegian local economy. The population of Norway is 5.39 million people<sup>69</sup>, i.e. per one Norwegian it accounts more than \$ 190,000 of the fund's assets.

#### **4.3.1.1 The management of Government Pension Fund of Norway**

SPU is managed by a special division of the Bank of Norway, Norges Bank Investment Management (NBIM). The management company reports to the Norwegian Ministry of Finance. NBIM takes decisions and solves investment issues not by itself, but with consideration of the opinion of the Ministry of Finance and even on the basis of discussions in parliament. According to NBIM, the annual return on investments in 1998 was 9,26%, in 2014 it was 7,6%, and in 2018 it was -6,12%<sup>70</sup>. There was huge decline of ROI in 2018, some experts say that the main reason for that and the main risk was the fact that the Oil Fund mostly invested in shares and bonds, so was much dependent on global market. Accumulated annualized return from year 1998 to 2019 is equal 5.8%<sup>71</sup>. More detailed it is illustrated in the Figure 4.

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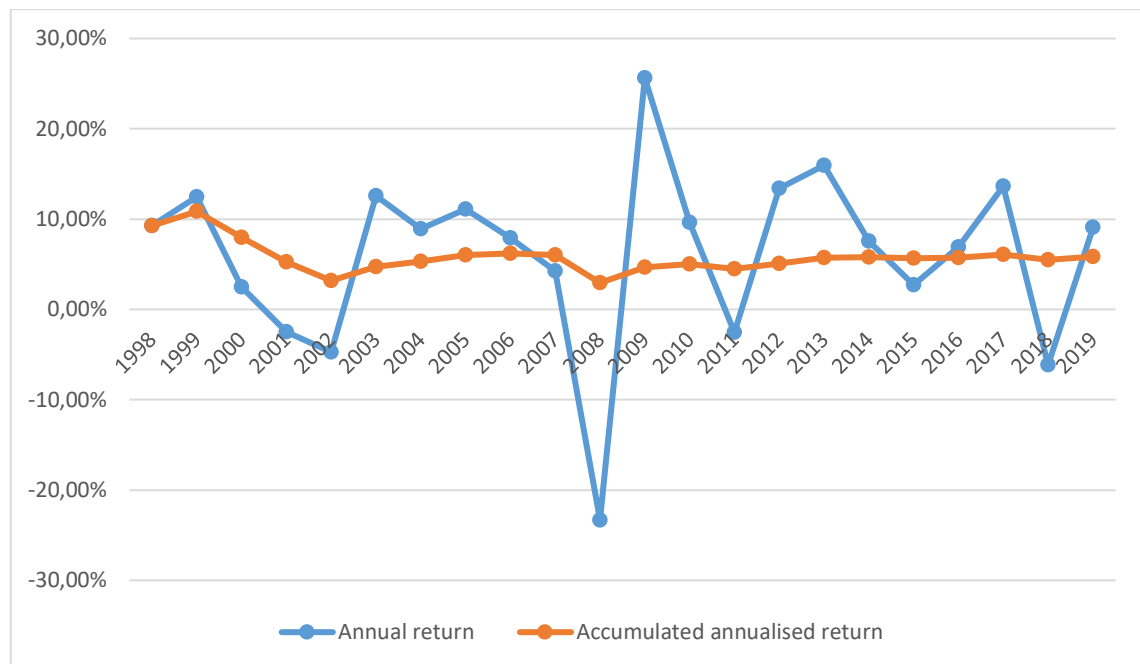
<sup>68</sup> Cummine, A. (2016, September 27). *Citizen's Wealth: Why (and How) Sovereign Funds Should be Managed by the People for the People* (p. 117). New Haven, CT: Yale University Press.

<sup>69</sup> World Population Review. Norway Population 2019 (2019)

<sup>70</sup> Government Pension Fund Global Annual Reports by Norges Bank (n.d.), NBIM official web-site Retrieved from <https://www.nbim.no>

<sup>71</sup> NBIM official web-site (n.d.) Retrieved from <https://www.nbim.no/en/the-fund/returns/>

**Figure 4.** Annual Return on Investment and Accumulated Annual Return of GPFG



**Source:** Government Pension Fund Global Annual Reports by Norges Bank

In 2016, SPU earned half of its income from investments, 45% from Norway's sales of oil and gas, the rest is exchange rate differences. The first investments of SPU were in bonds, then shares were added to them, and in recent years - real estate in New York, London and Paris. In the year 2018 shares accounted for 65% of SPU investments, bonds accounted for 32%. With shares in approximately 9,000 companies worldwide, SPU owns about 1.3 percent of the world's market capitalization, and 2.3 percent of capitalization of Europe<sup>72</sup>. Since stocks generate more revenue, NBIM has already got the government permission to increase investments in shares to 70% of the portfolio. Invest in bonds, becomes less. In 2008–2016, at the times of the global financial crisis and sharp decline in oil prices, Norway spent less than 1% of its SWF funds for current needs, states the Wall Street Journal<sup>73</sup>. By the way it was the first time in 20 years when the government has withdrawn the money from SWF. At the same period of time, the situation at SWFs of developing countries was different: nearly all the countries were spending majority of the accumulated money. Recently, in March of 2019, the SWF of Norway announced the

<sup>72</sup> Solsvik T. (2017). Norway's sovereign wealth fund celebrates "stunning" \$1 trillion value. Reuters UK

<sup>73</sup> Holger D. 2019. Norway's Sovereign Wealth Fund Boosts Renewable Energy, Divests Fossil Fuels. The Wall Street Journal. Retrieved from <https://www.wsj.com/articles/norways-sovereign-wealth-fund-boosts-renewable-energy-divests-fossil-fuels-11560357485>

sale of shares in the petroleum sector in the amount of about \$ 7.5 billion. This decision was taken by the country's government, in order to reduce risks due to the transition from petroleum to renewable energy sources. Such a step from the government concerns 134 companies focused on oil and gas exploration and production, but so far it does not touch such giants as Royal Dutch Shell and Exxon Mobil. This step should contribute to solve the actual problem of global climate change. This decision taken by Norway government underlines the risk that energy producing countries may remain with so-called uncontrolled assets - petrochemical reserves that the world no longer needs, since countries use cleaner energy sources. At the same time, Norway is on the top positions in the world in the quality of life and has the high standards of living. As is known, the effectiveness of the action of any complex systems in the first place is due to competent management. Compared to Kazakhstan, Norway is deprived of natural resources: rocks, fjords, herring, and even that - in the sea. However, after the discovery of commodities deposits in the North Sea, it overtook the leading capitalist countries and the United States in quality of life. In 1963, the Norwegian Parliament adopted a law under which "the rights to natural underwater resources belong to the state"<sup>74</sup>. This affirmed state sovereignty for all natural resources that can be found on the country's continental shelf. State administration and control over all activities were introduced, the conditions for the development of new industries based on oil were created, as well as cooperations with the Norwegian industry. State participation was implemented at all levels of coordination of the Norwegian industry. The introduction of a special tax on petroleum activities allowed the redistribution of super-profits in one particular branch of the national industry. When oil prices rose sharply, the old tax system could not cope with its main task of nationalizing oil revenues. This led to a change in the tax system from a two-level (license fees plus income tax on companies) to a three-level tax (license payments plus income tax on companies plus a special oil tax on profits). In Norway, at the operational stage companies pay an income tax - a rate of 28% and excess profits tax with a rate equal to 50% of the standard price<sup>75</sup>. Also the "territorial fee" is paid. Even in relation to transnational oil companies, Norway seeks to retain approximately 78% of oil profits<sup>76</sup>.

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<sup>74</sup> Solsvik T. (2017). Norway's sovereign wealth fund celebrates "stunning" \$1 trillion value. Reuters UK

<sup>75</sup> Holger D. 2019. Norway's Sovereign-Wealth Fund Boosts Renewable Energy, Divests Fossil Fuels. The Wall Street Journal. Retrieved from <https://www.wsj.com/articles/norways-sovereign-wealth-fund-boosts-renewable-energy-divests-fossil-fuels-11560357485>

<sup>76</sup> Solsvik T. (2017). Norway's sovereign wealth fund celebrates "stunning" \$1 trillion value. Reuters UK



Despite the international pressure, Norway remains faithful to its main strategy of state control over petroleum production and the protection of national sovereignty in determining the development of the oil sector, since it is the most important way to generate government revenues. The state of Norway's deficit-free state budget today is achieved because of significant revenues from the petroleum industry through taxes and the sale of oil and gas owned by the state, which allows the country not only to speed up various social programs or create new industries, but also to make active foreign investments. Examples of that investments include large-scale investments in health care, road construction, increased spending on education and the adoption of economic assistance programs for small regions of the northern and central parts of the country with services comparable in volume and quality with those received by residents of more densely populated regions, investments to the agricultural sector, the forestry and fishing industries, by the way they have low interest rates when taking loans from a state bank. Credits and direct investments are also directed to the modernization of the technological base of the industry, to the creation of "future technologies", like telecommunications and satellite communications. Creating knowledge-intensive industries in Norway would not have been possible without extensive subsidies. The Norwegian telephone company "Telenor" (until 1999 was a fully state-owned enterprise), created on the basis of government funds, is today among the most technically advanced European companies. The period of high oil prices contributed to the creation in Norway of the petrochemical industry and the construction of a network of terminals for processing and refining oil and natural gas. Oil revenues contribute to the maintenance of energy-intensive industries, especially chemical industry. The oil industry, in turn, pushed the development of industrial production in related industries that serve either as suppliers (shipbuilding) or as consumers of the sector's products (petrochemicals). Income was invested both in the development of the industry further and in the auxiliary sector, at the same time were redistributed through the country's budget to other areas of the national economy, subsidies to agriculture and the social sector. The policy of "Norwegianization" of the domestic market, conducted by Norwegian government, contributes to the growth of consumption of domestic goods and services as an aid to the oil industry. The oil and gas complex provided an opportunity for the development of the social sector. Primarily due to the redistribution of income between companies and the state, which is carried out using the tax system in favor of the social sector. So, because of the progressive taxation

system and the constant policy of support for various social programs, the population of Norway is benefiting from all those social advantages. Since the mid 70's to this day, the wages of personnel working in production are among the highest in Europe, while the wages of management personnel do not exceed them much and are considered to be one of the lowest in Europe, while the Norwegian employees are counted to be the most productive workers in the world.

In conclusion, it should be reminded that all opportunities and benefits that Norway are successfully implementing, using and facing now are the result of very important mission that they once have chosen as a main strategy for their SWF: “We work to safeguard and build financial wealth for future generations”. Oil declared to be the national property of the citizens of Norway, as well as all other natural resources of the country. Every citizen of the country gets funds directly to his or her personal account, as a dividend from oil revenues. For each child, at birth, a bank account is opened, where the government puts at least three thousand dollars, this money comes from income tax of oil companies<sup>77</sup>. Hospitals in Norway are mostly state or municipal, and state subsidies enough in order to them to provide a high level of medical care (operations, treatment in hospitals are free). Education is also free. Norway is among those countries who invest and spend for education the most. The school system operates with the active participation of parents in teaching children: schools are recommending, parents decide what is the best offer for students (from the age of 7 children go to first class, studying for nine years, further education is voluntary from 16 to 19 years old), schools pay special attention and try to give more effective knowledge for such courses as computer science and the English language (all Norwegians know English perfectly), try to form the humanistic worldview of non-violence, tolerance, love of nature, love of work.

#### **4.3.2 Case Saudi Arabia**

Saudi Arabia is a country in Middle East, settled on the Arabian Peninsula. The population is 31.5 million people. Population growth rates from 1950 to 2015 are counted to be the highest in the world: 3.56% per annum on average (2.32% in 2010–2015), with

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<sup>77</sup> Child Benefits in Norway. (2015). Scandinavian-Polish Chamber of Commerce. Retrieved from <https://www.spcc.pl/en/node/17164>

a global rate of 1.66% (1.18% in 2010–2015) years)<sup>78</sup>. The population's median age is 28.3 years (the world average is 29.6 years). About a third of the population in the country are labor migrants (9 million according to 2013 data: 6.4 million men and 2.6 million women)<sup>79</sup>, they are mainly coming from India, Pakistan, the Philippines and Bangladesh. Saudi Arabia is one of the typical examples of the rentier state (in political science and the theory of international relations, this is the state, the major source of income of which is rent from foreign companies that have access to national resources). In the export structure, oil accounts for 91%<sup>80</sup>. In 2014 it was about 10 thousand US dollars oil revenues per year (in 2015 about 5.5 thousand dollars) per capita<sup>81</sup>. In 1938, the American company California-Arabian Standard Oil (later renamed as Aramco, which stands for Arabian American Oil) found huge oil fields in the country. The Second World War prevented their development, but by the end of the 1940s the first stream of petrodollars flowed into the country. In 1944, the kingdom's main income was formed by customs revenues — 1.5 million (in current dollars), pilgrimage revenues to Mecca and Medina — 3 million, local taxes — 3 million and oil revenues — 1.66 million<sup>82</sup>. Total revenues budget amounted to 9.16 million dollars. Rent steadily grew (from \$ 10.4 million in 1946 to 56.7 million in 1950<sup>83</sup>). In 1950, Abdul-Aziz threatened to nationalize petroleum production, and Aramco agreed to share profits in a 50/50 ratio; the process of gradual nationalization with the redemption of the American share was completed by the 1980s<sup>84</sup>. In 1960, revenues from oil exports (99% of exports) amounted to \$ 1.3 billion<sup>85</sup>; in 1970, \$ 5.5 billion US dollars. Saudi Arabian Public Investment Fund (PIF) was founded in 1971 with the major goal to stimulate its own economy<sup>86</sup>. Now, according to the reform plan Saudi Vision 2030, it is planned to become the largest sovereign wealth fund in the world

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<sup>78</sup> Hadzi-Vaskov M and Ricci LA. (2017), Does gross or net debt matter more for emerging market spreads? Working Paper 16/246, International Monetary Fund, pp. 13-16

<sup>79</sup> Zhang, D., Broadstock D. C., & Cao, H. (2014). International Oil Shocks and Household Consumption in China. *Energy Policy*, 75, 146–156.

<sup>80</sup> Organization of the Petroleum Exporting Countries. (n.d.).

<sup>81</sup> Gordon K. (2016). War of Words: OPEC Nations and the Crude Oil Market. *Market Realist*. Retrieved from <https://marketrealist.com/2016/01/will-2017-2018-mark-return-bulls/>

<sup>82</sup> U.S. Energy Information Administration, based on Bloomberg.

<sup>83</sup> Energy Information Administration 2002. Derivatives and risk management in the petroleum, natural gas, and electricity industries. U.S. Department of Energy.

<sup>84</sup> Young, A. N. (1983). *Saudi Arabia: The Making of a Financial Giant* (p.123). N. Y.: New York University Press.

<sup>85</sup> Delquie, P. 2008. Interpretation of the risk tolerance coefficient in terms of maximum acceptable loss. *Decision Analysis*, 5, 5-9.

<sup>86</sup> Young, A. N. (1983). *Saudi Arabia: The Making of a Financial Giant* (p.123). N. Y.: New York University Press.

with assets of \$ 2 trillion and will be able to invest in assets outside the kingdom. To achieve these plans, the Fund is starting to build a world-class, diversified portfolio by investing in most attractive, long-term opportunities in both the domestic and international markets. The PIF's portfolio consists of approximately 200 investments, where about 20 of them are traded on Tadawul, the Saudi Stock Exchange. The Public Investment Fund makes its major investments using equity, loans or guarantees, and allocations of public funds. Moreover, PIF provides loans both medium-term and long-term, to the government and private projects of industrial companies. The PIF makes its investments in the various sectors, such as energy, telecommunications, aerospace, ecofriendly technologies, and security, focusing on housing finance, renewable energy sources, and information technology. Even in the recent past, backward semi-feudal Saudi Arabia can serve as an example of the effective use of oil resources in the national interests, so nowadays the country passed into the category of dynamically developing countries due to state regulation of the economy and five-year plans. Mainly the industries that reduce the range of imports and weaken the kingdom's oil-producing specialization are developing. As a result, the total volume of industrial exports for the period from 1984 to 1998 increased more than 20 times, exceeding \$ 6 billion<sup>87</sup>. The planned management system for the strategic parameters of development has justified itself and to some extent is used by all countries<sup>88</sup>.

Saudi Arabian SWF's general vision is to be a global investment power and the world's most influential investor, allowing to create new sectors and possibilities that will impact and shape the future global economy, while experiencing the economic changes in Saudi Arabia. SWF mission is to invest actively in the long term projects in order to maximize feasible returns, to become the investment partner which first comes to minds, when speaking about global opportunities, and to enable the economic development and diversification of the Saudi economy. SWF has four key objectives, such as:

- maximizing PIF assets;
- launching new sectors;
- localizing advanced technologies and knowledge;

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<sup>87</sup> Curzio, A. Q., & Miceli, V. (2010, July 5). *Sovereign Wealth Funds: A complete guide to state-owned investment funds*. Petersfield, Hampshire: Harriman House Ltd.

<sup>88</sup> Fernandez, D. G., & Eschweiler B. (2008). *Sovereign Wealth Funds: A Bottom-Up Primer*. New York, J.P. Morgan Research.

- building strategic economic partnerships

PIF's activities as a world-leading SWF are planned to be supported by newly-established governance, risk and investment concepts. Especially, the PIF has developed six major investment pools consisting of local and global investments in different sectors and asset classes covering a wide geographical range. These portfolios are linked to the four objectives of the PIF Program.

For several decades, Saudi Arabia has turned from a poor bedouin society into a quite rich state. This turning process was at the same time accompanied by the conservation of traditional government institutions and the rapid development of the state apparatus and investigational economic practices financed from revenues of oil rent. Most of them turned out to be inefficient and wasteful. Despite many cases of inefficient spending, there were some successful ones. At the times of high prices, the monarchy tried to somehow diversify its economy, primarily in the direction of deepening of oil refining. Exactly before the times of sharp decline in oil prices, the government of Saudi Arabia has managed to implement a modernization and construct several big, modern and high-tech oil refineries, three of them are counted as giants, 0.4 million barrels per day each. The first is SATORP, in collaboration with Total, in Al Jubail, commissioned in 2014. The second is YASREF, in collaboration with Sinopec, in Yanbu. Finally, Saudi Aramco's own complex in Jizan, launched in 2017<sup>89</sup>. These refineries are counted as the biggest and most technically advanced all around the world. In general, oil refining is one of the areas of successful industrialization in the country in 2000–2010<sup>90</sup>.

As it was mentioned above, Saudi Arabia is one of the fastest growing countries in the demographic. One of the reasons for this is the fact that they also invested in perinatal medicine, which managed to sharply reduce the infant mortality. Consequently, the authorities used many methods of social adaptation of young people, such as start of

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<sup>89</sup> Looney, R. E. (1984). *The Impact of Petroleum Exports on the Saudi Arabian Economy*. — *The Arabian Peninsula: Zone of Ferment* / Eds. R. W. Stookey et al. — Stanford: Hoover Institution Press, P. 39.

<sup>90</sup> Edwin M. Truman. (2010, September 27). *Sovereign Wealth Funds: Threat Or Salvation?* Peterson Institute for International Economics, Publication, 41.

employing young people as teachers at schools, so now there are 10-11 students per classroom teacher.

#### **4.4 The Role of Sovereign Wealth Funds in Kazakhstan.**

##### **4.4.1 Introduction**

The National Fund of the Republic of Kazakhstan (National Fund or NF) is the State Fund of the Republic of Kazakhstan, that is a combination of financial assets belonging to the Government of the Republic of Kazakhstan with the bank account in the National Bank of the Republic of Kazakhstan. The fund was established by declaration of the President of Kazakhstan in 2000.

The goals of its creation are:

- ensuring stable social and economic development of the country,
- accumulation of funds for future generations,
- reducing the dependence of the economy on the impact of adverse external factors
- reduction of the dependence of the republican and local budgets on the conjuncture of world prices.

The assets of the National Fund are separated into two portfolios – savings and stabilization. As a result, there are two main functions of NF:

- 1) Savings. The savings function makes sure the accumulation of financial assets and other property and the profitability of the assets of the National Fund of the Republic of Kazakhstan in the long term with a moderate level of risk. It has no limits on volume. Here assets are diversified: 60% of the funds must be held in bonds, 35% in stocks and up to 5% in alternative instruments<sup>91</sup>. The transition to this model of investment began in 2017 and is planned to be completed within 3-5 years.
- 2) Stabilization. The stabilization function is oriented to maintaining a sufficient level of liquidity of the assets of the National Fund of the Republic of Kazakhstan. It provides the Republican budget with guaranteed and targeted annual transfers. Through the targeted ones, they finance anti-crisis programs, non-profitable socially important projects on a national scale and important infrastructure projects. The maximum size of this part of the National Fund is limited to \$ 10 billion. This

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<sup>91</sup> Orudzheva, D. S., Popkov, V. I., & Rabinovich, A. A. (1985). New Data on the Geology and Petroleum Potential of Pre-Jurassic Rocks of South Mangyshlak.,7, 17–22.

portfolio has the great importance for the country. For example, in 2018, a guaranteed transfer of KZT 2.6 trillion (approximately 6.8 billion USD) exceeds government spending on health care, education, defense, and public order together<sup>92</sup>.

#### **4.4.2 The Management and Sources of the National Fund**

The management of the National Fund of the Republic of Kazakhstan is carried out by the National Bank of the Republic of Kazakhstan, based on the signed agreement on trust management concluded between the National Bank of the Republic of Kazakhstan and the Government of the Republic of Kazakhstan. The activities are coordinated by the special council, which is headed by the President of Republic of Kazakhstan. It also includes the Prime Minister, the chairmen of the Majilis and the Senate, the head of the Presidential Administration, the chairmen of the National Bank and the Accounts Committee, the ministers of finance and national economy.

Funds in the National Fund come from several sources such as:

- taxes from organizations of the oil sector (with the exception of payments to local budgets): corporate income tax, mineral extraction tax, bonuses, rental export tax, excess profit tax, share of production sharing and extra payments of subsoil users, as a result of the production sharing contract;
- other income from operations in the oil sector, including for violations of the terms of oil contracts;
- privatization of republican property and assets of national holdings and companies;
- sale of agricultural land plots;
- investment income from the management of the NF;
- other income which is not prohibited by the legislation of Kazakhstan.

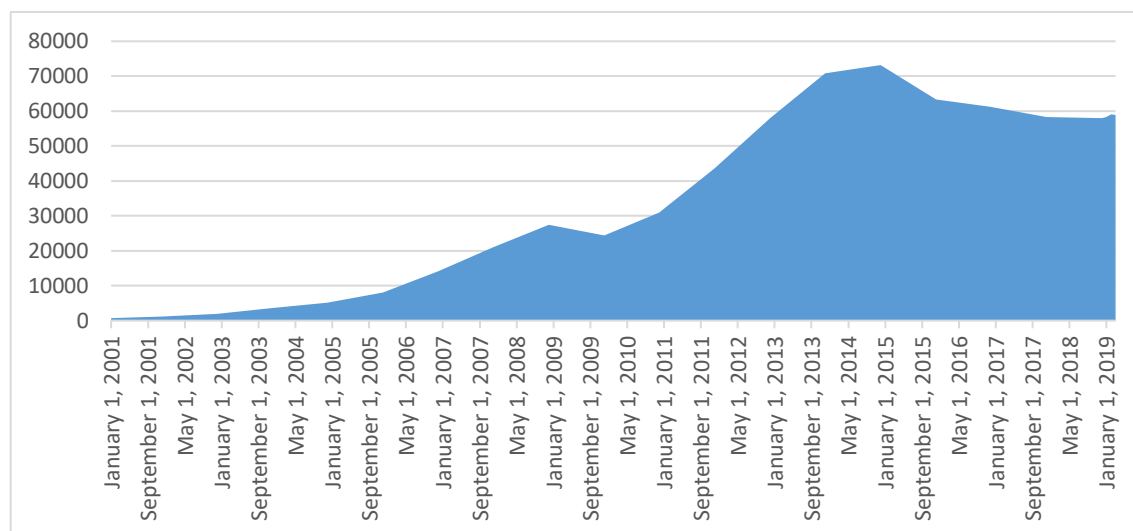
In the first years of its existence - until 2007 - the National Fund only accumulated funds. Those years revenues grew steadily. The main reason is the rise in oil prices in 2007–2008 and 2010–2014. During this period, the profits of oil companies rose markedly. The

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<sup>92</sup> Kuandykov, B. M. et al. (2010). Specifics of Geological Development of Caspian Block Structure, abstract from an oral presentation at AAPG European Region Annual Conference, Kiev, Ukraine, October 17-19, 2010, Search and Discovery Article #10309.

payments increased afterwards and formed the basis for the rapid buildup of the National Fund. Assets of the National Fund of the Republic of Kazakhstan are illustrated in Figure 5 in million US dollars.

**Figure 5.** Assets of the National Fund of the Republic of Kazakhstan



**Source:** National Bank of Kazakhstan<sup>93</sup>

As per March, 2019 total assets of the National Fund of the Republic of Kazakhstan amounts to 58 981 million US dollars. The population of the country is 18,59 million, which means 3 172 US dollars of the fund's assets per person.

#### 4.4.3 Creation of the National Fund

Creation and the use of the National Fund of the Republic of Kazakhstan was done on the basis of Norwegian model, which created the State Oil Fund in 1990. Main reasons for that were those facts that that Norwegian Sovereign wealth fund is the biggest in the world and that Norway is one of the world's largest oil producers<sup>94</sup>. The formation of the fund was provided as follows. In the process of execution of the republican and local budgets, revenues from organizations of the raw materials sector may exceed the amounts of

<sup>93</sup> National Bank of Kazakhstan (n.d.) International Reserves and Assets of the National Oil Fund of Republic of Kazakhstan Retrieved from <https://www.nationalbank.kz/?docid=180&switch=english>

<sup>94</sup> Solsvik T. (2017). Norway's sovereign wealth fund celebrates "stunning" \$1 trillion value. Reuters UK. Retrieved from <https://www.arctictoday.com/norways-sovereign-wealth-fund-celebrates-stunning-1-trillion-value/>



revenues expected and approved in the republican and local budgets. These funds were decided to be credited to the NF. And vice versa: if the budget is experiencing a shortage of the planned funds, then the necessary funds can be taken from the National Fund. Chairman of the Board of the National Bank of Kazakhstan of those times, Grigory Marchenko, wrote to the President of the country: “In principle, this fund was created mainly for accumulating funds that the state could cover in the future for the obligations of a joint pension system, and the National Pension Fund was one of the names for creating the fund. In general, the fund performs both of the main functions of such funds — savings (for future generations) and stabilization (to compensate fluctuations of oil prices).” A month and a half before the publication of the regulations on the Kazakhstan Fund heads of the Ministry of Finance and the National Bank visited Norway. They emphasized the simplicity of Norwegian model, especially the lack of traditional attributes of the SWF in Norway: such as the absence of the status of a legal entity, a separate management committee, and its own bank accounts. The Norwegian Oil Fund is just a special account of the country's Ministry of Finance at the main bank of the country, i.e. Norges Bank. Quarterly, the Norges Bank reports to the Ministry of Finance, and that to the parliament. A detailed report of the fund, certified by an independent auditor, hired by the Ministry of Finance, is published annually. In addition, the Norges Bank has opened a comprehensive website on the activities of the Norwegian SWF in internet, so anyone could easily get the access to all the official documents and open information any time. The second feature is that, absolutely all the Norway’s state revenues coming from oil operations are transferred not to the budget, but to the SWF. And only after that the parliament decides which part of it should be allocated to cover the budget deficit, if it arises. That is, for the redistribution of oil revenues into the budget, they need a real evidence that there is no other way for the country. Because of this approach, the Norwegians can manage that a bigger part of the oil revenues is being saved and to increase its funds. Coming back to Kazakhstan, according to the “Norwegian model”, the SWF’s trust management in Kazakhstan is carried out by the National Bank of Kazakhstan. The agreement "On trust management of the National Fund of the Republic of Kazakhstan" states that the National Bank, in order to preserve the assets of the NF, maintain an enough level of liquidity of assets and make sure a sufficiently high level of return on assets in the long term, with a medium level of risk, carries out investment operations, including the transfer of part of the NF funds to a reliable external

management and credits to the NF the investment income from its management. The National Bank is entitled to get quarterly remuneration at a fixed rate of 0.075 percent per annum of the average monthly market value of the NF during the reporting quarter, excluding the assets of the NF that are in external management, and reimbursement of expenses incurred during the execution of its obligations under the contract. The National Bank is obliged to inform the Government about the choice of each external manager for the NF and the custodian for storing the NF, to submit to the Government the reports on the results of the trust management of the NF, on quarterly and annual basis, these reports must be approved by the Board of the National Bank, and contains information on the market value of the NF, the amount of income received for reporting period, the composition of the NF portfolio, the current value of the risk of changes in interest rates. In addition, the National Bank also develops an investment strategy, which is responsible for the implementation of investment operations by the NF and is liable for losses incurred by it<sup>95</sup>. The National Fund Management Board reviews conceptual approaches to the use of the fund, approves proposals for the amounts and uses of the fund; reviews and approves the annual report on the formation and use of the fund's assets. The Government of the Republic of Kazakhstan is managing the fund in the following way:

1. It develops and approves the rules for drawing up reports, the procedure for crediting money to the fund and the use of the fund's resources;
2. It develops, jointly with the National Bank, and approves the timing for the presenting the information materials and financial statements for operations related to the management of the fund;
3. It makes sure the submission of a report on the formation and usage of the funds to the President to the Parliament of the Republic of Kazakhstan. The duties of the Government are to minimize the risks of NF activities.

Each year, on the basis of a competition held by the Ministry of Finance of the Republic of Kazakhstan on behalf of the Government, an agreement with an external auditor is signed. Beginning from 2001, this role is being performed by the Big Four auditor, Ernst & Young. The activity of the fund is quite transparent and open. Information on the state of the assets of the National Fund is published quarterly.

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<sup>95</sup> Solsvik T. (2017). Norway's sovereign wealth fund celebrates "stunning" \$1 trillion value. Reuters UK. Retrieved from <https://www.arctictoday.com/norways-sovereign-wealth-fund-celebrates-stunning-1-trillion-value/>

Generally, funds are kept in national currency, Tenge, but the National Bank of the country periodically converts the incoming amounts into US dollars, which were credited to the fund's account in foreign currency for the following investment in foreign financial instruments.

#### **4.4.4 Usage of Funds**

The NF of the Republic of Kazakhstan is used in different ways:

- 1) In the form of a guaranteed transfer from the National Fund of the Republic of Kazakhstan to the republican budget for the implementation of budget programs (subprograms) of development for the relevant financial year;
- 2) In the form of targeted transfers from the National Fund of the Republic of Kazakhstan to the republican budget for the purposes determined by the President of the Republic of Kazakhstan;
- 3) In order to cover expenses related to the management of the National Fund of the Republic of Kazakhstan and the conduct of an annual audit.

The peak of spending came in 2017. Then the total transfers amounted to 4.4 trillion tenge (approximately 13 billion USD), or almost 46% of all budget revenues. Nursultan Nazarbayev repeatedly gave instructions to reduce exemptions from the National Fund. At the end of 2017, the head of state signed a law, according to which guaranteed transfers should be reduced to 2 trillion tenge by 2020. Since 2007, guaranteed transfers, unlike

targeted ones, are received regularly. Their volumes and designations differed and depended on the current situation in the economy. The decision on the allocation and appointment of such transfers can only be taken by the President of the country. Target transfers are most often used in extreme cases. Therefore, there is a risk that the Government, as the occurrence of crisis phenomena, will take money from the National Fund instead of carrying out structural reforms. As practice shows, the first line of spending of the National Fund is to save Kazakhstani banks from bankruptcy. The first was BTA. In 2008, the Government, through the national welfare fund Samruk-Kazyna, purchased 75.1% of this financial institution. Then in 2009-2010 debt restructuring was

carried out. In February 2014, Kazkommertsbank and businessman Kenes Rakishev each bought a 46.5% stake in BTA. Kazkom Bank bought all the problem loans, but three years later, Kazkom Bank itself needed a help. Government saved it with a tranche of 400 billion tenge (approximately 1,08 billion USD) in December 2016 and another 200 billion tenge (approximately 600 million USD) in February 2017. As a result, in order to save this bank from "toxic loans", the Cabinet of Ministers allocated 2.4 trillion tenge (20 billion USD) through the Fund of problem loans. Halyk Bank bought Kazkom shares from Kenes Rakishev and Samruk-Kazyna Fund for 1 tenge each.

Another direction of spending by the National Fund is the redemption of bonds and an increase in the authorized capital of the national holdings Samruk-Kazyna, Baiterek and KazAgro. In 2008, to the national welfare fund "Samruk-Kazyna" transferred 607.5 billion tenge (approximately 5 billion USD). The funds went to the implementation of measures to ensure competitiveness and sustainable development of the national economy.

The financial statements of the NF for 2009 state that the National Fund bought Samruk bonds for KZT 480 billion (approximately 3.2 billion USD). This money was spent to the development and support of the housing sector and to the financing of small and medium businesses in the framework of the "Stabilization Plan" by the government of Republic of Kazakhstan. In the second half of the year, debt securities were issued for another 149.9 billion tenge (approximately 1 billion USD) to repurchase 50% of shares in Ekibastuz GRES-1 LLP (the largest power station in Kazakhstan, and generated 13% of the nation's electricity) and Bogatyr Access Comir LLP (owning the world's largest open-pit coal

mine Bogatyr). By the way: Kazakhstan is one of the richest countries in the world in its natural resources; out of 118 elements of the Periodic Table Kazakhstan has 99 elements identified<sup>96</sup>. 70 of these elements are explored, and more than 60 elements are involved in the production. In terms of coal reserves, Kazakhstan is among the top ten countries in

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<sup>96</sup> Lau J. (2017). Speech by SFST at Kazakhstan Investor Day. The Government of the Hong Kong Special Administrative Region - Press Releases. Retrieved from <https://www.info.gov.hk/gia/general/201710/16/P2017101600408.htm>

the world, coming after USA, Russia, China, Australia, India, South Africa and Ukraine. In coal mining, Kazakhstan ranks second among the CIS countries after Russia<sup>97</sup>. Kazakhstan ranks 8th in the world's proven oil reserves. It is only ahead of Saudi Arabia, Iran, Iraq, Kuwait, the United Arab Emirates, Venezuela and Russia. The total estimated hydrocarbon resources are estimated at between 12 and 17 billion tons. Obviously, such resources make it possible to potentially consider Kazakhstan as one of the world oil powers. About a fifth of the world's uranium reserves are concentrated in Kazakhstan. The country ranks 2nd in the world in explored uranium reserves after Australia and 1 place in terms of its mining. Kazakhstan ranks first in terms of uranium mining in the world. Kazakhstan is one of the top 10 grain exporters in the world, exporting to over 70 countries.

At the period from 2010 to 2013, the National Fund bought bonds of Samruk-Kazyna for 548 billion tenge (approximately 3.6 billion USD). In January 2014, Samruk placed coupon bonds for 300 billion tenge (approximately 2 billion USD), which the National Bank bought out at the expense of the National Fund, to repurchase the remaining part of GRES-1 and Kazgidrotekhenergo LLP. A similar operation was carried out in 2015 in the amount of 751.6 billion tenge (approximately 2.2 billion USD)<sup>98</sup>.

On March 31, 2016, Samruk-Kazyna signed a loan agreement with its “daughter” company - the Real Estate Fund - by 29 billion tenge (approximately 85 million USD) to finance the construction of the administrative complex “Zelenyi Kvartal”. On May 27, there was another loan of 97 billion tenge (approximately 278 million USD) for the construction of commercial housing under the “Nurly Zhol” state program. All operations were financed at the expense of the National Fund. In the reporting for the nine months

of 2017 there is no data on attracting funds. In 2014, Baiterek Holding issued loans worth 234.5 billion tenge (approximately 1.2 billion USD) to Kazakh secondary level banks to finance domestic small and medium level businesses. Loans were issued mainly for twenty years, their maturity begins in 2034. The loans were financed through the issuance

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<sup>97</sup> Beck R., Kamps A., & Mileva E. (2007). Long-term growth prospects for the Russian economy. European Central Bank, 58, 1–32

<sup>98</sup> Ulmishkek, G. F. (2001). Petroleum Geology and Resources of the North Caspian Basin, Kazakhstan and Russia, U.S. Geological Survey Bulletin 2201-B, U.S. Department of the Interior. U.S. Geological Survey

of bonds that the National Bank bought out from the National Fund. In 2015, the holding issued a series of bonds for 588.6 billion (approximately 3.18 billion USD)<sup>99</sup>, which the National Bank acquired. The money were spent to finance manufacturers of cars and railway cars, construction of rental housing and facilities in the territory of EXPO-2017, as well as industrialization and business support. A year later, debt securities were redeemed for the same purposes, but already by 843 billion tenge (approximately 2.48 billion USD). “KazAgro”, in comparison with previous holdings, “took” money from the National Fund noticeably less. Only in 2009, 120 billion tenge (approximately 800 million USD) was allocated for the redemption of bonds to support and develop the agro-industrial complex. Interestingly, the maturity of debt securities was originally scheduled for 2023, but then it was moved to 2041. The National Fund has become a great source of finance for the quasi-public sector of Kazakhstan. A considerable part of the state program of infrastructure development "Nurly Zhol" is implemented at the expense of the National Fund. In 2015, 770.1 billion tenge (approximately 2.27 billion USD) were allocated for these purposes, and in 2016 - 839.9 billion tenge (approximately 2.47 USD). Unfortunately, Kazakhstan spends more than it can afford, while oil revenues are less than expected.

#### **4.4.5. The placement of funds in foreign financial instruments.**

The National Fund of the Republic of Kazakhstan is placed in authorized foreign financial instruments, with the exception of intangible assets, in order to ensure:

- preservation of the National Fund of the Republic of Kazakhstan;
- maintaining an enough level of liquidity of the National Fund of the Republic of Kazakhstan;
- a high level of profitability of the National Fund of the Republic of Kazakhstan in the long term with a moderate level of risk;
- receiving income from the long term investment

The list of allowed foreign financial instruments, with the exception of intangible assets, is resolute by the Government of the Republic of Kazakhstan together with the National

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<sup>99</sup> Volozh, Y. et al. (2003, February). Salt Structures and Hydrocarbons of the Pricaspian Basin. AAPG Bulletin, 87(2), 313–334.

Bank of the Republic of Kazakhstan on the proposal of the Council for the Management of the NF of the Republic of Kazakhstan. The NF of the Republic of Kazakhstan is not allowed to be used for crediting individuals and legal entities and as a security for meeting obligations. The amount of the guaranteed transfer from the NF of the Republic of Kazakhstan shall not exceed one third of the assets of the NF at the end of the fiscal year preceding the year of the development and acceptance of the republican budget. The amount of the guaranteed transfer from the NF for a three-year period is determined in accordance with the procedure established by the Government of the Republic of Kazakhstan and approved by the law of the Republic of Kazakhstan. The procedure for crediting assets to the NF and using the NF funds are determined by the Government of the Republic of Kazakhstan. Assets received by the NF or withdrawn from the NF are subject to transformation or retransformation in the manner prescribed by the National Bank of the Republic of Kazakhstan. As a conclusion, it can be stated that in 2014, the National Fund peaked at \$ 77 billion, but then began to decrease, as a result of oil price crisis. The situation on the world's oil markets is very unstable, and the price deviates quite often and sometimes sharply. The oil sector will be the main supplier for the NF of Kazakhstan for at least nearest 25 years.

#### **4.5 Conclusion of Section IV**

To analyze the level of transparency of the SFW around the world, the SWFI have developed the Linaburg-Madwell index and successfully using it and since 2008. This index determines the quality of the annual and other fund reports, the availability of strategies, data on managers and payments to them, the Internet portal, contacts of the parent and subsidiary organizations, if any. The maximum point that could be gotten is 10 points, which stays for the most transparent sovereign funds, and the minimum is 1, which stands for the least transparent fund. The NF got 2 points. The National Fund, which has been operating for 19 years, does not have its own website, and there are no annual reports. Information on the operations of the NF is scattered over the resources of the National Bank (the volume of the fund's assets, as well as brief information on the management of the fund in the annual report of the NBK) and the Ministry of Finance of the Republic of Kazakhstan (income report), some tables, some graphs. While, for example, in the GPFM materials anyone can easily access and find information on each

of the investments - bonds, stocks and assets from the real estate sector, which are also included in the portfolio of this SFW. In addition, policies in the area of risk management of the fund are published, its investment strategy is detailed, and those responsible for asset management are named, they are members of the board of directors of the fund and representatives of the relevant central bank department. Reports are provided for all activities, and all results and data on policies are combined into an annual report. Increasing the level of transparency in the work of sovereign funds is perhaps the first item in the list of measures designed to prevent unscrupulous actions of managers, and to exclude the possibility of pushing through politically motivated decisions. All activities of the SWF should be carried out publicly, in a mode that does not allow to conceal errors and crimes and to avoid responsibility. Since in the current political system and power relations in Kazakhstan only the president of Kazakhstan has a monopoly on political decision making, any political interference with the activities of the National Fund and the use of its funds can only come from his initiative.



## 5. ANALYSIS AND 10 YEAR FORECAST OF REVENUES AND EXPENSES OF THE NATIONAL FUND

### 5.1 Data

As it was stated in Research Methodology, Mr. Maxat Dyussenov provided some data, explained that some figures could be shared by the Ministry of Finance. Using that figures, a table as of last 12 years revenues and expenses of the NF was created. It shows beginning balance (BB), revenues (in), expenses (out) and ending balance (EB), as it is illustrated in Table 2.

**Table 2.** Revenues and expenses of NF 2007-2018, Kazakhstan Tenge

Year	BB	in	out	EB
2007	1 853 398 392	1 139 270 342	259 317 396	2 733 351 338
2008	2 733 351 338	1 652 527 290	1 075 095 373	3 310 783 255
2009	3 310 783 255	2 297 417 901	1 107 498 030	4 500 703 126
2010	4 500 703 126	2 407 723 392	1 203 982 229	5 704 444 289
2011	5 704 444 289	3 488 043 602	1 204 132 712	7 988 355 179
2012	7 988 355 179	3 843 884 717	1 385 701 111	10 446 538 785
2013	10 446 538 785	3 991 604 321	1 412 035 945	13 026 107 161
2014	13 026 107 161	5 366 850 822	1 963 658 571	16 429 299 412
2015	16 429 299 412	11 793 630 511	2 468 570 853	25 754 359 070
2016	25 754 359 070	985 647 524	2 874 382 751	23 865 623 843
2017	23 865 623 843	3 479 812 466	4 420 911 499	22 924 524 810
2018	22 924 524 810	5 755 587 709	2 618 074 427	26 062 038 092

**Source:** M. Dyussenov, personal communication, August 2019<sup>100</sup>

### 5.2 Data Analysis

Based on the data provided Net Cash Flow was calculated, using the following formula:

$$NCF = CF_+ + CF_- = Revenue - Expense$$

As well as Accumulated Cash Flow, using formula:

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<sup>100</sup> Dyussenov M., personal communication, August 22, 2019.

$$Acc\ CF = Acc\ CF_n + NCF_{n+1}$$

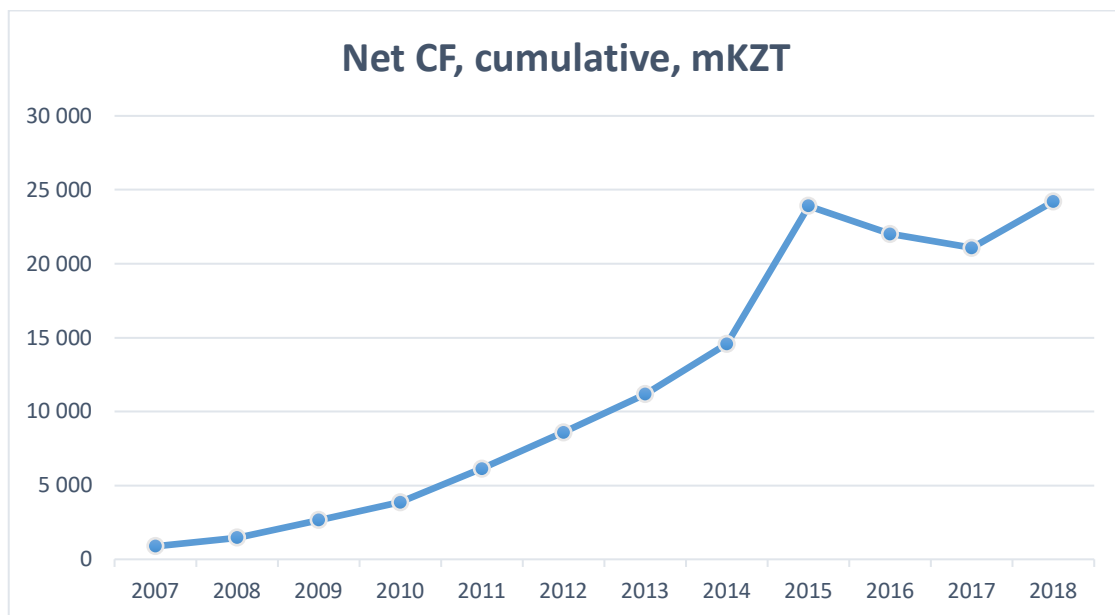
And its annual growth. The result of all these calculations is shown in table 3.

**Table 3.** NCF and Accumulated CF 2007-2018, Kazakhstan Tenge

Year	Net CF, KZT	Net CF, accumulative, KZT	Annual growth
2007	879 952 946	879 952 946	
2008	577 431 917	1 457 384 863	66%
2009	1 189 919 871	2 647 304 734	82%
2010	1 203 741 163	3 851 045 897	45%
2011	2 283 910 890	6 134 956 787	59%
2012	2 458 183 606	8 593 140 393	40%
2013	2 579 568 376	11 172 708 769	30%
2014	3 403 192 251	14 575 901 020	30%
2015	9 325 059 658	23 900 960 678	64%
2016	-1 888 735 227	22 012 225 451	-8%
2017	-941 099 033	21 071 126 418	-4%
2018	3 137 513 282	24 208 639 700	15%

In order to visualize all figures from Table 3, let me show the diagram

**Figure 6.** Net Cash Flow, cumulative, million Kazakhstan Tenge



From the diagram it can be clearly stated that revenues are growing and accumulating till 2015 and at the period 2016 and 2017 are going down, thus expenses are exceeding revenues each year, repeating the price diagram of Brent and WTI crude, as it is shown in Figure 1, page 7. These figures demonstrate us that nevertheless NF's main function is stabilizing, it did not work for the period for 2014-2016 crisis.

In order to see the inflow and outflow and its relative change in % in more details, it was decided to calculate the percentage difference of ins and outs from year to year, using the formula:

$$\Delta = \frac{CF_n - CF_{n-1}}{CF_{n-1}}$$

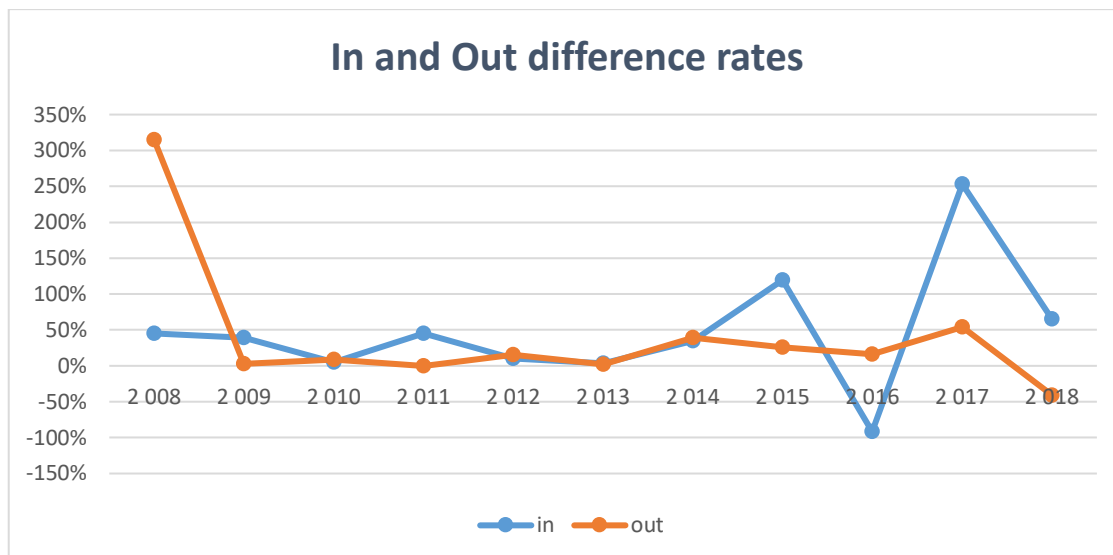
The result of these calculations is shown in the Table 4:

**Table 4.** Percentage difference of ins and outs from year to year 2007-2018

Year	BB	in	out	EB
2007	-	-	-	-
2008	47%	45%	315%	21%
2009	21%	39%	3%	36%
2010	36%	5%	9%	27%
2011	27%	45%	0%	40%
2012	40%	10%	15%	31%
2013	31%	4%	2%	25%
2014	25%	34%	39%	26%
2015	26%	120%	26%	57%
2016	57%	-92%	16%	-7%
2017	-7%	253%	54%	-4%
2018	-4%	65%	-41%	14%

For better understanding of the figures, the diagram representing same numbers is shown in figure 7 below:

**Figure 7.** Percentage difference of ins and outs from year to year 2007-2018



From the diagram we see that revenues are decreasing sharply, when the spendings are relatively same.

Finally, 10 years forecast for NCF of National Fund. As it shown in Table 3 on page 61, the annual growth rate was calculated, after that we can easily find out the average annual growth rate, which is 38%. In order to be more precise I decided to subtract the average annual inflation rate, which is 8,59%, according to the following calculations:

**Table 5.** Annual Inflation Rate, Kazakhstan

№	Year	Percentage
1	2007	10,78%
2	2008	17,15%
3	2009	7,30%
4	2010	7,13%
5	2011	8,33%
6	2012	5,12%
7	2013	5,83%
8	2014	6,72%
9	2015	6,66%
10	2016	14,55%
11	2017	7,43%
12	2018	6,03%
<b>average</b>		<b>8,59%</b>

Source: German portal for statistics<sup>101</sup>

<sup>101</sup> Kazakhstan: Inflation rate from 1994 to 2024. (2019). German portal for statistics. Retrieved from: <https://www.statista.com/statistics/436183/inflation-rate-in-kazakhstan/>

So, 38% annual growth rate subtract 8,59% average annual inflation, we expect approximately 29,5% annual growth rate in future. But this rate is actual only till 2024 year, in my opinion, because starting from that year Europe is planning to replace automobiles by electric cars. This action might reduce the expected annual growth rate twice, so in my prediction, after 2024 year the annual growth rate 29,5% becomes 16%. The table showing figures is below.

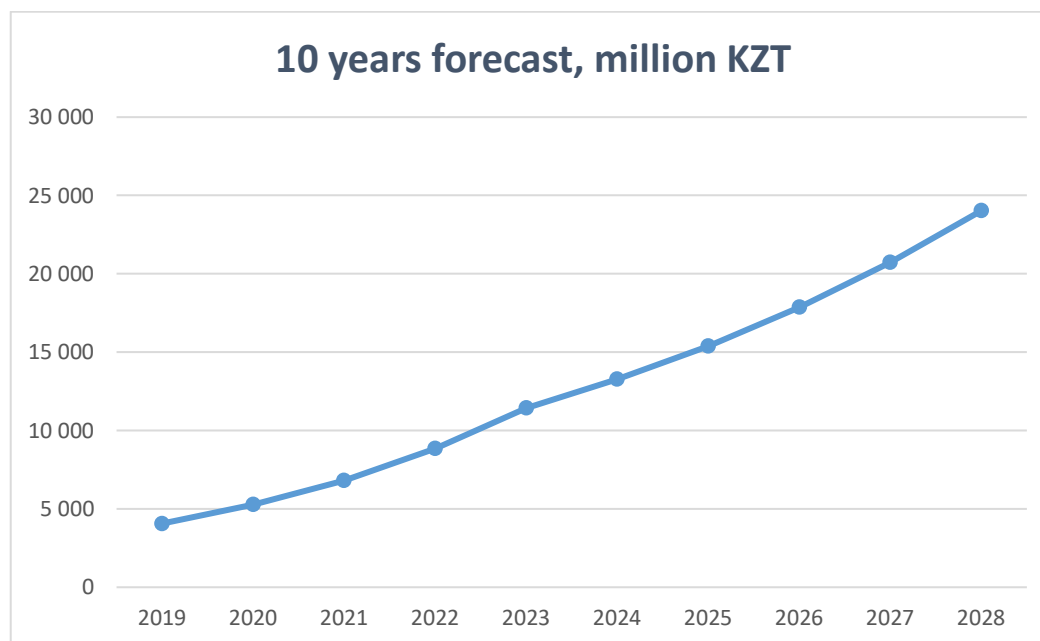
**Table 6.** 10 years Net Cash Flow forecast

Year	Net CF, KZT	Net CF, accumulative, KZT	Annual growth
2019	4 064 039 386	28 272 679 086	29,5%
2020	5 264 174 092	33 536 853 178	29,5%
2021	6 818 715 627	40 355 568 805	29,5%
2022	8 832 322 409	49 187 891 214	29,5%
2023	11 440 559 104	60 628 450 318	29,5%
2024	13 271 048 561	73 899 498 879	16,0%
2025	15 394 416 331	89 293 915 210	16,0%
2026	17 857 522 944	107 151 438 153	16,0%
2027	20 714 726 614	127 866 164 768	16,0%
2028	24 029 082 873	151 895 247 641	16,0%

As a result, by the end of 2028 we can expect ending balance of 151 895 247 641 KZT.

The visual for the Table 6 is Figure 8, that shows the graph of 10 years Net CF forecast

**Figure 8.** 10 years Net Cash Flow forecast



### **5.3 Conclusion of Section V**

As a conclusion it is extremely advised to activate stabilization function of NF and predict the critic situations in oil market, which has direct impact on Kazakhstan budget. The obvious next crisis for oil market will happen in 2024. It is recommended to invest in different portfolios, other than oil, so the revenues of National Fund and the country in general will not be much vulnerable to supply/demand fluctuations in future.



## **6. CONCLUSION AND RECOMMENDATION**

In the process of running business, petroleum industry companies are exposed to various risks that may have a negative effect on operations and production, as well as the financial results. Firms try to lower the risks in the area of control and consider all possible negative consequences of those risks which they are not able to control. Over the few years, the global community efforts to solve the main issue - how to organize effective risk management in terms of uncertainty in the markets. Despite restrained optimism resulting from the gradual recovery of the global economy, its condition still remains vulnerable. Risks are present in any activity. In assessing the performance of a company producing something, risk assessment plays a significant role, since the success depends on many factors - personnel, equipment, external conditions, etc. To decrease the probability of risks and be able to manage them, world petroleum companies are taking different actions to reduce these problems. Especially, petrol companies, strictly following industry requirements and standards, using all the modern research methods, implying new high-tech equipment and technologies at all stages of the operation and production process, they minimize industry-specific types of risks. For the sake of financial risks, petrol companies tend to use their private funds for the most part in their business and financial activities, therefore minimizing the risks of raising interest rates and reducing the availability of credit. In order to manage cash flows in a most effective way, there are some special systems for planning future expenses and its payments. Furthermore, companies can resort to hedging financial risks, and observe their impact on operating and financial activities when developing the investment projects, forming the plans and budgets.

In order to manage and minimize oil price risks, SWF can use 2 major strategies: stabilization and savings, or mix both of them. Which means: to accumulate funds at the period of high prices of oil and create savings. Later those fund could be used either for stabilization of budget at the period of commodities prices fluctuation or keep the funds for future generations and, at the same time, to contribute to the national economy by the diversification and investing to other different assets.

Today, Kazakhstan SWF is one of the least transparent sovereign funds of the world. Following are the recommendations for the SWF in Kazakhstan in order to improve, get the trust of the citizens of the country and upgrade the national well-being:

1. Build the activities of the National Fund so that it is fully integrated into a single budget process and functioned under a common system of macroeconomic and fiscal parameters;
2. For the Fund to contribute to the implementation of short and medium term macroeconomic objectives.
3. Clearly define the rules for the allocation of resources between the budget and the National Fund, differentiate the functions of management and control over spending the Fund and determine the role of the Parliament.
4. To create for the concept of the annual budget of the fund and its approval, since the volume of the funds varies depending on the price situation on the world market. Nevertheless, the estimates of the inflow of funds to the fund can be calculated within the framework of a five-year indicative plan for socio-economic development, which includes estimated permanent world prices for crude oil, copper and other major goods of Kazakhstan's exports. The basis for determining such prices could be a forecast of the dynamics of world prices. On the basis of calculated constant prices, when developing and approving the republican and local budgets, average prices of commodity sales by Kazakhstani producers and the corresponding state budget revenues from the commodity sector are calculated.
5. To protect the SWF from the political interference and misuse of the funds.

As a conclusion, here is the major recommendation for SWF in Kazakhstan: the activities of the NF should take place in the regime of total transparency, since all citizens of the country are the major investors. When saying transparency, it means primarily the regular publication of financial and statistical reporting of funds, the display of a detailed structure of the investment portfolio, investment strategy and decision-making procedures, the structure and mechanisms of corporate management and risk management. SWF managers and government themselves should be interested in transparency. Increasing transparency is the only way to regain public confidence. And that is huge step forward for better future.



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