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The Impact of the Oil and Oil Products Market on Economic Development: A National Aspect

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ABSTRACT

Based on analytical reviews, volatility will continue to persist in commodity markets, especially in oil markets, in 2019. Oil prices are projected to rise slightly in the near future and will average about \$70.0 per barrel, compared with \$71.0 in 2018. At the same time, the risks to oil and other commodity prices are mainly reduced, given the slowdown in demand growth and increased supply. Despite volatility, prices are expected to be slightly different from their current indicators by the end of 2019. The above indicates the relevance of the chosen topic, since oil for Kazakhstan is a natural resource that has an impact on the state economy as a whole. Oil does and will predetermine the further development of the national economy. In accordance with the adopted strategy for the development of manufacturing industries, the oil and gas sector should become the basis of the country's economic growth based on its deep processing and manufacturing of high value-added products. This article provides an overview of theoretical approaches to assessing the role of natural resources in the development of countries, as well as the stages of development of world oil markets. An analysis is conducted of the impact of various factors on the development of world oil markets and their volatile characteristics. The development of the Kazakhstani oil market is examined and evaluated.

Keywords: Oil, Oil Products, "Dutch Disease", "Raw Materials Curse", Economic Development, National Economy, Economic Growth, Manufacturing Industry

JEL Classifications: L71, N55, O13, P28

1. INTRODUCTION

The development of the oil and oil products market, based on the availability of natural resources, has a significant impact on state economic development. In this regard, a significant amount of research has been devoted to this subject. Specific terms, dictated as "disease" and "curse," have been introduced. However, as indicated in some works, the raw material resource initially served as a factor in economic growth. It was believed that natural resources could help achieve economic growth (Innis, 1999; 10 forecasts for the global economy for 2019). Researchers' opinions on economic growth based on the raw

material model rely on the fact that economic growth in backward regions usually begins with increased entrepreneurial activity in the development of natural resources, and then the capital of the raw material sector is reinvested in the development of local infrastructure, services and manufacturing industries (Corden and Neary, 1982). However, in practice, the raw material model is no benefit at all; this is what leads to a negative process in economic development called the "Dutch disease," or "the curse of natural resources." By attaching great importance to the raw material sector and getting a "low" currency, the state limits itself to sustainable economic development, where manufacturing industries are gradually degrading, i.e., where "direct deindustrialization" takes place. However, there are

countries that defeated the “Dutch disease” and moved on to the “new economy.”¹

It should be emphasized that the raw material model of the economy, which depends on natural resources characterized in turn by exhaustibility, should be short-term. The low labor intensity of raw material production, even when taking into account the creation of new jobs in related industries, as a rule, cannot provide a sufficient number of jobs in the highly productive sector of the economy. With a similar model of the national economy, the socio-economic situation entirely depends on the external environment and the flow of currency. At the same time, the internal and external factors of large-scale technological modernization are hindered, and there is no growth in the basic and fundamental source of progress – manufacturing of the latest high-tech means of production (Mishina, 2014). In addition, the process is accompanied by an increase in the real exchange rate of the national currency and an increase in prices for imported goods coming from the elimination of domestic production.

2. MATERIALS AND METHODS

Researchers introduced the term “resource curse,” which was first used by Auty in 1993 to describe how countries rich in mineral resources were unable to use that wealth to boost their economies and how, counter-intuitively, these countries had lower economic growth than countries without an abundance of natural resources (Auty, 1993). However, the idea that natural resources could be the curse of a country rather than an advantage began to emerge back in the 1980s. This approach was identified in Russian and foreign works. For example, Sachs and Warner analyzed the relationship between an abundance of natural resources and weak economic development. One of the most striking examples of the detachment of resource abundance from economic growth is oil producing countries. For example, GNP per capita in OPEC countries decreased by 1.3% per year on average during 1965-1998 compared with 2.2% average per capita growth in all lower- and middle-income countries (Gylfason, 2001).

Some authors argue that the inflow of finance associated with foreign aid can have an effect on the economy similar to the resource curse. Based on the work of Shelomentsev and Belyaev (2012), it can be noted that “... there is no consensus on the mechanism of the “resource curse” and the “dutch disease,” in the context

of which the growth of income in extractive industries leads to industrial stagnation. Another mechanism for the manifestation of the “resource curse” is associated with the insufficient development of human potential in resource-rich countries.”

3. RESULTS AND DISCUSSION

From the above it follows that the influence of natural resources on the development of the national economy and, in our case, of the oil and gas sector, is complex and multifaceted. Therefore, it is roughly described by formal dependencies and cannot be unambiguously assessed in the context of the “resource curse,” the “Dutch disease”, etc. As experience shows, the role of natural resource development in a particular country is determined by a wide range of factors. First of all, these are institutional, production, integration and geopolitical factors. The development of world oil markets can be characterized by several stages (Table 1).

Despite the dependence of the oil market on market consequences, the importance of the oil and oil products market in the functioning of the economy of many states tends to increase every year. The overall increase in world oil production is accompanied by an increase in the number of oil producing countries. In many countries, oil production was growing so fast that it allowed them to enter the top ten in several years. The shale revolution has led to a boom in oil production in the US, whose growth rates have been breaking all conceivable records in recent years. At the end of 2017, the level of oil production in this country exceeded the level of production in traditional leading oil producing countries, such as Saudi Arabia and Russia, which were forced to reduce their production under the OPEC+ agreement (Table 2).

The dominance of leading oil companies in the markets ended in 1960, when the OPEC was formed, which managed to establish complete control over the oil market in the 1970s. At that time, when most of the gulf countries nationalized the means of oil production and refining, cash oil markets emerged. High oil prices

Table 1: Development stages of world oil markets

Year	Stage result
Before 1960	Predominance of large companies Control according to the scheme “from the wellhead to the pump”
1960-1973	Emergence of the Organization of the Petroleum Exporting Countries Rapid growth in demand for oil products Price drop in real terms
1974-1980	Distribution and reduction of OPEC’s influence Production growth in non-OPEC countries Expansion and internationalization of cash markets Emergence of futures markets, demand volatility Tighter transportation and processing conditions
1990	Annexation of Kuwait by Iraq The “fourth” oil price crisis OPEC’s excess supply
1998	OPEC’s decision to reduce oil production A sharp drop in oil prices from \$23 to \$9 per barrel
1999-2018	Constant price fluctuations, beginning of the development of shale deposits, adoption of various kinds of restrictive measures

Compiled by the authors

¹ Two countries have coped with the Dutch disease by restructuring their economy. Their experience is noteworthy. These are Norway with state regulation and the UK with a liberal model. The government of Norway has showed the effectiveness of its policies. The strategy of a small state took foreign economic changes as a constant value. The entire politics tried to minimize their negative consequences. As a result, the Norwegian government created a semblance of a stabilization fund. Its means were prohibited by law from being used domestically. They were aimed at mitigating inflation. The strengthening of the krona (the national currency of Norway) resulted in a decrease in the competitiveness of industry and the collapse of the shipbuilding industry. The government allocated funds for the innovative modernization of oil production. The country got over this economic disease not only as an exporter of raw materials, but also as an exporter of equipment and technologies for its extraction (Dutch disease in the economy: concept, causes, consequences, 2019).

Table 2: Oil production in the largest oil producing countries, million tenge

Country	2015	2016	2017	% of world production
USA	565,3	543,1	571,0	13,0
Saudi Arabia	567,9	586,6	561,7	12,8
Russia	541,9	555,9	554,4	12,6
Canada	215,6	218,6	236,3	5,4
Iran	180,5	216,8	234,2	5,3
Iraq	195,6	217,6	221,5	5,0
China	214,6	199,7	191,5	4,4
UAE	175,0	181,6	176,3	4,0
Kuwait	148,1	152,6	146,0	3,3
Venezuela	135,4	123,1	108,3	2,5

(1) Compiled by the authors based on data from BP Statistical Review of World Energy 2018. (2) These production data include crude oil, shale oil, heavy oil sands and gas condensate, excluding fuel derived from biomass and coal

during this period necessitated the exploration and development of fields in new regions. Crude oil markets were highly volatile.

Crude oil markets are global in nature, the quality of oil grades is stable, and there are relatively few companies operating in these markets, which is associated with the high costs required to enter the market. It is closely connected with the volume of cargo: a typical cargo has a cost of about \$10 million. Crude oil futures markets are geared to specific oil grades. On the other hand, oil products markets are characterized by regional concentration, and the technical conditions for these products are determined at a local level.

The average cargo cost of \$2-5 million is a lesser obstacle when entering the market, and, therefore, there are many participants. Analyzing the trends established in world oil operations, one can note that oil futures markets are growing, although forward markets are limited to the main shopping centers in Europe, the US, and the Far East (in other words, London, New York, and Singapore) (How much Kazakhstan actually spends on oil production, 2019).

Organized world markets for trading oil and oil products, controlled by oil producing and oil refining companies, are guided by the need to achieve such purposes as:

- Optimization of crude oil grades (mixtures) used for refining
- Purchasing and selling outside the framework of current contracts, while acting as a broker for controlled companies and for purely entrepreneurial trading
- Optimization of own taxes
- Reduction of risk from price vulnerability
- Guarantee of profit margins by providing stocks (cargo) at a known price.

The traditional crude oil market comes down to transactions for a real or physical product, in other words, to goods that are transferred from sellers to buyers for paid cash.

World oil markets have a rather complex structure, including production, export and redistribution of hydrocarbon resources, which are influenced by such factors as the choice of the main routes of export pipelines, market conditions, quality of raw materials, price level, etc. (Table 3).

Table 3: The main factors that have an impact on the oil market

Factors affecting supply	Factors affecting demand
Level of oil reserves among exporters	Economic development of consumer countries
Change in oil production capacity	Oil refining capacities of consumer countries
Policy of hydrocarbon producers in industry development	Amount of payments for purchased oil and produced oil products
Oil production volume	Provision of the optimal volume of state and commercial reserves of oil and oil products
Level of management development among manufacturers	Volumes of production and availability of oil products
Commercial oil reserves among manufacturers and traders	Economic results from the sale of oil products

Compiled by the authors based on data from (Yegorov, 2018)

Over the past few years, there have been fluctuations in the pace of development of world oil trade, associated with changes in demand for oil and oil products. According to the International Energy Agency, the need for them will grow over the next 5 years (Sidorovich, 2018). This is due, first of all, to the observed increase in economic growth rates in the US, Japan and some European countries, which causes an increase in demand for oil products in world markets.

Kazakhstan is also dependent on the development of its own oil market, despite the fact that more than 25 years have passed since gaining independence. The development of the oil industry has a huge impact on the political and social aspects of the Republic of Kazakhstan, as well as on the development of many other sectors of the economy. The proven reserves of the republic indicate that the potential for the availability of hydrocarbons is huge. However, this does not guarantee prosperity. One should find its place in the system of world markets in order to obtain the greatest commercial results and political benefits. The development of the oil industry in Kazakhstan is characterized by positive dynamics. Despite the fact that during the 2000s, its development was influenced by crisis events that led to a decrease in investment in large-scale projects, the production of liquid hydrocarbons practically did not decrease, and their share in exports remained at the level of 75-80%. It should be noted that it was during this period that the largest field on the shelf of the Caspian Sea, Kashagan, was put into commercial development, the production of which amounted to 8 million tons in 2017 (Yegorov, 2018).

Currently, the following world oil markets have been formed in the field of export-import operations:

- The North-Western European market
- The Central and Eastern European market
- The Mediterranean market
- The market of the Asia-Pacific region, including China
- The Gulf market.

Kazakhstan has access to the North-Western European market via the Atyrau-Samara pipeline in transit through the Russian

pipeline system, then through the Druzhba pipeline to the port of Ventspils. In some cases, rail transport is used. This market is the most capacious market in the world. In addition, oil is exported to the Central and Eastern European market along the same route with quota restrictions.

The main European market for cash oil products is Rotterdam, which has ten oil refineries producing gasoline, light diesel fuel, various fuels, as well as a wide range of hydrocarbon products. Rotterdam, acting as a leading port, can process oil from Siberia, the Arabian Gulf, the North Sea, northern and western Africa. It also has a large tank farm and a developed transportation network, including all means of transport (rail, road, pipeline, barges), which creates a stable position for Rotterdam to be the main market for crude oil (Edel'kina et al., 2014).

The most promising for Kazakhstan is the market of the Asia-Pacific region, characterized by a number of large consumers of raw materials, including, primarily, China. According to experts, in the near future the annual growth rate of demand for hydrocarbons will be up to 4%. Another alternative region for the sale of high-quality Kazakhstani oil may be the Mediterranean market, which is distinguished by its large capacity and stability.

It should be noted that the issues of promoting Kazakhstani oil to world markets clash with the geopolitical interests of all the Caspian countries, China and the US. In this regard, oil transportation is gaining international importance. The export capacity of the Republic of Kazakhstan currently amounts to 20-25 million tons of oil. However, it is planned to increase production at the explored and developed structures, as well as on the Caspian shelf, which will require a significant increase in the capacity of export pipelines.

Oil producing and oil refining companies that control the existing world oil markets, while conducting their commercial activities, strive to achieve the following results:

- Purchasing and selling of hydrocarbon resources outside the framework of current contracts, while acting as a broker for controlled companies and for purely entrepreneurial trading
- Optimization of grades (mixtures) of raw material stocks used for refining
- Optimization of own taxes
- Reduction of risk from price fluctuations
- Guarantee of profit margins by providing stocks (cargo) at a known price.

There are two kinds of oil markets – traditional and forward.

The traditional crude oil market is characterized by transactions for a real physical product, i.e., for goods transferred to sellers for cash paid by buyers. In these markets, typical two-part contracts are concluded. The first part contains standard terms and conditions regarding the definition of concepts, measurement standards, guarantees of legal ownership, force majeure, etc. The second part contains non-standard conditions that reflect the data specific to a particular transaction, namely location, grade of raw materials, quality indicators, terms, shipment and credit conditions.

Forward markets are intended to trade in both crude oil and oil products. Transactions here are related to the delivery of goods at a certain point in the future and cover such crude oil grades as BRENT, Urals, Dubai, Alaska, and West Texas Intermediate. These grades are markers of crude oil; they are widely traded at prices that are not controlled, but are quoted on the open market. There are also forward markets for refined products with certain technical characteristics. Crude oil markets are characterized by high cash flows, in connection with which their participants are only large companies.

Although all large oil companies began their activities as refining, sales, exploring or production companies, market events forced them all to specialize in the production and sale of petrochemical products. Such diversification made sense in terms of competitiveness, as the technologies used in different sectors have close similarities.

In addition, in Europe and the Far East, the rapidly growing petrochemical market provided great opportunities for the sale of light distillates at a time when there was also a rapid increase in demand for heavy fuel oil, causing an increased expansion of gasoline supplies from refineries.

The main turnover of oil supplied for sale is through oil commodity exchanges, the largest of which are the New York Stock Exchange, the International Petroleum Exchange in London and the Singapore Stock Exchange. The main contract forms on the New York Stock Exchange include contracts for West Texas oil and gasoline to be delivered to the port of New York. On this exchange, an average of over 22 million tons of oil is sold per day, which is 3 times higher than the daily world consumption.

The basic contract form on the International Petroleum Exchange in London is a contract for Brent crude oil delivered to the marine terminal on the Scottish Islands (Sullom Voe). Its sales are 1.0 million tons per day. On the Singapore Stock Exchange, energy carriers based on Dubai oil are sold to be delivered to the Far East. The Singapore and London exchanges do not deliver hydrocarbon resources, unlike the New York Stock Exchange, and trade is carried out by the so-called “paper barrels.”

The spheres of influence and control in the oil business have long been determined, therefore, the access of a new state to world markets causes objective and subjective difficulties. The main conditions for a country seeking to find its place in the world market are the possession of large reserves and the implementation of high current production (Ergaliyev, 2012).

Contracts concluded with foreign companies should reflect the actions of governments and oil companies in countries with large hydrocarbon potential in relation to providing access to the world trade network. In order to create a favorable commercial environment, large oil companies may fix an obligation in a contract to stimulate the promotion of crude oil and petroleum products in the world market.

A significant increase in oil and gas production is expected in Kazakhstan in the near future, for which one should start preparing

an appropriate base for trade in the world arena due to the fact that this important aspect of commercial activity was never reflected in contracts concluded by the republic. As in a number of cases of the above discussion and justification regarding the export conditions of large oil quantities, it is also advisable to focus on the qualitative characteristics of oil grades produced in the world (The State Program of Industrial-Innovative Development of Kazakhstan for 2015-2019, 2014).

Kuwait and Saudi Arabia oils are viscous, with high sulfur content. Libyan oil is lighter and its sulfur content is lower, but it has a high viscosity index, which complicates its processing. The highest qualitative characteristics are peculiar to oil fields of the North Sea (Brent grade). They are light, low-sulfur, easily decomposed into individual types of products.

In addition to the qualitative parameters inherent in one or another variety of liquid hydrocarbons, there is such a proposed resource on the world oil market as the OPEC oil basket, which is an average of seven grades in terms of characteristics:

1. Saharan Blend (Algeria)
2. Minas (Indonesia)
3. Bonny Light (Nigeria)
4. Arab Light (Saudi Arabia)
5. Dubai (United Arab Emirates)
6. Tia Juana Light (Venezuela)
7. Isthmus (Mexico).

Russian Urals oil is a mixture of oils from various fields of the Russian Federation and some fields of Kazakhstan. In the place of raw material mixing and preparation for subsequent transportation to consumers, an operation is carried out to form a set of various grades of the initial resource, which makes it possible to select the physicochemical composition of raw materials (sulfur content, density, viscosity, tar content, fractional composition, etc.) that meets standards accepted in the world. The level of technological development and modern environmental requirements have increased the demand for light oil with low sulfur content.

Oils of the largest Kazakhstani fields with export orientation have worse qualitative parameters compared to all of the above-mentioned grades. Exported Kazakhstani products can roughly be divided into two groups. The first group includes oil from the Karachaganak and Tengiz fields, which is light but has high sulfur content. The second group includes oil of all other fields, which is similar in quality to the Russian Urals grade. Mangistau oil contains a large amount of paraffins, while Buzachinsk oil is characterized by high metal content. From the perspective of the integrated use of raw materials, the most profitable option is to extract paraffins, vanadium and nickel in places of production, in order to transport refined raw materials to oil markets.

It is necessary to carry out a similar operation for the entire volume of Tengiz oil, which, according to the concluded contract, remains at the disposal of foreign companies and to a certain extent (20%) of the state. Sulfur compounds, mercaptans, which have an extremely harmful effect on transport arteries and on technological equipment that will be used by consumers of raw materials in the

process of its processing, should be removed from this type of oil to the required limit.

OPEC countries control over 40% of world oil production, while possessing 77% of the world's reliable reserves. This allows them to dictate their conditions for the sale of raw materials on world oil markets. It is OPEC that develops an action plan during periods of unfavorable market conditions, expressed in the overproduction of petroleum products, increased energy tariffs, etc., when the needs of major oil importers are sharply reduced.

Currently, the demand for liquid hydrocarbons on the world market is decreasing from time to time due to a decrease in the demand for them in Asia-Pacific countries, which necessitated the adoption of an agreement on a temporary reduction in current production in order to minimize losses from lower prices. The fall in world oil prices proves that companies that are developing such industries as oil and gas processing and petrochemistry along with oil production are in the most favorable position.

Such a structural basis can guarantee the prevention of large financial, investment and other losses during periods of the declining demand for raw hydrocarbon resources. For a stable and reliable export of raw materials, the Republic of Kazakhstan needs to conclude such contractual agreements, the conditions of which would ensure the uninterrupted process of oil operations, maintain established quotas for import deliveries, and eliminate the possibility of establishing discriminatory conditions such as lower prices, higher transport tariffs, additional tax deductions.

For Kazakhstan, as an intracontinental state that does not have direct access to world oil markets, the choice of the most advantageous and safe option for transit through neighboring countries is of great importance. The unavoidable risks associated with transit can be significantly reduced if all parties comply with the provisions of the Energy Charter Treaty² and the multilateral framework agreement on energy transit, establishing clear guarantees and obligations for the parties. The presence of framework agreements between transit countries, backed by international financial institutions, will largely determine the choice of a project option.

It is a priority to address economic and political issues when choosing partners for conducting foreign economic activities

2 The energy charter Treaty is a unique instrument for promoting cross-border cooperation in the energy sector. The Treaty came into effect on April 16, 1998. "The Charter process includes the countries of the enlarged European Union, Central and Eastern Europe, the Russian Federation, Central Asia and the Caucasus, as well as Japan, Australia and Mongolia. The Treaty remains open for accession by all countries committed to observance of its principles. It is very positive in this regard that states such as China, Iran, South Korea and the countries of ASEAN are taking a close interest in the Charter process, thus opening up the prospect of a further extension of its geographical scope. The primary challenge facing the constituent members of the Energy Charter process in the coming years will be that of ensuring full implementation of the Treaty's commitments. This will entail increased focus on multilateral cooperation over transit, trade, investments, environmental protection and energy efficiency. By continuing to build on its existing work in these areas, the Charter process stands ready to play a key role in translating the aim of a truly open non-discriminatory energy market into reality" (Energy Charter Secretariat ECS, 2004).

related to the sale of hydrocarbons. This necessitates making such decisions at the state level that would make it possible to obtain significant economic benefits. One should carefully select those options for cooperation that will contribute to the development of not only oil production, but also oil refining and petrochemistry at the highest technical and technological level, as well as to the achievement of commercial results that are in the interests of the parties to agreements concluded.

The current situation in the oil and gas sector of Kazakhstan indicates that the largest foreign oil companies already have significant potential of Kazakhstani hydrocarbon resources, consisting of reserves and current production, as well as the availability of refining capacities and pipeline systems. In support of this, it should be noted that the current share of Kazakhstan in the total volume of oil produced is approximately 28%. All this causes concerns, since such a situation threatens the country's economic and national security.

Oil and gas production remains one of the priority and profitable areas of Kazakhstan's industry. To date, Kazakhstan has explored more than 200 hydrocarbon fields with total recoverable reserves of about 2.8 billion tons of oil and 1.7 trillion m³ of gas. Crude oil production in the Caspian region is forecast to reach 100 million tons by 2020. Its growth will be determined, first of all, by the development of the Northern Caspian fields, especially Kashagan, one of the largest oil fields in the world, whose geological reserves are 38 billion barrels of oil.

Almost 60% of Kazakhstani crude oil is extracted in three large fields – Tengiz, Uzen and Karachaganak. In the very near future, due to the accession of East Kashagan, which has, presumably, a reserve potential of around 50 billion barrels, Kazakhstan is expected to occupy a fairly high position among the oil producing countries of the world. In addition, it is expected that the export of crude oil, which amounted to more than 39 million tons in 2005 and 70 million tons in 2017, will be within 80 million tons in 2020 (Table 4).

The transport factor has become extremely important. Kazakhstan's oil and gas fields are already connected by oil and gas pipelines of various lengths with raw materials processing facilities in the Russian Federation (Orsk, Orenburg, Samara) and directly within Kazakhstan (Atyrau, Aktau, Zhana-Ozen). However, all these main facilities have been functioning for quite a long time and have no other functions, except for supplying the existing capacities of the mentioned plants with oil and gas. Moreover, it is not yet envisaged to use them as arteries for pumping exported hydrocarbons.

In this regard, Kazakhstan, together with other states, have worked out a number of options for the transfer of raw materials from the Caspian region along various routes. Each of them has its own characteristics of an economic, social, and political nature, which makes it necessary to conduct a thorough expert analysis of all aspects of the proposed projects.

The geography of the export and transit pipelines of Kazakhstan, the largest oil producing state in the CIS after Russia, is such that

oil is transported along the main routes in four directions: west, northwest – to the Baltic Sea, Southwest – to the Black Sea, and east – to West China. Kazakhstani oil is also exported by sea from the terminals of the ports of Aktau and Kuryk to the ports of Baku and Makhachkala.

The export oil potential of Kazakhstan is formed through the extraction of raw materials in the fields of the Western region and Kyzylorda region. The consortiums and joint ventures formed in different years, which included well-known world companies, currently have a different degree of participation in the production division, and, consequently, different export potential (Table 5) (How much Kazakhstan actually spends on oil production, 2019; Egorov, 2001).

The data presented in Table 5 on the degree of participation of world oil companies in the development of large fields in

Table 4: Dynamics of the main indicators of liquid hydrocarbon production and transportation

Indicator	2005	2010	2012	2014	2017
Oil and gas condensate production in Kazakhstan, million tons	61,5	79,5	79,2	80,8	86,0
Total volume of oil exports, million tons	51,9	68,0	68,2	62,4	70,0
Share of exports in the volume of production, %	84,5	86,8	86,1	77,1	81,5
Volume of oil and gas condensate transportation by directions, million tons					
Atyrau – Samara	15,2	15,3	15,4	15,5	15,7
Atyrau – Alashankou	-	10,1	10,4	11,0	11,8
Caspian pipeline consortium	24,5	29,9	27,9	33,0	38,0
Orenburg gas processing plant (gas condensate)	2,6	2,0	0,8	1,0	0,7
Through the port of aktau	8,1	9,3	7,0	9,6	7,0
By rail	1,5	6,0	7,0	7,0	7,0

Compiled by the authors based on data from (How much Kazakhstan actually Spends on Oil Production, 2019)

Table 5: The degree of participation of oil companies in the development of large fields in Kazakhstan, %

Kashagan field development project	
Eni (Italy)	16,81
Royal dutch shell (United Kingdom - Netherlands)	16,81
Exxon mobil (USA)	16,81
Total (France)	16,81
KazMunaiGas (Kazakhstan)	16,81
CNPC (China)	8,33
Impex (Japan)	7,5
Karachaganak field development project	
Agip (Eni) (Italy)	29,25
British Gas (United Kingdom)	29,25
Chevron Texaco (USA)	18,00
Lukoil (Russia)	13,5
KazMunaiGas (Kazakhstan)	10,0
Tengiz field development project	
Chevron (USA)	50,0
Exxon Mobil (USA)	25,0
KazMunaiGas (Kazakhstan)	20,0
LukArco (Russia)	5,0

Note. Compiled by the authors based on data from (How much Kazakhstan actually spends on oil production, 2019)

Table 6: Economic results obtained from the export of oil and gas resources, million dollars

Importer country	2016	2017
Total	19295,7	26584,4
CIS countries, total	300,3	133,7
Including Uzbekistan	51,4	75,4
Belarus	12,6	21,4
Azerbaijan	18,3	17,2
Russia	12,3	13,0
Other countries, total	18995,4	26450,6
Including Italy	7306,2	8450,6
Netherlands	2376,5	3643,7
Switzerland	2065,9	2633,2
France	1572,8	2806,0
Spain	911,1	1380,2
Romania	811,4	878,7
China	876,5	853,4
Lithuania	186,7	515,8
Japan	210,7	339,4
Turkey	175,8	180,1
Bulgaria	66,0	157,7
Israel	212,1	110,2
Poland	99,1	350,7

Compiled by the authors based on data from (Statistical Yearbook, 2017a; Statistical Yearbook, 2017b)

Kazakhstan indicates that the state's share in the total volume of extracted hydrocarbon resources is still small. In this regard, a significant part of production belonging to foreign companies under the terms of contracts is ultimately exported to various European and Asian countries (Table 6).

A comparison of the economic results obtained from the export of oil for 2 years presented in Table 6 shows how the volatility of hydrocarbon prices observed on world markets affects the size of revenue. The largest volumes of crude oil are transported to some European countries, while relatively small volumes of raw materials are imported from Kazakhstan by other consumers (Statistical Yearbook, 2017a; Statistical Yearbook, 2017b).

4. CONCLUSIONS

In the context of long-term implementation projects, it should be noted that the development of transport infrastructure for oil supplies in the Persian Gulf and the Caspian Sea regions would influence the formation of world oil markets. According to international strategy experts, the Caspian region is acquiring the status of a zone of strategic interests for the leading Western countries and the US. The development of the Caspian shelf not only meets the most important strategic goals of oil producers in Kazakhstan, Russia, Iran, Turkmenistan and Azerbaijan, but also reflects certain goals of the largest world oil companies. The ability to import Caspian oil will allow them to diversify their supply sources and reduce their dependence on imports from the Gulf countries.

REFERENCES

- 10 Forecasts for the Global Economy for 2019 (2019), Available from: <http://www.ereport.ru/news/1901071231.htm>. [Last assessed on 2020 Feb 25].
- Auty, R.M. (1993), *Sustaining Development in Mineral Economies: The Resource Curse Thesis*. London: Routledge.
- Corden, W.M., Neary, P.J. (1982), Booming sectors and deindustrialization in small open economy. *The Economic Journal*, 92, 825-848.
- Dutch Disease in the Economy: Concept, Causes, Consequences. (2019), Available from: <https://www.businessman.ru/new-gollandskaya-bolezn-v-ekonomike-ponyatie-prichiny-posledstviya.html>. [Last assessed on 2020 Feb 25].
- Edel'kina, A.A., Karasyov, O.I., Klubova, M.A., Matich, L.Y., Chulok, A.A. (2014), Development of the new energy markets: Calls and windows of the possibilities. *Oil Processing and Petrochemistry*, 10, 17-20.
- Egorov, O.I. (2001), Kazakhstani oil entry into world markets: Problems and options. *Market Economy of Kazakhstan, Formation and Development Problems*, 1, 228-243.
- Energy Charter Secretariat ECS. (2004), *He Energy Charter Treaty and Related Documents. A Legal Framework for International Energy Cooperation*. Available from: http://www.encharter.org/fileadmin/user_upload/document/EN.pdf. [Last assessed on 2020 Feb 25].
- Ergaliyev, G.M. (2012), Outside market of oil and export potential of republic of Kazakhstan. *Vestnik Universiteta*, 7, 98-104.
- Gylfason, T. (2001), Natural resources, education and economic development. *European Economic Review*, 45(4-6), 847-859.
- How Much Kazakhstan Actually Spends on Oil Production. (2019), Available from: <http://www.lsm.kz/skolko-na-samom-dele-kazakhstan-tratit-na-dobychu-nefti>. [Last assessed on 2020 Feb 25].
- Innis, H.A. (1999), *The Fur trade in Canada: An introduction to Canadian Economic History*. Toronto, Buffalo: University of Toronto Press.
- Mishina, D.V. (2014), Export of raw materials model of economic growth as a factor impeding the innovative development of Russia. *Fundamental Research*, 9(3), 644-648. Available from: <http://www.fundamental-research.ru/ru/article/view?id=34904>. [Last assessed on 2020 Feb 25].
- Shelomentsev, A.G., Belyaev, V.N. (2012), Assessment of raw-mineral resources exploration influence on economic security of Russia. *Economy of Region*, 2, 145-152.
- Sidorovich, V. (2018), WEO-2018. Published "Main" Forecast for the Development of the World Energy of the IEA. Available from: <http://www.renen.ru/weo-2018-the-main-forecast-of-the-world-energy-development-of-the-ica-has-been-published>. [Last assessed on 2020 Feb 25].
- Statistical Yearbook. (2017a), *Industry of Kazakhstan and Its Regions*. Astana: Statistical Yearbook.
- Statistical Yearbook. (2017b), *Regions of Kazakhstan in 2016*. Astana: Statistical Yearbook.
- The State Program of Industrial-innovative Development of Kazakhstan for 2015-2019. (2014), Available from: <https://www.primeminister.kz/rupage/view/gpiir>. [Last assessed on 2020 Feb 25].
- Yegorov, O.I. (2018), Kazakhstan in international oil operations. *Oil and Gas*, 5(107), 123-136.