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**DEVELOPMENT OF OIL INDUSTRY
IN RUSSIA**

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Abstract: The paper analyses peculiarities of development of oil industry in Russia after the collapse of the Soviet Union. Changes in the industry are focused on the competition development, the aim of which is to increase the level of oil production. Nevertheless, the effects of structural change can not be assessed unambiguously. The paper analyzes the state of competition in the oil industry and possible consequences of its development. Based on the results of the analysis, the paper provides recommendations for the formation of public policy in the domestic oil and petroleum products market and oil industry.

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Introduction

Competition in the domestic oil and petroleum products market depends on two factors: the volume of crude oil extraction, which in turn depends on the demand for crude oil and the volume of the proven oil reserves. In the beginning of the 2013, Russia was the eighth in the world by the amount of proven oil reserves. The leaders were ranked as following: Venezuela, Saudi Arabia, Canada, Iran, Iraq, Kuwait, United Arab Emirates.

Crude oil production, which was diminished after the collapse of the Soviet Union, started to increase after the 2008th financial crisis. In general, oil production in Russia starting from 2000 till 2010 has been almost doubled, exceeding 500 million tons per year.¹ However, the majority (about 90%) of oil was conducted in fields, were discovered before 1988.²

Development of oil industry in Russia is largely associated with the possibility of competition or competitive behavior in existing conditions of low rates of oil production growth and large sizes of oil and gas fields. Development of the oil industry in Russia should be considered separately from the development of the gas industry. It is due to the technological characteristics of the production processes, and path dependency in economic relationships in these industries.

Furthermore, it is worth to note that the development of the oil industry depends on the peculiarities of the two interrelated domestic markets – oil market and petroleum products market. The need for their separate analysis is explained by the fact that competition in each of them (the wholesale market of crude oil, oil products wholesale market, and retail market of petroleum products) may have a significant impact on the development of the industry as a whole. In this regard, the purpose of the paper is identification and analysis of the basic characteristics of the domestic markets of crude oil and petroleum products in the Russian Federation, and determination of possible tools for the development of competition in the oil industry.

Development of the oil industry after the collapse of the USSR

The current state of the oil industry in Russia was defined in 1992. Property of the oil companies "Rosneftgas" and "Rosnefteproduct", created after the collapse of the Soviet Union, was partially privatized.

The reform of the oil industry in the beginning of the 90-ies was based on two major changes in the organizational structure of the industry. First, there was vertical separation of pipeline capacities, used for the transportation of oil and petroleum products. It led to the creation of two state-owned pipeline companies – "Transneft" and "Transnefteprodukt", which were engaged in transportation of crude oil and petroleum products, respectively. Subsequently, "Transnefteprodukt" was acquired by "Transneft". At the moment "Transneft" conveys approximately 90% of the oil, produced in Russia. In the field of export transportation of oil and oil products there is a high degree of intermodal competition. (see Table 1). Pipeline companies have almost no capacities outside of Russia. Therefore, in the case of export, the pipelines are used for the transportation of less than 50% of crude oil and less than 30% of the petroleum products.

¹ www.lukoil.ru

² Ibid.

Table 1.

Transportation modes for crude oil and petroleum products exports

	Crude oil	Petroleum Products
Pipelines	45,5 mm tons	4,13 mm tons
Water vessels	68,7 mm tons	46,7 mm tons
Railways	471k tons	15,9 mm tons
Tracks	15k tons	50k tons
Airplanes		29 tons

Data source: <http://www.tks.ru/news/nearby/2013/08/26/0006>

Second, there was horizontal separation of production facilities with their partial privatization. According to the governmental decision, several vertically integrated oil companies (VIOCs) were created. To preserve state control in the industry, the state-owned company "Rosneft" was established. "Rosneft" became a "manager" of 45% of shares of oil companies "Langepas-Urai-Kogalymneft" ("Lukoil"), "Uganskneftegas-Kuybyshevnefteorgsintez" ("Yukos") and "Surgutneftegas" as well as shares in other oil companies. All shares, managed by "Rosneft", belonged to the state. Top managers of VIOCs and pipeline companies is approved by the state government. Thus, the development of private property in Russian oil industry was of an ambiguous nature. On the one hand, the state allowed the sale of 55% of shares of the VIOCs. On the other hand, the state remained virtually the sole decision maker in the industry. That was the reason for the extremely high degree of politicization of the oil industry development.

One of the important stages in the development of the oil industry in Russia was the release of "Yukos" out of control of the state under the control of FPG "Menatep" in 1995. It reduced significantly the state's role in the industry on the one hand and created the conditions for the development of oligopolistic competition on the other.

As a result of all changes, by the end of the 90s, there were four types of VIOCs in the oil industry of the Russian Federation:

- based on corporate ownership ("LUKOIL", "Surgutneftegas");
- state owned ("Rosneft");
- controlled by private financial and industrial groups ("SIDANCO", "TNK", "Yukos");
- controlled by regional governments ("Tatneft", "Bashneft").

By the beginning of 2002, the market share of oil companies in terms of volume of proved reserves was following: "LUKOIL" - 1.96 billion tons, "Yukos" - 1.68 billion tonnes, "TNK" - 1.01 billion tons, "Surgutneftegas" - 0.97 billion tons, "Sibneft" - 0.63 billion tons. These companies have controlled approximately 90% of total Russian oil reserves [Braginsky, 2006]. "LUKOIL" remained on the top line of the ranking until 2005, when "Rosneft" became the leader.

"Rosneft" became the leader of the oil industry due to the property redistribution, which had a lot of characteristics, close to nationalization (or "de-privatization"). Primarily these features relate to the strengthening of the role of the state oil company "Rosneft" due to receiving "Yukos" assets (in the first place - the "Yuganskneftegaz" oil company, which accounted for about 60% of the oil extraction of "Yukos", which was announced to be bankrupt in 2006) and "TNK-BP". "Rosneft" has become one of the largest oil companies in the world.

Now there are three groups of players in Russian oil industry³:

- 10 VIOCs⁴, which join a total amount of 111 mining companies, which accounts for 87.4% of Russia's oil production;

³ <http://minenergo.gov.ru/activity/oil/>

⁴ Including "Gazprom"

- in terms of crude oil production VIOCs are distributed as follows: "Rosneft", "LUKOIL", "Gazprom Neft", "Slavneft", "Bashneft", "Tatneft", "RussNeft", "Gazprom", "NOVATEK", "Surgutneftegas".
- 180 independent mining companies, which are not included in the structure of the VIOCs (9.9% of oil production).
- 3 mining companies, working on the terms of production sharing agreements (2.7% of oil production).

Increase in oil production (2013 to 2012) turned out to be more for the VIOCs - 3.5% versus 1.9% for independent producers and a reduction of 0.2% of the operators of production sharing agreements.

Thus, development of the oil industry in the post-Soviet period, despite the presence of certain features of privatization, mostly led to the creation of a limited number of state-controlled vertically integrated companies serving the lion's share of the market. For an objective assessment of the market structure we should analyze the relationships between the industry players. The information about market players may lead either to the conclusion about oligopolistic competition or the existence of a single group that controls the whole industry. Depending on the decision about the structure of the industry the methods of competition development in the Russian oil industry should be chosen.

Features of competition in the domestic oil market in Russia

Development of competition in product markets is largely connected to the changes in the demand for products and the ability of rivals to meet the growing demand as vigorous as possible. For the oil industry one of the growth factors of an increase in competition is a growths in domestic demand for petroleum products, but only if the increase in production will be characterized by uneven growth in the volume of production for different market participants.

Currently, "Transneft" says about an increase in the amount of oil refining in the country⁵. It is expected that in 2014 the amount of oil refining in Russia will be about 261.3 million tons (oil exports in 2013 amounted to 228.6 million tons). In 2014, Russia is going to export 223.7 million tons, but this figure may occur to be lower.⁶ That is, we can predict expansion of the market of crude oil, but the variance of the growth of firms, and hence the development of competition in this market is largely dependent on the degree of vertical integration in the industry. The higher the degree of vertical integration, the less incentives to compete the mining companies have.

Vertical integration in the Russian oil industry affects all stages of the production process, reducing competition to interactions between the oil holdings. Almost complete absence of the internal market of crude oil is due to the fact that VIOCs have their own refineries, and Russian domestic wholesale trade of crude oil is usually carried out within the framework of long-term contracts. In most cases, we are talking about intra-VIOC sales – sales from mining companies to refineries, which are owned by the same VIOC.

Most refineries are controlled by vertically integrated oil companies. Thus, according to the Ministry of Energy, oil and gas condensate refining in Russia are engaged in 68 refineries, 26 of which belong to VIOCs, and 10 are controlled by two or more shareholders, including VIOCs. In this case, the price of crude oil is regulated by the mining company regardless of the demand for this product - the problem of loading its own facilities and the final price of the petroleum product in the retail market is in the first place. Moreover, in the face of increasing forward vertical integration - developing a network of gasoline stations, belonging

⁵ <http://www.transneft.ru/news/view/id/1651>

⁶ Ibid.

to VIOCs - a predictable consequence is an increase in prices of petroleum products due to the high concentration in the supply side of the retail market.

Some of other 32 small refineries (mini-refineries), are also owned by VIOCs. Thus, it is obvious that the market power of crude oil producers is undeniably greater than the market power of oil refineries.

The data on the market share of VOICs suggests a high degree of concentration in the Russian oil market, even within the federal market borders. However, the analysis of market structure, which takes into account the geographic borders, within which, according to the definition of the product market there is a "technical or other opportunity or feasibility of purchasing the goods and there is no such possibility or advisability beyond", indicates even lower level of competition in the Russian oil market.

Different regions of Russia are dominated by different VIOCs, in most cases, having almost monopolistic position. Table 2 provides information about oil extracting regions of the Russian Federation and the mining companies operating there.

Table 2.

Oil production in Russia in 2011
(regions are ranked in terms of oil production)

Federal District	Region	Extraction volume	Oil companies
Urals Federal District	Tyumenskaya oblast Khanty-Mansiysky okrug Yamalo-Nenetskiy okrug	304,4 mln tones Export + domestic market	"Rosneft" (24,2%) "Surgutneftegas". (18,2%) "LUKOIL" (16,1%) "THK-BP" ³ (15,2%) «NOVATEK» «Gazprom»
Privolzhskiy Federal District	Samarskaya oblast	14,27 mln tones 90,4% - domestic market	"Rosneft" (74%)
	Bashkortostan	14,4 mln tones 74,6% - domestic market	"Bashneft" (99,2%)
	Permskiy kray	13, 098 mln tones Export + domestic market	"LUKOIL" (99,0%)
Sibirskiy Federal District	(42,9%) Tomskaya oblast (34,0%) Irkutskaya oblast (18,7%)	35,38 mln tones Export (except Tomskaya oblast)	"Rosneft" (42,6%) "Tomskneft" ² (21,0%) «THK-BP» ³ (16,7%)
North-Western Federal District	Nenetskiy okrug Komi republic Kaliningradskaya oblast	29,68 mln tones domestic market	"LUKOIL" (62,9%) "Rosneft" (14,3%). Independent producers (17,4%) Production sharing agreements: independent producers (5.4%)
Far Eastern Federal District	Yakutiya	5,6 mln tones 90% - на экспорт ¹	"Surgutneftegas". (96,9%) Independent producers
	Sakhalinskaya oblast	15,23 mln tones Export ¹	Production sharing agreements: "Surgutneftegas". (26,0%) "Rosneft" (7,2%)
North-Caucases Federal District	Stavropolskiy kray (46,7%) Chechnya (40,5%)	1,986 mln tones	"Rosneft" (99%)

¹ In the Far Eastern Federal District, oil production is mostly export-oriented, but the region has (in Khabarovskiy Krai) highly developed refinery capacities, which acquires resources from the Urals (Khanty-Mansiysky Okrug) and Siberia (Tomsk and Novosibirsk regions) federal districts.

² "Tomskneft" belongs to "Rosneft" and "Gazprom oil"

³ 100% of the "TNK-BP" stock belongs to "Rosneft" since 2013

Table 2 shows that the competition doesn't exist in most regions. However, the export orientation of the oil regions leads to the situation when the needs of these regions in the crude oil for the internal refinery or petroleum needs are met by supplies from other regions. In this regard, the Federal Antimonopoly Service of the Russian Federation (FAS) proposes to consider the geographical boundaries of the crude oil market at the federal scale. One of the explanations of the feasibility of this approach to the analysis of the crude oil market in Russia is a high degree of producer's concentration in the regions. Having to purchase crude oil from the dominant VIOCs, consumers are often faced with very high prices in the surrounding fields. Therefore, the purchase of raw materials in remote regions occurs to be profitable, even with the consideration of transportation costs.

A similar situation exists in the wholesale market of petroleum products, which should also be considered in the borders of Russian Federation, because consumers (independent traders) tend to choose a supplier within the entire country. Transportation costs do not play a crucial role, since the dominant position of VIOCs makes prices to be too high and consumers have more benefits buying goods in other, often remote regions.

Thus, competition for the consumer of crude oil is weak for two reasons: high level of vertical integration of dominant oil companies and a high level of monopolization in regional markets, which provides incentives and possibility to abuse dominant position.

The problem of abuse of dominance in the market of crude oil is mostly connected with monopolistically high prices for crude oil and petroleum products, rather than with other types of violation of the competition policy legislation. Starting from 1986, international market has formed a modern system of stock prices, and political influence on prices occurred to be of high importance. Falling in the mid-80s, oil prices have increased significantly by the mid-2000s. The expected, but economically unjustified reaction of the Russian VIOCs on the growth of world prices, was to raise the price of crude oil and oil products in the domestic market. These pricing policies of oil companies has become the object of attention of the Federal Antimonopoly Service, which has instituted a number of lawsuits of excessive pricing against market leaders.

In 2013, the Federal Antimonopoly Service discovered some violations in Russian market of crude oil. It was found collective dominance of the four vertically integrated companies - "Gazprom Neft", "Surgutneftegas", "Lukoil" and "Rosneft", whose joint market share was equal to 77.56% of crude oil in the Russian domestic market. It is also worth to note that market share of these companies in the domestic market almost equals their market share in oil and gas condensate production (77.6%), which suggests a high degree of importance of the domestic market for VIOCs.

International experts, as well as Russian regulators have pointed out the problem of overvaluation of domestic prices for crude oil and petroleum products. However, from an economic point of view, the fact of overpricing is not unambiguous. On the one hand, there were successful antitrust investigations carried out against the leaders of the oil industry ("TNK-BP", "Lukoil", "Rosneft" and "Gazprom Neft") in 2008. The Federal Antimonopoly Service has accused the companies in price collusion in the petroleum products' wholesale market.

From the other hand, oil prices control meets the complexity of determination of the competitive price level (i.e., the benchmark for the analysis). Traditionally, the controlled price is compared to the prices in comparable markets. Since the crude oil market is the

market of the federal scale, the Russian domestic oil market has no comparable markets. In this situation, one of the methods to determine prices is to hold competitive exchange trading, which should perform the function of price orientation. Price, which is determined during trading, is considered to be the closest to the competitive price in the absence of comparable markets, or when the competition in the market is not possible for objective reasons [Viscusi et.al., 2000].

Exchange trade of oil and petroleum products in Russia

Exchange trade of oil has started held almost from the beginning of formation of the global oil industry - (USA) this institution developed in Pennsylvania at the end of the XIX century. The international significance of exchange trade appeared in the end of 80-ies of XX century, when modern information technologies simplified the process of information exchange. Now the official price of oil reflects not only economic, but also political factors of the community and it became a benchmark for the pricing of oil and petroleum products in domestic markets of many countries.

There is a perception that the domestic price of oil and petroleum products in those countries, which produce oil, should not be based on world oil prices, but the price should be formed on the basis of internal balance between supply and demand [Baghat, 2010]. Having high degree of concentration in the market there is the only way to determine the equilibrium prices – exchange trade of oil in the domestic market. The undoubted advantage of trading is that such imitation of competitive relations can be carried out in conditions of the high level of concentration in the industrial markets, and also a significant degree of vertical and horizontal integration of the dominant vendors.

The first-ever exchange trades of oil in Russia were held on 8th of June, 2006. There were sold futures for Urals oil. Contracts did not provide for the possibility of the delivery of goods - the obligations were carried out by financial transactions. In 2007, there started trades of petroleum products, which provided delivery of the goods. The success of these trades was much smaller, as the main actors in the market for oil futures were punters, rather than organizations that were interested in the purchase of the product.

The first experience of exchange trading suggests exactly the opposite result - the market participants were largely focused on the cost of Brent oil, and most of the contracts were signed concerning the purchase of this very grade of oil. Thus, the first exchange trading, according to experts, have not reach the goal: exchange trading did not affect the domestic oil market in Russia, and due to the strong dependence on world prices the trades did not allow to form the Russian domestic oil price indicators.⁷ Later, exchange trading of oil and oil products was carried out on a regular basis, but the activity of the participants was low. The growth in the exchange market started only in 2010.

In 2012 the total volume of exchange trades, carried out by the three major Russian stock exchanges, amounted to about 11 million tonnes, which corresponds to 5.7% of the total production of petroleum products in the country, for the second quarter of 2013, this figure has already exceeded 7 million tons.⁸

Since January, 2013 the dominant firms were obliged to sell certain amounts of petroleum products on the stock exchange. The required amount is 2% of the total monthly volume of production for oil, 5% - for diesel fuel and up to 10% - for gasoline and jet fuel.⁹ In addition, there was introduced compulsory registration of non-stock exchange contracts.

Requirements to participate in the stock exchange, and to register non-stock exchange transactions is associated with the attempt to introduce market-based pricing principles in the

⁷ www.nge.ru

⁸ http://spbipm.ru/upload/09_2013.pdf#page=195

⁹ Federal Antimonopoly Service and Ministry of Energy law (30th, April, 2013), № 313/13/225 “About minimum amount of oil and oil products, which should be sold by dominant firms on stock exchange ”

petroleum industry of the Russian Federation. It was assumed that this practice should lead to the formation of a database for calculating price indices for crude oil and petroleum products in the domestic market, which should be based largely on the balance of supply and demand, rather than on the price of oil on world markets.¹⁰

Regulatory bodies have proposed to determine prices for oil and petroleum products in the domestic wholesale market on the basis of the three price indices: price indices of comparable markets, price indices of non-stock exchange transactions and price indices of stock exchange. The main purpose of the price indices is the formation of prices at which oil and petroleum products will be purchased by government organizations and public authorities. However, these plans, held by the Federal Antimonopoly Service, were criticized and now the price indices are not calculated.

Exchange trading of oil and petroleum products in Russia has a number of limitations. Firstly, the high degree of vertical integration in the oil industry leads to the fact that about 85% of transactions are held outside of the stock exchange. These include intra-corporate sales, and long-term contracts, signed to sale the surplus of crude oil to independent refineries¹¹. In these cases, government regulators are not able to determine the price because of a high degree of information asymmetry.

Second, in a highly concentrated market it is necessary to eliminate the possibility of collusion between bidders. On the one hand, a stock trading allows you to do that in the case when the transaction is organized automatically at the best price with the consideration of the cost of fuel transportation to the destination [Zapadaev, 2010, page 7]. On the other hand, market participants should not receive information that would make it possible to identify the seller and the buyer. In particular, if the information is available on refinery bases or stations of departure, the market participant can determine a seller.

It is believed that the VIOCs are not interested in stock trading, and independent oil producers have incentives to participate in stock exchange. It is true if we assume that small firms will follow market leaders' prices or international prices of oil and petroleum products. However, in this case, the independent refineries, which are not able to buy crude oil at lower prices, will suffer.

One possible solution to this problem is to refuse compulsory participation of VIOCs in exchange trading while expanding access for independent companies to oil transportation infrastructure. World experience shows that the possibility of the development of the free market depends largely on the availability of advanced technological infrastructure that makes it possible to connect to the network to a large number of competing companies [Kessides, 2005, p. 86].

In the case of the oil markets it is not only about the development of pipeline transport, but also on the facilitation of access to rail transportation. Thus, one of the solutions to the problem of competition in the Russian oil industry may be the development of intermodal competition in the transportation market and setting the conditions for interaction between independent mining and refinery companies.

¹⁰ Federal law "Market pricing for oil and petroleum products in Russian Federation" (project)

¹¹ <http://www.gazeta.ru/business/2013/09/13/5652133.shtml>

Conclusion

In this paper we analyzed the state of competition in the market of crude oil and petroleum products in the Russian Federation, as well as measures for the development of competitive relations, offered by the state.

The main result of the study was the conclusion about unreasonableness to force the development of the competitive behavior of market participants due to the high level of concentration and the significant role of the state in the industry. One possible way to promote competition may be the development of intermodal competition in the transportation of oil and petroleum products in order to generate increasing volumes of production and oil refinery of independent companies.

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