

DETERMINANTS OF THE ECONOMY OF KAZAKHSTAN

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The Republic of Kazakhstan belongs to the States with strategic reserves of hydrocarbons and influences the formation of the global energy market. The country has more than 200 hydrocarbon fields. Among countries of the Commonwealth of Independent States (CIS), Kazakhstan is the second largest oil producer – after the Russian Federation. Despite the fact that the republic has a high enough own oil and gas potential, geographical distance between the places of production, processing and consumption creates a big problem in the formation of energy independence.

Oil and gas sector of Kazakhstan is the basis of economic potential. One of the major scientific and practical problems of obtaining political and economic independence is the effective use of its mineral resources.

This article defines the status of the oil and gas industry in the economy of Kazakhstan and discusses current problems in the industry.

In today's world of rapidly growing energy consumption, the strategic importance of oil and gas of any region is the amount of stocks of its energy and location. The Caspian region, due to its geographical position and availability of substantial reserves of minerals, is the focus of geopolitical and economic interests of the global energy arena. All coastal states occupy a special position: the region is between the major markets for petroleum and petroleum products (Western Europe and East Asia) and countries that are major suppliers of hydrocarbons (the countries of the Middle East, Russia). Among CIS countries, Kazakhstan is the second largest oil producer – after the Russian Federation.

Currently, the oil and gas provinces of the Republic are the Caspian Basin, Mangyshlak, Buzachi, and the South Turgai Basin. An intensive exploration of the shelf zone of the Caspian Sea is going to be completed in the near future. Kazakhstan has opened over 400 and utilized a further 200 reserves of oil and gas, but oil reserves of the ten largest oil fields are make up approximately 90% of the oil production of the country. Ultimately the most recognized are the Tengiz oil and gas field in the Atyrau region, the Karachaganak oil field in West Kazakhstan region and the oil reserves of the Caspian region [1].

Currently, the oil industry, supporting the country's economy, has the opportunity to become one of the leading sectors of the economy of Kazakhstan. The largest known reserves of hydrocarbon raw materials put the Republic in the discharge of oil powers of the XXI century. According to the BP Statistical Review [2], Kazakhstan ranks 9th in the world in proven oil reserves (Table 1).

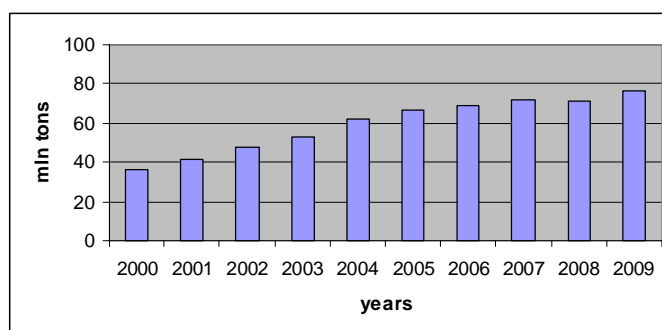
Table 1. Countries with the largest proven oil reserves

№	Country	Reserves (thousand million barrels)	Reserves (thousand million tons)	Share of total	Production (thousand barrels)	R/P ratio (Reserves/ Production)
1	Saudi Arabia	264,6	36,3	19,8	9713	75
2	Venezuela	172,3	24,8	12,9	2437	194
3	Iran	137,6	18,9	10,3	4216	89
4	Iraq	115,0	15,5	8,6	2482	127
5	Kuwait	101,5	14,0	7,6	2481	112
6	UAE	97,8	13,0	7,3	2599	103
7	Russia	74,2	10,2	5,6	10032	20,1
8	Libya	44,3	5,8	3,3	1652	73
9	Kazakhstan	39,8	5,3	3,0	1682	65
10	Nigeria	37,2	5,2	2,8	2061	49
11	Canada	33,2	5,0	2,5	3212	28
12	USA	28,4	3,4	2,1	7196	11
13	Qatar	26,8	2,8	2,0	1345	55
14	China	14,8	2,0	1,1	3790	11
15	Angola	13,5	1,8	1,0	1784	21
	OPEC	1024,9	140,4	77,2	33076	85
	Whole world	1333,1	181,7	100,0	79948	46

Source: BP Statistical Review of World Energy, 2010.

Potential reserves of the Caspian Sea oil and gas are compatible with the common stocks of all categories of reserves on land. The potential shelf zone is estimated at 17 billion tons of oil [3], which makes Kazakhstan one of the richest countries in reserves of oil and gas resources.

In 2009 oil production totaled 76.6 million tons, which increased by 112% from 2000.



Graph 1. Oil and Gas Condensate Production in Kazakhstan

From 2005 to 2009 production of oil and gas relative to (in percentage (%)) GDP has increased almost 1.5 times. During this period, oil exports increased by 17% [4]. The standard price for Kazakh oil is Brent oil price, which also increased by 27% [5].

Table 2. Indicators of potential oil and gas industry in Kazakhstan

Indicators	2005	2006	2007	2008	2009	%Δ (2005-2009)
Oil and gas condensate production, mln tons	66,5	69,0	71,9	71,2	76,6	15
The share of production of oil and gas sector in GDP,%	17,5	24	28	33	29	65
Exports of crude oil, including gas condensate, million tons	55,1	57,4	60,2	59,0	64,6	17
The average price for crude oil Brent (middle spot) USD/ bbl	59,3	62,3	91,3	43,6	75,4	27

Source: Statistical Yearbook of Kazakhstan, 2010, Oil Price Source.

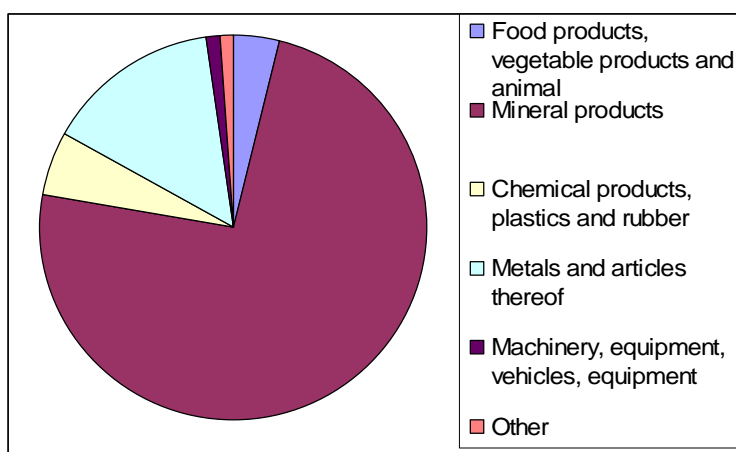
Favorable investment climate in Kazakhstan is attracting foreign investment to participate in the development of the economy, and a major focus of this is in the mineral resources, including priority sectors such as oil, natural gas, mining and smelting.

Thus, based on the data, we can say that the oil and gas sector of Kazakhstan has a high potential in shaping the country's GDP and its welfare. Increased foreign investment in the oil and gas sector, continued growth in oil exports and oil price growth on world markets definitely affects the growth of the economy of Kazakhstan as a whole.

Development of potential opportunities of offshore fields in the Caspian Sea requires significant investment. Local and foreign experts' estimation indicates that the total capital cost is approximately \$160 billion, of which about \$10 billion must be invested in the initial phase of exploration and evaluation of reserves [6].

As can be seen from Table 2, the bulk of recoverable oil is exported as raw material. This fact is economically impractical because of the very low added value of such goods. The reason for this situation is the presence of only three refineries in the country with a current capacity of 7 million tons per year, producing uncompetitive goods with the processing depth of about 50%.

Mineral products are the major exports of Kazakhstan (Graph 2). Volumes of natural resources contribute to the growth of their exports to world markets. According to forecasts, Kazakhstan can depend on the growth of oil production up until 2040/2050.



Graph 2. % of Merchandise Exports of the Republic of Kazakhstan

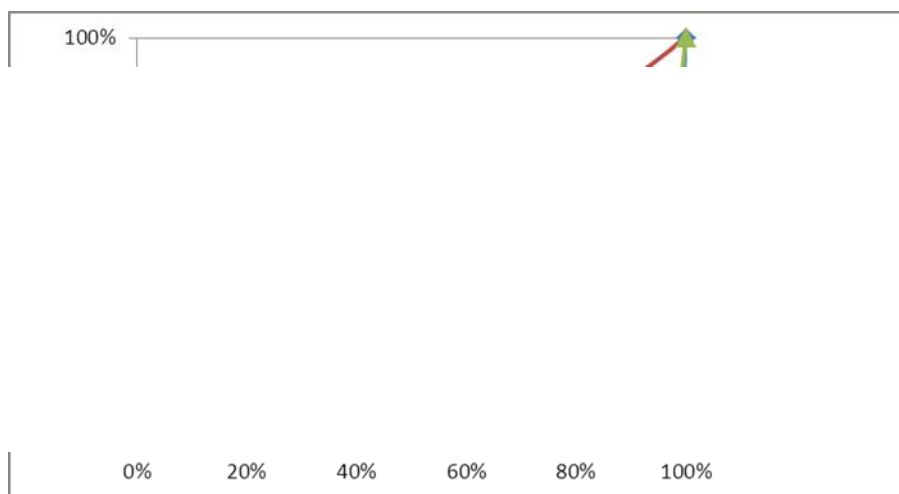
In summary, we can say that Kazakhstan has large reserves of oil and these known reserves are expected to last for at least another 40 years. Almost a third of the country's GDP is the direct result of the production in the oil and gas industry. Stability in the production and the exports of oil is reflected in the growth of the economy as a whole, given that three quarters of the total exports are mineral products, of which the price shows tendencies to further grow in time.

In the oil industry of Kazakhstan operates a national company and other companies with foreign participation, in the majority of which are joint ventures (JVs).

The oil companies in Kazakhstan are numerous – from large multinational corporations to small private companies. One of the largest is National Company Kazmunaigaz (NC KMG), Tengizshevroil, CNPC-Aktobemunaigaz, Karachaganak Petroleum Operating and others.

In accordance with the size of the companies operating in oil production distribution is extremely uneven. The following graph shows the Lorenz curve for the

oil sector on the crude oil production in 2006 and 2010. The graph shows the uneven distribution of oil production for the period increased [7].



Graph 3. The Lorenz curve for the oil sector on the crude oil production in 2006 and 2010

In terms of economic security and strategic planning the presence of foreign companies and especially their share in the industry is more interesting rather than how many companies involved in oil production.

In Kazakhstan's oil sector represented 16 foreign companies: Lukoil, Rosneft, Chevron, Eni, ExxonMobil, Royal Dutch Shell, British Gas, Repsol YPF, Petrom, Maersk Oil, Jupiter Energy, Lancaster Petroleum, CNPC, Mittal Investments, JNNK, ONGC Videsh Ltd.

Table 3. Annual oil production by companies in 2010

Company	Annual oil production, thousand tons	The share in total oil production in Kazakhstan, %
NC KMG	21971	27,57
Chevron	16700	20,96
Lukoil	6579	8,26
CNPC	14170	17,78
Others	20264	25,43
Total	79684	100

To assess the influence of large companies in the state of the industry we use Herfindahl–Hirschman Index (HHI). For oil sector it is 1633. This indicates moderate concentration in the oil sector of Kazakhstan. 75% of the total annual production produces by four large companies, three of which are foreign: Chevron, Lukoil, CNPC.

Conclusion

The Republic belongs to a group of countries possessing strategic reserves of hydrocarbons which is gradually increasing its influence on the formation of Eurasian Economic Community (EurAsEC) energy market and the global oil market. The oil and gas sector of Kazakhstan is the basis of economic growth potential. Consequently, the sector’s diversification will ensure the competitiveness of the national economy.

Strategic priorities in the exploration and production of oil and gas will be used to increase reserves. Further increase in production volumes associated with the intensification of development of Tengiz and Karachaganak fields, the launching of the

pilot development of the Kashagan field and the development of the processing sector for the production of downstream products and petrochemicals will definitely enhance the economic development and prosperity of the Republic of Kazakhstan.

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