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Short-Term Forecasting and Investing in Russian Oil and Gas Companies Taking into Account Benchmark Markers

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ABSTRACT

The Russian oil and gas complex is closely integrated with global financial markets and has been building trade and logistics links with foreign trade partners throughout the 21st century, as the main flow of produced hydrocarbons and their derivatives is exported. The oil and gas complex plays a key role in generating state budget revenues, replenishing the country's foreign exchange reserves and ensuring the country's balance of payments. As of 2024, the share of the oil and gas complex in the structure of the Russian stock market is 45%, and the market price of equity capital reaches 50% of the capitalization of the Russian securities market. Despite the economic shocks caused by the consequences of the COVID-19 pandemic, special military operations, large-scale sanctions restrictions, and military and political conflicts in the Middle East, the Russian oil and gas complex is a steadily growing industry with high macroeconomic indicators. Also, the investment potential of Russian oil and gas companies is revealed in their ability to provide not only the safety of savings, but also significant financial benefits from rising share prices and attractive dividend income under the strict monetary policy of the Bank of Russia and high inflation. The presence of risks, volatility of quotations together with other factors create uncertainty for investors on the stock market. It is difficult and, in some cases, impossible to determine to what extent one or another parameter influences the change of derivative price. As a consequence, the main purpose of the article is to create statistically significant models for analysing and investing in securities of oil and gas companies, taking into account benchmark markers, to form a relevant investment portfolio in the Russian oil and gas market in the current turbulent conditions. The results of the scientific research reflect the obtained multifactor regression equations and relevant investment portfolio of securities of oil and gas companies in Russia.

Keywords: investment; oil and gas sector; multifactor regression equations; forecasting; vertically integrated oil and gas companies; stock market

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INTRODUCTION

In the context of high volatility in global energy markets, short-term forecasting of oil and gas prices and the prices of oil and gas company securities becomes a key tool for making investment decisions. Russia, with its significant hydrocarbon reserves and developed vertically integrated oil and gas companies, presents a unique platform for studying the influence of benchmark markers on investment strategies. Effective use of data on the state of companies and markets allows investors to more accurately assess the risks and opportunities associated with investing in the Russian oil and gas sector.

This study aims to create multiple regression equations for short-term stock price forecasting for public joint-stock companies such as Lukoil, Rosneft, Gazpromneft, Novatek, Surgutneftegaz, and Tatneft, as well as to create an investment portfolio based on the analysis conducted, with recommendations for interacting with it.

Special attention is also given to the correlation between foreign benchmark markers, such as WTI and Dubai crude oil, and the market price of derivatives, which will allow for the identification of patterns and the offering of recommendations for investors. Thus, analyzing the components of the mechanism for forming market prices for company assets will contribute to optimizing investment strategies in the Russian oil and gas sector, increasing investment activity, protecting savings, and their potential growth in the context of high inflation, which is particularly relevant in the current period of financial market turbulence, accompanied by regular increases in the key rate.

The issues of forecasting and investing in the securities of oil and gas companies have been reflected in the research of both foreign and domestic scientists. Among Russian authors, the works of R.M. Nureev and E.G. Busygin [1], E.E. Petrova and S.V. Arapov,¹ and A.V. Troitsky [2], and S.V. Bryukhovetskaya [3] should be highlighted, as they reveal the fundamentals of

investment analysis and financial markets. This study examined O. Yu. Rudzeyt's ideas on stock price forecasting using regression analysis [4], as well as on forecasting stock value considering various factors [5] and sensitive stocks with a high correlation dependence [6]. Many authors and experts have studied the behavior of stock prices using econometric models in response to changes in internal and external financial and production factors [7, 8]. Scientific articles are actively researching the problems of forecasting the performance indicators of oil and gas companies. They discuss gradient analysis for estimating oil production volumes and machine learning for predicting production at specific wells [9, 10]. In foreign scientific literature, the study of oil price forecasting using nonlinear dynamic regression modeling was conducted by P. Moreno and I.F. Ferretti [11]. In the works of Zilin Xu, Hooman Abdollahi, and Jiaxin Yuan, econometric and machine learning models are considered to create a more accurate system for forecasting global oil prices [12–14].

An analysis of works on the research topic showed that the main principles of analyzing joint-stock companies, investment methods, and forecasting techniques have currently been established. Despite the abundance of scientific papers, little attention is paid to forecasting the prices of shares of Russian oil and gas companies and investing in oil and gas sector securities using econometric models. Financial and economic mechanisms are usually considered using global examples or under free market conditions, without taking into account factors such as sanctions, military-political conflicts, reorientation toward new sales markets, and diversification of logistics routes.

The application of econometric models based on benchmark markers with multi-factor analysis and a comprehensive assessment of companies will provide sufficiently accurate predictive data on securities values with minimized errors, taking into account the specifics of the activity of a separately selected company, as well as an assessment of its profitability drivers.

¹ Petrova E.E., Arapov S.V., Bikezina T.V. *Investment Analysis: A Textbook*. St. Petersburg: Russian State Hydrometeorological University; 2021:220.

The purpose of the paper is to create statistically significant models for analyzing and investing in oil and gas company securities, taking into account benchmark markers, and to form a relevant investment portfolio in the Russian oil and gas market under current turbulent conditions.

The subjects of this study are the securities market of Russian oil and gas companies and global indicators of the oil and gas industry.

METHODOLOGY

The tasks set in the work were solved based on the application of general scientific research methods within the framework of comparative and statistical analysis, as well as thru the analysis of the dynamics of financial and economic indicators.

1. Multifactor regression equations applicable for short-term investment and forecasting in Russian oil and gas companies, taking into account benchmark markers.

In the first stage of the study, the quotes of all major Russian oil and gas companies, macroeconomic parameters, and global stock indices were selected. The time range for the study was taken from 1 January 2019 to 24 January 2024. Subsequently, correlation matrices were constructed to build multifactor regression equations, and the best correlation pairs were selected with $R > 0.4$. To clarify, a value of 0.4 became optimal for building predictive models. Firstly, according to the calculations performed, the model's approximation error has decreased. Secondly, the forecast error improved significantly compared to when a smaller number of regressors were selected. It was also important to examine the correlations between the selected parameters.

In the second stage of the work, it was important to evaluate: the quality of the resulting model using the adjusted coefficient of determination; the adequacy of the model using the F-test; the statistical significance of the regression coefficients; and the approximation error. Thus, after verification,

the securities of Gazpromneft, Lukoil, Rosneft, Novatek, Tatneft, Surgutneftegaz, and Transneft were selected. For each security, key benchmark markers were identified, meaning those that best describe the movement of stock quote prices for the purpose of calculations within the desired model.

As an analysis and further verification of the models for adequacy, a regression model calculated for Gazpromneft quotes was considered. The parameter quotes presented in *Table 1* are used as reference marks for forecasting. Parameter selection was based on:

1) economic and rating assessment of internationally recognized indicators in the oil and gas industry;

2) assessment of the statistical significance of the correlation between quotes (see *Fig. 1*). For example, $T[\text{observed}]$, calculated using Pearson's formula (2), for the Gazprom Neft and Oil & Gas MOEX pair is 22.3, and $T[\text{critical}] = 3E - 97$, thus the null hypothesis of no association between the observed events is rejected;

3) assessment of the statistical significance of regression coefficients using the t-statistic,² calculated by formula (1). For example, the T-statistic for the X_1 Oil & Gas MOEX coefficient in the model is 37.02, and the critical T-value is 1.96, thus $H_0: X_1 = 0$ is rejected.

$$t = \frac{r\sqrt{n-2}}{\sqrt{1-r^2}}, \quad (1)$$

where r — correlation coefficient; n — number of observations.

$$t = \frac{\hat{b}}{s.e.\hat{b}}, \quad (2)$$

where $\hat{b}$ — regression coefficient; $s.e.\hat{b}$ — standard error of the regression coefficient.

² Babeshko L.O. Econometrics and Econometric Modeling: Textbook by L.O. Babeshko, M.G. Bich, I.V. Orlova. 2nd edition, revised and expanded. Moscow: INFRA-M, 2023. 387 pages: ill.— (Higher Education: Bachelor's Degree). DOI: 10.12737/1141216

Table 1

**Correlation Matrix Between Shares of Oil and Gas Companies of the Russian Federation
and Benchmark Markers**

Quotes	Gazprom Neft	Lukoil	Rosneft	Tatneft ordinary shares	Novatek	Surgutneftegaz preferred shares	Transneft preferred shares
MOEX RTS Index		0.824	0.890		0.847	0.569	0.588
Oil & Gas MOEX	0.464	0.951	0.905	0.559	0.857	0.707	0.737
MOEX Finance Index	0.393	0.751	0.896		0.892	0.521	
MOEX transport Index	0.415	0.769	0.620	0.756	0.568	0.757	0.706
Brent	0.393			-0.510			-0.453
Usd & Rub	0.453						
Natural gas futures				-0.551			-0.451
FED	0.638						-0.370
CB of RF	0.594						
RTS		0.597	0.620		0.553		0.623
WTI	0.434						
S&P 500	0.597		0.542	-0.555	0.579		
Dow Jones Industrial Average	0.599		0.550	-0.504	0.579		
The MOEX index of blue chips		0.832	0.867		0.820	0.550	0.654
NASD	0.560		0.580	-0.536	0.604		
EURO STOCK 50	0.711	0.428	0.615		0.646		
Dubai crude oil	0.454			-0.399			-0.408
Tadawul All Share	0.473			-0.566			-0.419
QETF				-0.468			-0.387

Source: Complicated by the authors based on the data: Investing.com. 2024. URL: <https://www.investing.com> (accessed on 06.09.2024).

The multiple regression equation for short-term forecasting of Gazprom Neft quotes is presented in formula (3):

$$Y = -108,828 + 0,090X_1 - 0,006X_2 - 0,128X_3 - 0,251X_4 - 0,358X_5 + \\ + 52,199X_6 + 13,516X_7 + 1,635X_8 + 0,132X_9 + 0,002X_{10} - 0,092X_{11} - 2,588X_{12} - 0,019X_{13}, \quad (3)$$

where $X_1...X_{13}$ are respectively: Oil & Gas MOEX, MOEX Finance Index, MOEX Transportation Index, Brent, USD & RUB, Federal Reserve, Central Bank of Russia Rate, WTI, S&P 500, NASDAQ, EURO STOXX 50, Dubai Crude Oil, Tadawul All Share.

To verify the significance of the obtained model, a regression analysis³ was conducted, which showed:

- adjusted R-squared ≈ 0.92 meaning the obtained model has high statistical significance;
- approximation error $\approx 5.74\%$ meaning the model fits the original data well.

An identical analysis of the parameters of the company Gazpromneft was conducted for the Rosneft model and other studied quotes. Based on the data obtained, equations and regression analyze for the resulting models will be presented.

The multiple regression equation for short-term Rosneft price forecasting is presented by the formula (4):

$$Y = -136,0528 + 0,0632X_1 + 0,0163X_2 - 0,0091X_3 - 0,0192X_4 - \\ - 0,1551X_5 + 0,0202X_6 - 0,0060X_7 + 0,0149X_8 - 0,0247X_9, \quad (4)$$

where $X_1...X_9$ are respectively: Oil & Gas MOEX, MOEX Finance Index, MOEX Transportation Index, RTS Index, S&P 500, Dow Jones Industrial Average, MOEX Blue Chip Index, NASD, EURO STOXX 50.

To verify the significance of the resulting model, a regression analysis [15] was conducted, which showed:

- adjusted R-square ≈ 0.95 meaning the resulting model has high statistical significance;
- approximation error $\approx 3.76\%$ meaning the model fits the original data well.

To check the adequacy of the constructed models for short-term forecasting, we will evaluate the forecast error of the models: Gazpromneft and Rosneft. Data for 2 February 2024, were taken for the control sample. After substituting the values of the reference markers for 2 February 2024, the following results were obtained from the multivariate regression models:

- For Gazpromneft:

$Y = 108.828 + 0.09 \times 9152.710.006 \times 10438.890.128 \times 1896.360.251 \times 77.330.358 \times 91.05 + \\ + 52.199 \times 5.5 + 13.516 \times 16 + 1.635 \times 72.28 + 0.132 \times 4980.25 + 0.002 \times 15628.950.092 \times 46692.588 \\ \times 77.360.019 \times 11914.29 \approx 821.98$, the value of the endogenous variable from the control sample = 816.36. The relative deviation was 0.69%. Thus, the model is adequate and suitable for short-term forecasting. To accurately predict data, you need to regularly update the model with new information and adjust the regression coefficients.

- For Rosneft:

$Y = -136.0528 + 0.0632 \times 9152.71 + 0.0163 \times 10438.890.0091 \times 1896.360.0192 \times 1117.310.1551 \\ \times 4980.25 + 0.0202 \times 38654.420.0060 \times 20472.18 + 0.0149 \times 15628.950.0247 \times 4669 \approx 577.05$, the value of the endogenous variable from the control sample = 583.95. The relative deviation was 1.18%. Thus, the model is adequate, relevant/has been tested, and is suitable for short-term forecasting. To improve the forecast, the model can be supplemented with fresh data. This will

³ Babeshko L.O. Econometrics and Econometric Modeling: Textbook by L.O. Babeshko, M.G. Bich, I.V. Orlova. 2nd edition, revised and expanded. Moscow: INFRA-M, 2023. 387 pages: ill. - (Higher Education: Bachelor's Degree). DOI: 10.12737/1141216

help clarify the coefficients and the relationship between the indicators, taking into account the specifics of the external conditions.

Calculations were also performed for other company quotes, such as: Lukoil, Tatneft, Novatek, Surgutneftegaz preferred shares, and Transneft preferred shares (see equations 5–9).

The multiple regression equation for short-term forecasting of Lukoil quotes is represented by the formula (5):

$$Y = 982,863 - 2,71X_1 + 0,809X_2 + 0,221X_3 - 0,891X_4 + 0,333X_5 - 0,184X_6, \quad (5)$$

where $X_1...X_6$ are respectively: MOEX Index, MOEX Oil & Gas Index, MOEX Finance Index, RTS Index, MOEX Blue Chip Index, NASD, EURO STOXX 50.

The multiple regression equation for short-term Tatneft stock price forecasting is presented by the formula (6):

$$Y = 226,3534 - 0,2675X_1 - 0,0277 - 0,0337X_3 + 0,0179X_4 + 0,0536X_5, \quad (6)$$

where $X_1...X_5$ are respectively: Brent, S&P 500, NASD, Tadawul All Share, Oil & Gas MOEX, MOEX Transport Index.

The multiple regression equation for short-term Novatek price forecasting is presented by the formula (7):

$$Y = 233,950 - 1,247X_1 - 0,134X_2 - 0,131X_3 + 0,293X_4 + 0,2629X_5 + 0,1526X_6 - 0,40X_7 - 0,108X_8, \quad (7)$$

where $X_1...X_8$ are respectively: MOEX Index, MOEX Oil & Gas Index, MOEX Finance Index, RTS Index, S&P 500, MOEX Blue Chip Index, NASD, EURO STOXX 50.

The multiple regression equation for short-term forecasting of Surgutneftegaz preferred stock prices is presented by the formula (8):

$$Y = -8,617 + 0,098X_1 + 0,004X_2 - 0,004X_3 + 0,01X_4 - 0,013X_5, \quad (8)$$

where $X_1...X_5$ are respectively: MOEX Index, MOEX Oil & Gas Index, MOEX Finance Index, MOEX Transport Index, MOEX Blue Chip Index.

The multiple regression equation for short-term forecasting of Transneft preferred stock prices is presented by the formula (9):

$$Y = 988,77 - 0,91X_1 + 0,16X_2 + 0,17X_3 + 0,18X_4 + 0,1X_5 + 1,27X_6 - 39,46X_7 - 67,7X_8 + 0,51X_9 + 0,03X_{10} - 62,52X_{11}, \quad (9)$$

where $X_1...X_{11}$ are respectively: MOEX Index, MOEX Oil & Gas Index, MOEX Transport Index, MOEX RTS Index, MOEX Blue Chips Index, Brent, Natural gas futures, Federal Reserve, Dubai crude oil, Dubai crude oil, Tadawul All Share, QETF.

As a result, multifactor regression equations have proven their suitability for short-term stock market price forecasting. The average forecast error for the month across all equations is less than 1.5%. To use the obtained models, it is necessary to supplement the model with new inputs and data to achieve the smallest error. It should also be noted that the developed model does not account for a number of parameters that are necessary for long-term forecasting under the conditions of the created volatility. The use of models is only effective if additional assessments of companies' financial results and dividend policies are conducted; other indicators of commodity

markets and oil and gas companies' investment projects that may affect financial results, as well as adjustments to the forecast taking into account geopolitical conditions.

2. Investment portfolio for short-term investing. Based on the analysis conducted, recommendations for investing in Russian oil and gas companies were developed. An investment portfolio consisting of shares from four key Russian industry issuers — Lukoil, Rosneft, Novatek, and Surgutneftegaz — has been developed. This portfolio is formed specifically from securities because the stocks of these companies have a strong positive correlation both with each other and with selected benchmark markers (*Table 1*). This indicator allows for forecasting portfolio returns based on changes in benchmark values and current trends in the oil and gas industry as a whole.

Lukoil, Rosneft, and Surgutneftegaz are the largest independent oil companies in Russia, which influences the formation of their portfolios. However, due to the reorientation of oil exports from Europe to the Middle East and Asia-Pacific countries after 2022, the market capitalization and net profit figures of companies have decreased compared to previous years. In 2021, Russia exported 263.6 million tons of crude oil, and by the end of 2023, it exported 240.8 million tons.⁴ At the same time, 80% of oil supplies are directed to India and China at a significant discount.⁵

The study collected data on the main markets where the companies in question operate, as the quality and profitability of trading operations in sales markets influence economic development. To form a detailed overview, it becomes necessary to analyze each company.

Analysis of Novatek: Novatek is the largest independent natural gas producer in Russia. Gazprom is the sole company with the exclusive

right to export natural gas, but according to a decision by the State Duma, Novatek has the right to export LNG,⁶ starting in 2023, which creates enormous potential for the development of foreign trade. Additionally, Novatek's three existing projects, namely "Yamal LNG", "Kryogaz-Vysotsk", and "CSKMS", are viewed extremely positively due to the demand for LNG in the global market.⁷ Novatek's main natural gas supplies to the domestic market go to the industrial and energy sectors. These industries are stable and solvent clients.⁸

Analysis of Lukoil: until 2022, Northwest Europe, as well as the Black and Mediterranean Sea countries, accounted for the largest share of the company's export revenue⁹ by 2024, supplies to Europe had significantly decreased. However, despite the sanctions, Lukoil was able to redirect oil supplies to China and resume seaborne oil deliveries to Slovakia and Hungary. Lukoil is also successfully entering new markets in Central America and the Middle East.¹⁰ Lukoil is a significant player in the domestic market. The company produces oil products, operates a network of gas stations, and implements promising projects.

Analysis of Rosneft: Rosneft supplies 3/4 of its exported oil to China, with the majority of settlements conducted in yuan; it is a key shareholder in PJSC ANK "Bashneft"¹¹ and PJSC NGC "Slavneft" thru the companies LLC "Invest Oil" and TOC Investments Corporation Limited,¹²

⁴ Tadviser. Russian oil exports. URL: <https://www.tadviser.ru/index.php> (accessed on 06.09.2024).

⁵ FORBES. "Sanctions Success Indicator": What the discount on Russian Urals oil to Brent means. URL: <https://www.forbes.ru/finansy/487942-indikator-uspeha-sankcij-cto-oznaczaet-diskont-rossijskoj-nefti-urals-k-brent> (accessed on 06.09.2024).

⁶ The State Duma Committee on Energy. The State Duma passed a bill aimed at liberalizing LNG exports. 2023. URL: <http://komitet-energo.duma.gov.ru/novosti/6af5c2ce-fd95-4a70-bf13-0af97847b246> (accessed on 06.09.2024).

⁷ Novatek. LNG projects. URL: <https://www.novatek.ru/ru/about/lng-projects/> (accessed on 06.09.2024).

⁸ Institute of Energy and Finance, according to Rosstat and PJSC Gazprom. Natural Gas Supply Structure to the Domestic Market, 2021, in billion cubic meters. URL: <https://energypolicy.ru/wp-content/uploads/2023/09/ep-maket-%E2%84%969-2023-14-25.pdf> (accessed on 06.09.2024).

⁹ Lukoil. Foreign Projects. 2023. URL: <https://lukoil.ru/Business/Upstream/Overseas> (accessed on 06.09.2024).

¹⁰ Lukoil. Oil trading. 2022. URL: <https://lukoil.ru/Products/business/oiltrading> (accessed on 06.09.2024).

¹¹ Bashneft. Shareholder equity structure. 2021. URL: <https://www.bashneft.ru/information/struktura-aktsionernogo-kapitala/> (accessed on 26.02.2024).

¹² CBONDS. TOC Investments Corporation. 2024. URL: <https://cbonds.ru/company/290709/> (accessed on 06.09.2024).

Table 2

Traded Multiples of the Stocks of the Portfolio Companies

Indicators		Lukoil	Rosneft	Surgutneftegaz preferred shares	Novatek
EV/Revenue	Tradable Multiplier	0.40	0.60	0.67	2.74
	Min	0.25	0.25	0.16	0.91
	Median	0.67	0.57	0.48	3.24
	Max	0.75	0.75	0.70	5.56
EV/EBITDA	Tradable Multiplier	3.49	1.92	3.54	3.89
	Min	1.21	1.21	0.75	4.36
	Median	1.99	2.55	1.88	8.36
	Max	3.03	3.49	2.85	12.37
P/E	Tradable Multiplier	3.63	2.62	1.23	24.14
	Min	1.86	1.86	0.69	23.23
	Median	3.18	3.68	1.88	23.69
	Max	5.08	5.08	4.79	24.14

Source: Complicated by the authors based on the data: Investing.com. 2025. URL: <https://www.investing.com> (accessed on 09.09.2025).

respectively; changes in the dividend policy and market prices of shares of the controlled companies will continue to affect the price of Rosneft shares. It sells over 40 million tons of oil products on the domestic market.¹³ Rosneft also supplies to India and is implementing major projects in the Middle East.

Analysis of Surgutneftegaz: Surgutneftegaz is a leading oil company in Russia, selling its oil both domestically and abroad. State-owned companies like Rosneft are the main buyers of Surgutneftegaz's oil. Additionally, the company has regular buyers, including Lukoil

and Gazpromneft.¹⁴ It is actively working in the Asian market, particularly in China and India, and also exports oil to Western Europe. The company is also finding buyers in the Middle East and North African markets. Surgutneftegaz continues to expand its presence in the global market, aiming to strengthen its relationships with partners and ensure stable oil supplies.

To determine the investment attractiveness of forming this portfolio, the fair values of the companies' shares were assessed using the multiplier method with EV/Revenue, EV/EBITDA, and P/E, using the minimum, median,

¹³ Rosneft. Igor Sechin expects energy resource supplies to China to grow. 2023. URL: <https://www.rosneft.ru/press/news/item/220321/> (accessed on 06.09.2024).

¹⁴ Khazanov L. Surgutneftegaz — a giant with many unknowns. Finam. 2024. URL: <https://www.finam.ru/publications/item/surgutneftegaz-gigant-so-mnogimi-neizvestnymi-20240516-0900/> (accessed on 27.02.2024).

Table 3

Fair Valuations of Shares of Portfolio Companies

Indicators		Lukoil	Rosneft	Surgutneftegaz preferred shares	Novatek
Current price		6484,5	467.7	45.515	1250.8
EV/Revenue	Min	4552.63	90.28	12.50	386.92
	Median	10151.58	442.54	33.47	1489.17
	Max	11182.44	636.60	47.65	2591.42
EV/EBITDA	Min	3013.43	226.63	11.53	1407.57
	Median	4197.82	684.80	25.26	2743.86
	Max	5780.22	1008.90	37.04	4080.16
P/E	Min	3320.11	331.54	25.63	5096.99
	Median	5667.73	655.88	69.59	5196.96
	Max	9069.12	905.62	177.41	5296.93

Source: Complicated by the authors based on the data: Investing.com. 2025. URL: <https://www.investing.com> (accessed on 09.09.2025).

and maximum traded multiples of comparable companies (Table 2).¹⁵ It should also be noted that in addition, the intrinsic value of the companies' shares could have been calculated, as presented in Marek Chrascina's paper [16]. When making investment decisions, different valuation methods should be used in combination, but not limited to just one. To assess the company's fair value, multiples were calculated for comparable companies (Table 3). The final valuation was calculated by multiplying the multiplier by the Revenue or EBITDA figure, depending on the multiplier. The P/E multiplier was estimated by multiplying the multiplier by the target company's net profit value.

Comparable companies for analysis:

- Lukoil: Rosneft, Tatneft, Gazprom Neft, Bashneft;
- Rosneft: Lukoil, Tatneft, Gazprom Neft, Bashneft;

- Surgutneftegaz preferred shares: Bashneft preferred, Tatneft preferred shares, Rosneft, Rosneft;

- Novatek: Gazprom, YATEK.

Based on the calculations, it can be concluded that Rosneft, Novatek, and Lukoil shares are currently undervalued, while Surgutneftegaz is overvalued. For long-term investment, it is recommended to purchase them at a fair price, based on the median valuation of three multiples: EV/Revenue, EV/EBITDA, and P/E, within a range from the minimum to the maximum value.

Recommendations for buying securities:

- Lukoil — hold, fair price — 5667.73 rubles, —12.60% to current quotes;
- Rosneft — buy, fair price — 655.88 rubles, 40.24% to current quotes;
- Surgutneftegaz preferred shares — hold, fair price — 33.47 rubles, —26.46% compared to current quotes (the main profit from the security will come thru dividends, not thru stock price growth);
- Novatek — buy, fair price — 2743.86 rubles, 119.37% above current quotes.

¹⁵ Kiseleva O.V., Makeeva F.S. Investment Analysis. 5th ed. Knorus, 2024. 246 p.

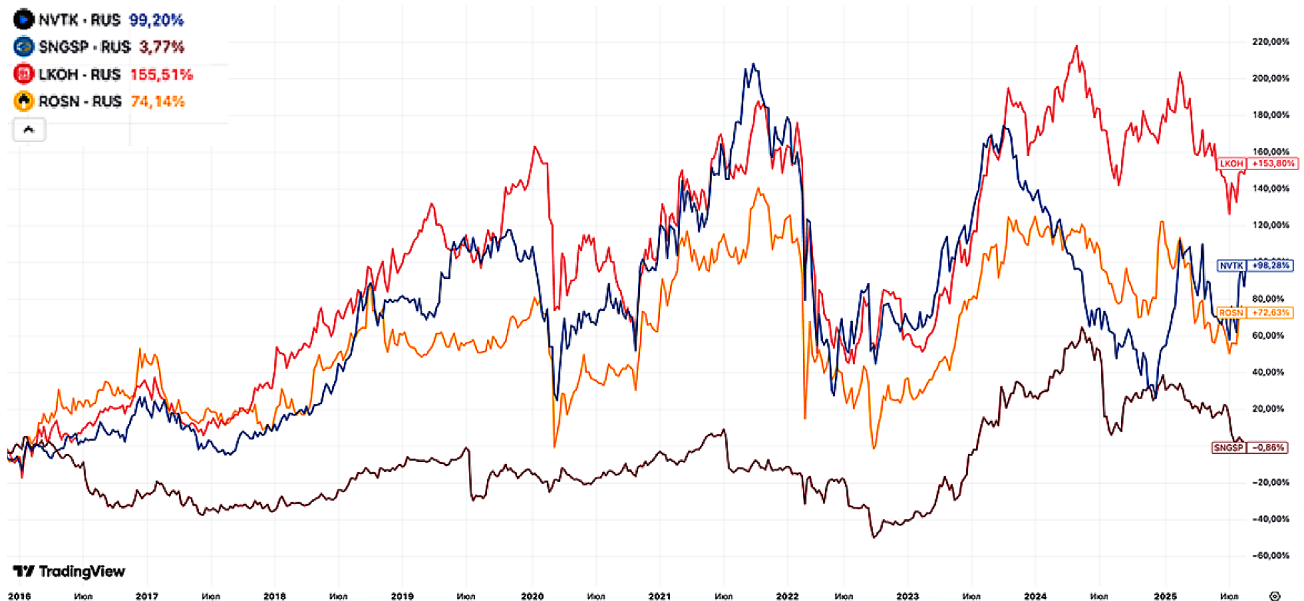


Fig. Share Prices of “Lukoil” (Red), “Rosneft” (Orange), “Novatek” (Blue), “Surgutneftegaz” Preferred Shares (Brown)

Source: Complicated by the authors based on the data: Investing.com. 2024. URL: <https://ru.tradingview.com> (дата обращения: 06.09.2024) / (accessed on 06.09.2024)

It's worth noting that these issuers regularly pay dividends, so the portfolio strategy is aimed not only at stock price growth but also at generating passive income from dividends. Fair value information does not form a low-risk model for the future movement of company stock prices; fair value only shows how the market values securities at a given point in time. Understanding the basis of revenue and what drives a company's profit is crucial when investing; this information allows an investor to rationally assess and predict the movement of securities prices.

Based on the analysis of the dynamics of quotes for Lukoil, Rosneft, Surgutneftegaz, and Novatek, it can be concluded that the change in market price has a moderately pronounced cyclicity (Fig. 1), which can be explained by various factors. The cyclical nature is largely explained by: companies' dividend policies; market trends in the oil and gas industry (for example, there has been a global trend of rising oil prices from March to September over the past 10 years); export periods; and the state's tax and financial policies toward oil and gas companies. Analyzing the stock price dynamics of Lukoil and Rosneft over the past 8 years (Fig. 1), excluding the volatile years of 2020 and 2022, it can be concluded that the period of stock price growth for Lukoil and Rosneft falls in July and

October. Surgutneftegaz and Novatek shares are also starting to rise in price, following the oil giants, but with a slight time lag. As mentioned earlier, dividend policy has a significant impact on the current and future stock value. For example, the Lukoil company has been consistently paying dividends twice a year for several years, mainly in July and December.¹⁶ A similar situation exists at Rosneft, which also pays dividends twice a year, but primarily in July and January.¹⁷ Surgutneftegaz pays dividends on preferred shares once a year in July,¹⁸ while Novatek pays twice a year — in March and October.¹⁹ Fig. 1 clearly illustrates the price changes before and after the dividend payment. This information needs to be taken into account. An interesting approach is disciplinary analysis, within which an investor can build investment strategies using charts [17–19]. Understanding charts and possible combinations is also successfully used by many traders to make a profit [20].

¹⁶ Lukoil. Dividends. URL: <https://lukoil.ru/InvestorAndShareholderCenter/Securities/Dividends> (accessed on 06.09.2024).

¹⁷ BCS World of Investments. Rosneft Dividends.— URL: <https://bcs.ru/markets/rosn/tqbr/dividends> (accessed on 06.09.2024).

¹⁸ BCS World of Investments. Surgutneftegaz Dividends. URL: <https://bcs.ru/markets/sngsp/tqbr/dividends> (accessed on 27.02.2024).

¹⁹ Novatek. Dividends. URL: <https://www.novatek.ru/ru/investors/dividends/> (accessed on 06.09.2024).

The reorientation toward the Middle East and Asian countries has resulted in a decrease in oil and gas revenues and an increase in the tax burden on companies. In Russia, the oil and gas sector is subject to the highest tax burden among all sectors of the economy. Rosneft and Surgutneftegaz have the highest burden — 79% and 77% of EBIT, respectively.²⁰ The share of mineral extraction tax in oil and gas revenues is around 70%, and in recent years there has been a trend toward increasing the mineral extraction tax rate. For example, Rosneft and Lukoil's shares in oil and gas payments are 36% and 16% respectively. However, Novatek has the lowest tax burden in the oil and gas sector because over 50% of the company's profit is generated from purchasing and processing gas condensate at the Ust-Luga refinery, as well as from reselling LNG, which is taxed significantly less harshly compared to oil production and gas exports. For example, the Yamal LNG project benefits from zero rates for mineral extraction tax, export duty, and property tax. The K_p , coefficient, which characterizes the dynamics of world oil prices, is used to calculate the mineral extraction tax for oil companies. In 2023, K_p was equal to 11.6461, and in 2024, it was 18.4154.²¹ Based on the analysis conducted, the mineral extraction tax rates are highly likely to increase until 2026. K_{kg} is similar to K_p but it applies to gas companies starting in 2023. K_{kg} will also grow from 134 units to 300 units by the end of 2026. It is necessary to analyze the given ratios, as they will significantly influence the net profit margins of companies, and consequently, the dividend yield.

CONCLUSION

Thus, based on the analysis conducted, a strategy for interacting with the portfolio can be formed. Combined with the seasonal fluctuation in natural resource prices (oil

and gas), the market price of the shares has pronounced volatility. All the companies issuing securities in the portfolio are “dividend aristocrats”, meaning they regularly pay dividends to shareholders. To receive annual dividends and income from stock price growth, it is recommended to purchase portfolio securities in May or October of each year, as the main dividends and stock price growth period occur in the third and fourth quarters of the year. At the same time, to implement a long-term investment strategy, it is necessary to acquire shares at fair value or below. As the main multiplier, based on whose value we will make decisions, we will choose EV/EBITDA. Thus, the fair price for the stocks in the portfolio will be:

- Lukoil — 5 667.73 ₪.
- Rosneft — 655.808₪.
- Surgutneftegaz preferred — 33,47 ₪.
- Novatek — 2 743.86 ₪.

In accordance with the portfolio's objective (investing in companies in the Russian oil and gas industry), the share of each issuer in the portfolio is evenly distributed at 25%.

To make a decision about investing in the portfolio in May 2026, we need to determine expectations for benchmark indicators. This needs to be done based on the dependencies found and the econometric models constructed. Such models will help predict stock prices more accurately.

Inflationary pressure in the Russian economy continues to decline steadily. This is evidenced by the decisions of the Bank of Russia's Board of Directors, which reduced the key rate from 21%, set in November 2024, to 20%²² on 9 June 2025, and then again to 18% on 25 July 2025.²³ According to the Bank of Russia's medium-term macroeconomic forecast dated July 25, 2025, the average annual key rate for 2026 is expected to

²⁰ Romanova T. Experts have called oil workers the industry with the highest tax burden. Lenta. 2024. URL: <https://lenta.ru/news/2024/05/21/neftyanikov/> (accessed on 23.02.2024).

²¹ Letter from the Federal Tax Service of Russia dated July 10, 2024, No. EA-4–3/7851@ “Data Required for Calculating MET for Oil, Additional Income Tax, and Excise Tax on Crude Oil for June 2024”.

²² Bank of Russia. Decision of the Bank of Russia Board of Directors on the Bank of Russia key rate. URL: https://www.cbr.ru/rbr/dir_decisions/rsd_2025-06-06_20_05 (accessed on 09.09.2025).

²³ Bank of Russia. The Bank of Russia has decided to lower the key rate: Press Release No. 25 / Bank of Russia. URL: https://cbr.ru/press/pr/?file=25072025_133000key.htm (accessed on 09.09.2025).

be within the range of 12–13%. Monetary easing is a key factor in the recovery of the Russian stock market. The reduction of the key interest rate by the Bank of Russia will have a positive impact on all major stock indices.

Based on the analysis conducted, the peak of the decline in oil and gas company quotes to their annual lows occurred in July – August 2025. This period is optimal for buying stocks within the established portfolio. However, it should be noted that there are growth constraints in the market, so significant price increases are unlikely to be expected by the end of 2025. It is necessary to analyze the companies' reports for the first three quarters of 2025, as many companies' financial results for the first half of the year are comparatively lower than for 2024. In this regard, the oil and gas sector will undergo changes in its export, logistics, personnel, and financial policies by the beginning of 2026. International political instability will also significantly impact the energy market. Therefore, the trends observed in 2025 will continue into the first half of 2026. Thus, based on the conclusions drawn, it can be assumed that the stock prices of oil and gas companies may reach their annual lows during the specified period. This time interval, if the forecast is realized, could become an optimal point for building long positions and replenishing the portfolio.

Simultaneously with the overall Mosbir index, growth is expected in the sectoral benchmark indices: MOEX Oil & Gas, MOEX Finance, MOEX Transport, MOEX Blue Chips. Despite the World Bank's forecast of a decline in global oil prices to five-year lows, oil-exporting countries will continue to adjust their oil production levels to maintain current prices for Brent, WTI, and other grades, which will also have a positive impact on the financial performance of Russian oil companies.

Positive dynamics are expected in the US stock market in 2025, linked to monetary policy. At its last meeting, the US Federal Reserve cut its key interest rate by 50 basis points. Analysts

expect further rate cuts throughout 2025, reaching a target of 2% by the end of 2026. This is having a positive impact on the US securities market, including the key indices that make up the portfolio's benchmark markers: the S&P 500, Dow Jones, and NASDAQ. As the values of these indices increase (and consequently, as the US stock market strengthens), the shares of the portfolio companies grow, which is also an important factor in the attractiveness of forming the portfolio by May 2026.

The dynamics of the EURO STOXX 50 index are not expected to be negative, but should remain in confidently positive or neutral values. The main positive scenario for the value is a decrease in geopolitical tensions in Europe, possibly a relaxation of sanctions restrictions. This article does not consider a scenario analysis of the geopolitical situation, but it does take into account a possible reduction in sanctions restrictions by EU countries, which, in turn, will have a positive impact on both the European stock market and the shares of Russian companies, especially those in the formed portfolio.

Thus, the most effective period for forming and updating a portfolio of LUKOIL, Rosneft, Surgutneftegaz, and Novatek shares is the end of the first and the beginning of the second quarter, as during this time frame it will allow for future dividend payments and price growth due to improved macroeconomic conditions to be taken into account, which ensures a fundamental increase in share value.

Based on the analyzed data, it can be noted that when creating an investment portfolio, the proposed information can be supplemented with current external environmental factors and conditions to minimize risks and increase portfolio returns. Overall, the fuel and energy market remains quite turbulent, which makes many decisions appear high-risk for investors. That's why creating similar econometric models, supported by calculations and external factors, are optimal forecasting tools in conditions of uncertainty.

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Author's declared contribution:

D. A. Aksenov constructed a correlation matrix using a multifactorial regression equation, analyzed the data obtained.

V. V. Toropov proposed the composition of a short-term investment portfolio, determined the tradable multipliers of selected companies and the fair value of shares on the basis of which investment decisions should be made.

T. M. Mazurchuk identified and described the cyclical nature of changes in stock prices of selected companies and based on the analysis, he offered recommendations for compiling an investment portfolio.

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