Country Dependence on Commodity Resources and Exports

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Abstract. The purpose of this study is to assess the importance of carbon raw materials for the economy of the state, in particular - Russia. Governments can rely on oil and gas rents without realizing much more needs to be done. On the other hand, many countries are content with the commodity structure of budget revenues. The authors consider the role and importance of hydrocarbon raw materials for the economy of the country. Russia is currently trying to diversify and modernize its economy, overcoming not only natural obstacles, but also market manipulation and internal resistance. In this study, we will provide facts that should convince a reader interested in finding the truth about Russian impressive achievements over the past decade in the field of recovery, restructuring, diversification and modernization of the oil and gas sector. Knowing that Russia is not economically disabled, as it is constantly portrayed, will help avoid a clash with Russia and move to cooperation. Accurate data will help investors make profits, and politicians will help maintain peace.

Keywords: Dependence of countries on raw materials production · Economic diversification · Hydrocarbon raw materials · Oil exports

1 Introduction

The myth of the “gas station country” and the fact that Russia is entirely dependent on hydrocarbon exports and without them the country will simply disappear, has been spreading around the world with Ronald Reagan’s easy hand for 40 years. The myth is not only very convenient, but also very alive and very contagious, and spreads like influenza virus. Naturally, it is not that the Russian economy is in perfect condition, it is far from it. On the other hand, in which country can the state of the economy be characterized as ideal? The true state of affairs in the oil and gas sector of the Russian economy should be understood not only by Russia’s competitors, but also by its own government.

It was believed that the United States and Saudi Arabia had destroyed the Soviet economy by the collapse of oil prices. However, the simplest analysis of the USSR budget shows that the decline in world hydrocarbon prices was accompanied by an increase in the country’s oil export revenues. At the same time, it should be taken into account that the formation of oil and gas revenues of Russia in the market economy is
provided by rents and taxes, while in the USSR in the Estationist economic system - by direct seizure of gross product.

The growth of oil exports was facilitated by the discovery of the largest fields: for example, Samotlor was opened - and by this moment everything in the world was already ready for the meeting of Soviet oil. The era of coal is over, consumption of gasoline, aviation fuel, petrochemical raw materials has grown rapidly. The state had in its hands a resource that allowed us not to think about the contradictions that had already begun to slow down the economy. It is no accident that immediately after the light oil money appeared, the economic reforms started by Kosygin were reduced. This led to huge problems already in the 1980s. Abroad, first of all to social networks, many other goods were supplied - from cardboard and fertilizers to machines and cars.

Budget revenues of the USSR grew in a geometrical progression: 1970–156.7 billion rubles, 1975–218.8 billion rubles, 1980–302.7 billion rubles, 1985–372.6 billion rubles... 1990–471.6 billion rubles. The growth rate of budget revenues remained constant even during the period 1989–1992 [10]. A relative slowdown was observed between 1986 and 1988.

The same trends were observed in the turnover of foreign trade of the USSR from 22,079 million rubles in 1970 to 109.74 million rubles in 1980 and 60.76 million rubles in 1990. The share of fuel and electricity in exports grew from 15.6% in 1970 to 46.9% in 1980 and 40.5% in 1990. The share of fuel and electricity revenues in the USSR budget is 1.15% in 1970, 7.69 in 1980 and 5.22% in 1990.

The share of fuel revenues in the USSR budget was due to the fall in hydrocarbon prices, which began in 1986, but was compensated by the amount of produced raw materials and exploration and development of new fields. In 1988, 624 thousand tons of hydrocarbons were extracted from the subsoil and the USSR became the leader in oil production in the world, ahead of the United States. A decline in food imports was among Gorbachev’s mistakes made in the face of declining currency inflows.

The peak was reached in 1988, when 624,000 tons were extracted from the subsoil. And then in Russia began a long-term fall in oil production. Today, in the context of the coronavirus pandemic, prices have fallen again. To prevent collapse, all countries will have to cut production. But the consequences will be different everywhere. The share of oil in the US economy is only 0.2%, Russia - around 6%, Arab countries - on average 16%. The problem is not that the share of the oil and gas sector in exports is too large, but that there was no transfer of money earned in the oil sector to more promising sectors of the economy.

2 Methodology

Various methods of scientific knowledge were used in the course of the study. The method of materialist dialectics was used as the main one, allowing for the production and analysis of the problem. The use of a comparative legal method has led to a systematic analysis of the studied phenomena. The formal-logical method allowed to justify the conclusions and basic provisions of the study. The analysis and comparison of statistical data revealed comparison benchmarks, the comparison of which provided the basis for the study. Energy modelling and forecasting as a basic method is due to
the fact that it takes more account of the peculiarities of national institutions of management and statistical description of modelling objects.

3 Results

According to the results of 2018 (data of the UN and US EIA) [14], the share of oil exports in GDP of Russia amounted to only 8%. For comparison, the share of oil exports in Norway’s GDP exceeds 11%. In the GDP of Kazakhstan - 27%; Saudi Arabia and Qatar, shape their GDP from oil by 45% and 25% respectively. Fuel exports in 2018 amounted to $286.7 billion (an increase of 35.2% or $74.7 billion). Of this, fossil fuels (oil, gas, coal) amounted to $201.1 billion (growth by 34.8% or $51.9 billion), processed (mainly petroleum products) - $85.6 billion (growth by 36.2% or $22.8 billion). Mineral exports in 2018 amounted to $4.44 billion, with an increase of 14.3% or $0.56 billion. Russia’s non-fuel exports in 2018 reached an absolute record of $162.6 billion and increased by 11.6%. The previous record was $156.4 billion in 2012. Record export values reached a number of industries.

Export of Russia (according to the methodology of customs statistics) in 2018 amounted to 449.3 billion dollars. This means an increase of $25.6% billion or $91.5 billion by 2017. Total exports, which also include fish and seafood issued outside the customs control zones and partial trade charges with the EAEU, exceed the customs figure by $2.1 billion - $453.1 billion.

There is another scale for assessing countries ‘dependence on commodity production, namely annual oil and gas production per capita. According to this indicator, the “main gas station of the world” took the 14 place in the rating. Russia is bypassed by Canada (12th place), Norway (4th place), Qatar (1st place). This proves not only the relatively low role of oil exports in Russia’s economy, but also why the “oil social policy” of the Qatar or UAE format is impossible in our country. And, the Russian territory is approximately 1478 “Qatars”.

According to 2018 data [14], the share of oil and gas revenues in the consolidated budget of Russia (that is, the budget, which includes regional and local budgets), is only 21%. “Share of oil and gas revenues,” according to the norms of the Ministry of Finance [14], is formed by the following articles: tax on mining (oil, gas and gas condensate), as well as export customs duties on crude oil, gas and goods produced from oil. At the same time, oil export implies VAT reimbursement, that is, return and transfer of amounts of previously paid tax from the treasury to the exporter. That is, if the taxes levied by the oil industry increase, the share of oil and gas in Russia’s budget increases. In addition, a large part of oil revenues during the years of ultra-high oil prices were formed in the Reserve Fund and the National Welfare Fund, and this advance measures allowed to pass another man-made collapse of the oil market in 2014–2017.

Value-based export criteria allow you to look at the problem in question in a slightly different perspective. In 2005, Russia’s total export value was 245.3 billion US dollars. The share of energy resources (oil, gas and processed products) in the total volume of these exports was 53.2%. In 2017, the export figure was 357 billion. US dollars. The share of energy resources remained almost the same as in 2005-59.18%.
The price of oil in 2005 was around $50 a barrel, in 2017 after the collapse, the price was exactly the same. Against this background, budget revenues grew due to the increase in non-commodity exports carried out all these years on revenues derived from the sale of raw materials.

For any country, there is no point in giving up energy export revenues, at least without having something to replace it. Therefore, all these years the percentage of dependence did not grow, but also did not fall. At the same time, however, production, infrastructure were built on the proceeds and prepared to increase the level of non-oil revenues of the country.

Growth of non-oil non-energy exports of Russia in the first half of 2017 increased by 17%. In 2016 and 2015, after the introduction of counter-sanctions, he also grew. And the growth in the first half of 2018 and at all became record - 23% relative to the previous period. As a result, at the end of 2018, in the total volume of supplies abroad non-oil non-energy exports occupied 33%. According to plans, the volume of non-oil exports by 2021 should be increased by another 20%. Already now the flags of substitution of raw materials exports are not just goods with high added value, but leaders of high technologies - peaceful atom, aircraft industry, military equipment, metallurgy, environmentally friendly agro-industry and IT sphere.

The manipulation of oil prices creates a reverse multiplier effect in which currency speculation and re-export of revenues buy up cheap assets and redistribute funds. The extra profits of currency speculation ensure the outflow of capital from the real sector, which is forced to seek assistance from the Government. Such a picture shows very different vectors in the competence and directive of conduct of the government and the central bank. Cheap loans spread across banks for currency speculation, and did not get into industrial enterprises and the oil and gas complex. The stock market financial bubble burst immediately after falling oil prices and the outflow of foreign speculative capital.

Both in 2008, 2014 and now the fall of the ruble has far exceeded the possible impact of the decline in oil prices. This is evidenced by the relative stability of the national currencies of other oil-producing countries. The exchange rate regime, not oil prices, determines the volatility of national currencies. Oil-producing countries such as Saudi Arabia, Uzbekistan and Azerbaijan have maintained the stability of their currencies against the background of the oil crisis and the COVID-19 pandemic because they apply regimes for linking the exchange rate not to oil prices, but to another currency at the established value and a fixed exchange rate within the horizontal corridor. The collapse of oil prices has put the state financial system in a difficult situation. The collapse of the Russian-OPEC oil cartel is not a goal, but a consequence of the financial crisis, when Saudi Arabia’s oil-dependent economy demanded extensive price retention by declining world output. After all, oil prices were maintained at many times the equilibrium of real demand and supply thanks to financial speculators and this cartel agreement. After its collapse, the collapse of oil prices may last for a long time. Maintaining economic condition through foreign exchange reserves, high-cost production of shale companies, profitability of Canadian and English oil companies requires fundamental changes not so much in oil trade as in the global financial system.
Fluctuations in oil prices are subject to long-term patterns of technological change. The increase in zero years is a typical manifestation of the beginning of the change of technological patterns. When the dominant technological order reaches maturity, the growth rate of the economy, together with the profits of leading corporations, falls. To preserve their own profits, monopolists raise prices. Best of all it turns out at corporations in the fuel and energy sector, which is characterized by maximum capital intensity and minimum elasticity of demand from price. After the structural adjustment of the economy on the basis of the new technological order, triggered by a sharp jump in energy prices, is completed and its energy intensity is reduced many times, energy demand is inevitably decreasing and prices are falling [6].

Hydrocarbon prices will remain relatively low in the coming decade. This means a significant deterioration of Russia’s trade and payment balance and the need to diversify the economy. It can be mitigated by the advance development of non-commodity exports, which, however, cannot be achieved within the framework of the current monetary policy, as it requires large-scale long-term lending of very capital-intensive investments in the development of petrochemicals and other high-tech sectors of the economy. If monetary policy is not changed fundamentally, it will be necessary to survive the further devaluation of the ruble and the inflation wave caused by it. Against the background of the compression of the state budget, this will cause a tangible decline in the income of the population. It will be exacerbated many times by the continued fight against inflation by reducing monetary supply and final demand [3].

4 Discussion

In 2019, the energy industry was rocked by a record number of bankruptcy, which did not spare even large oil companies. According to Reuters [11], a total of 50 energy companies filed for bankruptcy last year, including 33 oil and gas producers and 15 oil services companies. Meanwhile, Chevron, Schlumberger and Royal Dutch Shell announced a several billion dollar fall in asset value, noting an unfavourable macroeconomic outlook. There are fears that debt-burdened oil services companies will be hit. North American oil services and drilling companies bear the burden of $32 billion in debt, which will have to be paid until 2024. A chilling prospect, given that oil prices have fallen to 20-year lows.

The poor condition of oil services companies is clearly reflected in the VanEck of Vectors Oil Services ETF, which has fallen 72% since the beginning of the year, well below the 30% fall of the S and P 500. Moody’s analyst observed that the rapid spread of coronavirus, the deteriorating outlook for the global economy, falling oil prices and falling asset prices are creating a major credit shock worldwide, across multiple sectors, regions and markets. When oil prices began to fall, North American producers declared bankruptcy totaling $121.7 billion since 2016. According to Moody’s, the nominal debt of the U.S. oil and gas industry is $86 billion over the next 4 years, one of the highest figures for any sector [9]. Against the background of falling oil prices, these companies are particularly difficult to meet their debt obligations.

For example, in the period from 2020 to 2030, annual tax revenues to the consolidated budget of the Russian Federation from oil and gas companies are expected to
decrease by 20.5%. Among other things, it should be borne in mind that at present, not the amount of funds spent on exploration, but the volume of production is important for tax purposes. Since the tax is levied immediately, the economy of any project is automatically deteriorated, and it often becomes unprofitable due to the fact that the NDPI is not tied to financial result and additional income. There is another experience: the UK tax system was based on the same principles as the current Russian tax system. It was a combination of profit taxation (corporate tax additional fee, oil production tax) and taxation of the volume of oil produced (royalties). In 2004, royalties were cancelled, and the cancellation of royalties (equivalent to the Russian NDPI) did not lead to a decrease in revenues to the budget.

Moreover, there has been an increase in revenues from the taxation of profits of oil-producing companies: From 5,115 million pounds - in 2004 to 9 million pounds - in 2005, and then to 12,393 million pounds - in 2008. Currently, with oil prices falling more than twice in relation to profitability, it may raise the question of the very existence of oil producing companies [15].

The total effective UK profit tax rate is 60% for “new” licences and 80% for “old.” This applies a tax barrier to offshore activities, and capital costs are allowed to be deducted in the year in which they are produced. Incentive deductions from additional tax for individual stock categories are also applied [16]. Since 2019 a tax manoeuvre started in the field of oil industry in Russia. Its purpose is to gradually increase tax payments for mining, while reducing excise for the export of oil and gasoline abroad. This will inevitably affect the domestic fuel prices that ordinary citizens will face. Any tax manoeuvre provides for a change in the tax system and the receipt of payments to the budget. Depending on the objectives pursued by the legislator, the directions of the manoeuvre may include the replacement of one or more taxes with other levies, proportional redistribution of revenues to the budget, the introduction of barrier duties and incentives for domestic enterprises.

In the oil industry, tax manoeuvres are carried out regularly. In the period from 2020 to 2024 there will be a gradual reduction and elimination of excise for export of oil and fuel abroad (in 2024 the excise rate should be 0, except for certain types of oil products); In the period from 2020 to 2022, the rates of NDPI (mining tax) will be increased, while maintaining the existing benefits and preferences. For enterprises producing and selling fuel on the domestic market, reverse excise on fuel has been introduced, which should eliminate risks of increasing wholesale and retail prices;

Additional support measures are envisaged to implement GSF within the country and slow price growth. At present, the main source of income from the oil industry is the excise fee for the export of crude oil, processed products and GSM. Excise is directly related to oil price rates on the world’s leading exchanges and markets, so forecasting budget indicators is significantly difficult. The introduction of new tax and excise rules will allow the budget to reduce dependence on world oil prices. These indicators cannot be completely ignored, so oil exchange rates will be applied when imposing additional duties and providing support measures to enterprises with a large share of domestic production.

The key goal of the manoeuvre is to gradually increase the share of the NDPI in the revenue part of the budget, with simultaneous reduction of excise rates. In practice, such rules will be implemented as follows:
1. The reduction of excise rates will take place for 6 years, and will end in 2024 with the establishment of a zero rate.

2. The mining tax (including oil) will increase proportionally, but will reach planned rates by 2021.

Between 2020 and 2024, the share of revenues to the budget from the NDPI will grow, while the excise component, on the contrary, will decrease. Given that the Arab OPEC countries control the market and flood it with oil, the excess of oil could reach a staggering 1 billion barrels in a few months. Output volumes are not comparable to fallen demand, even U.S. government plans to purchase 77 million barrels of oil for strategic reserves are limited to two million barrels a day. Not only does coronavirus continue to crush global demand, but also the elementary absence of oil storage reserves when it was poured into all possible capacities. Against the backdrop of low demand, pandemic and price war, it is foolish to try to reach the bottom of this energy market.

Now oilmen are fiercely trading with the government about compensating for lost revenues, and helping with just survival issues. In Russia, diversification of exports of oil and petroleum products to chemistry and its products may change the situation, but this will take a considerable time. Oilmen insist on 100% compensation of export premium, which will require from the budget about 200 billion rubles tax incentives annually. That is almost as much as those Russians who will be delayed in retirement will not receive it for next year.

The strategic objective of energy policy is to create a sustainable and self-regulating energy security system, taking into account the optimization of the territorial structure of production and consumption of fuel and energy resources. The lack of functioning of mechanisms for using fuel and energy balances for forecasting and managing the development of the fuel and energy complex at the federal and regional levels is one of the main problems solved in the Energy Strategy of Russia for the period up to 2035. In Russia, NDPI and excise are distributed among federal and regional budgets, and the share of regional budgets grows every year. In conditions of uncertainty, we are talking about the need to develop and implement mathematical models, methods and means of solving the hierarchy of multicriteria problems arising in energy management. At the same time, the task of economic efficiency should be implemented not only at the federal level, but also at the regional level, which acutely raises the question of the demand for predictive and analytical systems to support management decisions, fuel and energy balances, on their basis to assess energy efficiency and energy security of the regional and federal economy. Energy as an integral part of the economy [2] needs regulation and protectionism [5].

The most pragmatic interest for us was Russian research in the field of modeling and forecasting of energy, as it takes into account more the peculiarities of national institutions of management and statistical description of modeling objects. Currently, energy modelling and forecasting technology developed at the Institute of Energy Research of the Russian Academy of Sciences (INEI RAS), which is successfully used for forecasting both Russian and world energy, deserves the most attention [8].

Iterative harmonization in the system of forecasts is carried out through energy balances formed in general for the country and individual regions, production
characteristics and financial balances of industries of the fuel and energy complex, closed on intersectoral balances of the national economy. The peak of production should be attributed to 2022. Then the decline will begin at a rate of up to 10% per year, and by 2035 the volumes will collapse by half - from 11 to 6 million barrels per day. In this amount, oil is consumed by Russia itself, which means that exports will have to be zero. At the end of the year, Russian oil companies will receive 553 million tons of crude oil, by 2021 production will reach a peak of 570 million tons. If nothing is done, from 2022 the decline of production will begin and within two years production will collapse almost 14.

The authors note that despite the close decline, oilmen continue to increase production without even thinking about the decline in its volume. For example, Saudi Arabia’s foreign exchange reserves declined by $27 billion in March, which represents an anti-rekord of the country’s foreign exchange reserves for gold. Simple calculations show that at March current pace, the sheikh’s foreign exchange reserves would have been sufficient for only 1.5 years of oil wars, after which they would have gone around the world. Probably even less would have been enough, given that even after the decline in oil production in the world, prices still fell. The main news trend for today is the rapid reduction of free tanks for storage of oil and oil products. South Korea stated that its capabilities in this regard had been fully exhausted, and in a total of only one week and only on oil tankers it had become more than 50 million barrels. And now more than 350 vessels are used as storage facilities.

Lukoil has transferred its refineries in Europe to processing Russian oil. In Europe Lukoil owns wholly or a stake in four refineries in Romania, Bulgaria, Italy and the Netherlands. Their total processing capacity is more than 40 million tons per year. Rosneft also has a refinery in the EU countries. In Germany, the company holds shares of 24%–54% in the MiRO, Bayernoil and PCK refineries.

5 Conclusion

The oil market conditions are now profitable for the buyer, and the world largest oil buyer is China. World prices have collapsed to multi-year lows, and the country is ready to reap not only geopolitical advantages, but also economic benefits. China imports up to 70% of the country’s energy consumption. Still, some analysts believe that low prices are creating problems for state-owned oil companies in terms of production and investment. They also believe that low prices do not automatically reduce consumer fuel prices due to internal price controls. They don’t see the big picture [4].

Russia, Saudi Arabia and the United States hope China will support their oil industries hit by the recent price crash. U.S. oil companies are demanding that their government press Beijing, and it has increased oil purchases as part of the first phase of a bilateral trade agreement. China buys more oil from Russia and Saudi Arabia.

Increasing the probability of centralization of the economy and power against the background of the narrowing of rights and freedoms in the country (in extreme manifestations - the establishment of totalitarian regimes), in particular the phenomenon called the “basic law of oil policy” [1, 12, 13]. The state of the economy in the sphere of oil and gas production and sale in the rental system made it possible to approve the
need to take urgent measures aimed at creating a strong multisectoral industrial complex, developing industries of carbon consumption, as well as diversification of sales in the domestic market [7].

Based on the identified characteristics of the development model identified in the Russian Federation, it is necessary to make adjustments in the system of state programs of the country, which are fundamental in the field of regulation of rental relations with reduction of rates and increase of the share of regional contributions.

In the matrix of projections of the tasks of State policy for the Russian Federation on the powers of the authorities, which allows to systematize relations between the participants of the role model of state administration and to develop a set of measures to achieve an effective state of the economic system of a rental nature.

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