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Analysis of Factors that Impact the Domestic Currency Exchange Rate

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Abstract: Oil is one of the essential commodities for the Russian economy that plays a significant role in the world oil market. Countries are actively using this natural resource, increasing the volume of extraction and production. An oil exporting country's economic development factors are the successful processing of oil, obtaining oil products, and its usage in various industries, and not only as raw material exports. Currently, the main difficulties due to EU and US sanctions for Russian domestic oil and gas companies are associated with a change in logistics - the need to redirect export flows to the east to the countries of the Asia-Pacific region.

Because several factors determine the oil prices: the cost of oil production, technology integration, the world supply and demand, and socio-political factors, in the paper, the author analyzes different aspects that impact the domestic currency exchange rate, including the national oil market infrastructure support, transportation, and customs duties cost, tax expenses, access to the financial markets for needed renovations and technology integrations. All the above factors are of great importance that influence the resilience of the national economy that is oil and gas export dependent. This study aims to analyze the specifics of the Russian oil market and the impact of different factors on the state of the economy, including the implications for the world oil market.

Keywords: Oil industry; Currency Exchange Rate; Factorial analysis.

1. Current political and economic situations and specifics of the oil market in Russia

The oil and gas industry is the cornerstone of the Russian economy. Given the amount of the existing reserves, it is evident that in the future, Russia will not be able to replace this economic driver with another. Thus, as part of our analysis, we must look beyond the current political and energy crisis complications and consider the national economic context, including interest rate formation in Russia. It is evident the importance for the state to control its energy resources, using interest rates to stabilize the economy due to sanctions and political tension.

The main difficulties due to EU and US sanctions for domestic oil and gas companies are associated with a change in logistics—the need to redirect export flows to the Asia– Pacific region (Hudson, 2020). At the same

time, the existing infrastructure was primarily intended to supply oil and gas to the West. Russia supplies gas to Europe only under contractual obligations, and the fate of further fuel will depend on the willingness of Western countries to continue paying according to the new scheme (in rubles) proposed by Russia and based on political priorities, which are difficult to evaluate in perspective.

Suppose most countries agree to pay for gas in Russian domestic currency, possibly, subject to change due to the sanctions-imposing mechanism. In that case, Russia's exports to the West will amount to up to 140 billion cubic meters per year. A complete refusal to buy gas is hardly possible not only because of problems with heat supply and electricity generation but because this will lead to the shutdown of many enterprises and even entire industries in the economies of Western countries, rising unemployment, and a rapid drop in living standards.

According to the head of the National Energy Security Fund (National Energy Security Fund Analytic Report, 2016), the fact that Europe cannot refuse Russian gas now does not mean that it will not do so shortly. Europe will need time to live without Russian gas and oil supplies. At the same time, however, Russia cannot redirect all its gas exports to Asia–Pacific countries. The European Commission says that the system of paying for Russian gas in rubles violates sanctions imposed by the EU against Russia. Still, it's hard to predict the number of contracts that will be broken and the associated time frame for logistical infrastructure changes.

As for the oil in Russia, there is currently some reduction in production (Novak A., 2022), but it will not be possible to replace all the oil on the world market. The total export of oil and oil products from Russia is 7.5 million barrels daily. Other countries can provide the maximum additional volume of about 2 million barrels per day for the same quality. Moreover, this includes oil intervention from strategic storage facilities, which the US and some other countries are now considering. The OPEC countries could help provide additional volume, but it will be unprofitable for all other participants in the oil deal in the long term.

Russian oil company executives have accelerated their search for import-substitute equipment over the last six months (Gazprom Report, July 2022). Gas pipeline projects to China are now being actively discussed and are beginning to be implemented. With all intentions, Russia can launch it only in five-seven years, assuming that Western countries would be able to give up Russian gas quickly. In that case, it will make China, for example, more accommodating to new gas pipelines from Russia.

Another tool the Russian energy sector is planning to use to reduce the impact of sanctions is an increase in the domestic consumption of energy resources. Some work is underway on this plan in some areas (Overland, I., & Prusakova, N., 2020). Still, there are no massive infrastructure building projects for the gas pipelines within the country's geographical borders. This type of project would require the gasification of

the regions and the associated integration into a single system of gas pipelines in Sakhalin, Vladivostok, and Siberia.

Due to the growth in consumption and increased oil and gas processing, many questions about import substitution were announced in 2014 (Baumeister, C., & Kilian, L., 2016). In some areas, including oil refining, there is a critical dependence on technology and software imports.

Russia has been under sanctions for eight years, and the import substitution program has worked simultaneously. For now, Europe cannot refuse Russian gas, but it will try to do so shortly. It turns out that import substitution is not working because not all needed components have been received. It is entirely sensible to deploy the technologies of large-tonnage production of liquefied natural gas (LNG) with the technologies of multi-stage hydraulic fracturing (MSHF: used to extract hard-to-recover reserves of the gas complex), which is the essential secret of Russian production.

The oil industry in Russia is presented as a collection of vertically integrated companies, referred to as Gazprom, established in the 1990s during the sector's restructuring. Vertical integration of the oil industry provides production and organizational association with the framework of single-state ownership of processes that include the search, exploration, and construction of wells, prey oil, and processed and sales products.

The main advantages of such an organization of oil companies include the following: the possibility of entering the market of final products; providing benefits through the concentration and maneuvering of capital; expanding production capacity and flows of raw materials and finished products; improving the manageability of technologically interconnected processes; receiving access to raw materials; and minimizing risks related to the implementation of capital-intensive projects. Possible negative manifestations include a decrease in mobility in implementing external investment and a decline in production from the impact of market and political mechanisms. The production of oil and gas condensate (petroleum feedstock) in the whole Russian Federation in 2021, compared with 2010, comprised 7.4 million tons (+1.4%).

The main factors in this growth are:

- development of existing prospective fields and involvement in the development of new areas in the North of the European part of Russia, Eastern Siberia, and the Far East;
- growth of the operating stock due to an increase in the volume of operating drilling and input new wells;
- active application of technologies and methods for intensifying oil production both in new promising regions and in traditional oil-producing areas (Ural–Volga region); and
- the effect of tax incentives for low-margin deposits, with hard-to-recover raw materials, a new promising field in Eastern Siberia and the Far East.

In a regional context, the geographical centers of oil production growth in the Russian Federation in 2021 were the oil-producing regions of Eastern Siberia and the Far East (+4.8 million tons, or +8.2% compared to 2020), and the European part of the country (+3.9 million tons, or +2.5%).

Production growth in the European North, Russia, and the eastern countries is supported by creating and commissioning new production capacity close to promising deposits, which may save potential growth for several subsequent years.

However, the region of Western Siberia still maintains the status of the country's largest oil-producing center. National oil production annual results amounted to 58.4% yearly prey volume: 311.7 billion tons. This decreased compared to the previous year by 6.2 million tons (−2.1%) and comprised 282.7 million tons.

Main factors to cut processing:

- increase in the average industry depth of oil refining due to measures to modernize the technological equipment of Russian refineries;
- refining volumes by oil refineries' raw materials while simultaneously maintaining levels and improving the quality of produced motor fuels (primarily motor gasoline), ensuring a deficit-free supply to the Russian Federation's domestic consumer market;
- low energy efficiency of the economy and poor use of the existing potential in the country;
- high-wear production funds;
- lagging the production potential of the fuel and energy complex from the world scientific and technical level and high reliance on imported technologies and equipment;
- backlog increments explored geological hydrocarbons from volumes of their prey; and
- regional asymmetry in providing territories with energy resources and their consumption.

In addition, Russia's fuel and energy complex is influenced by other trends in the country's economy and energy development (Baumeister, C., & Kilian, L., 2016). These include:

- continuing high volatility in world prices for primary fuel and energy resources;
- the emergence of new producers of fuel and energy resources, including the development of unconventional oil and gas resources and increased competition in critical global energy markets, such as traditional European markets sales of Russian energy resources as well as the most promising markets in the Asia– Pacific countries and India;
- unfavorable transformation in the regulation of world energy markets (requirements for the terms of supply, evolution of exchange regulation, and global climate policy);
- shift of the centers of production, processing, and export of fuel and energy resources to the north and east of the country.
- change structures explored reserves to benefit hard-to-recover and complex components;
- growing importance of renewable energy sources in providing energy needs to society;
- growth of capital intensity of scientific and technical developments in the fuel and energy sector;

- complication of relationships and interdependence of society and the energy business;
- increased roles of the human factor in the development of fuel and energy complexes.

Current geopolitical tensions and worsening relations limit the access of Russian energy companies to credit resources for advanced technologies. Under these conditions, the impact of the crisis is very uncertain and requires adjustments to the prospects for the developing fuel and energy complex.

Without friends' financial inflows, the development of the Russian fuel and energy complex is severely limited. Financial investments are crucial for modernization and innovation and to ensure energy industry security, reduce dependency on Western technology, diversify the product structure of exports of fuel and energy resources (increase in oil refining), and expand the sales market.

2. Methodology of the model construction and research analysis

2.1 The correlation–regression analysis

With the help of correlation–regression analysis, there is an attempt to explore the dynamics of the domestic exchange course (dollar–ruble) and the impacts of the individual factors and to determine which factors have the most significant influence on the domestic currency exchange rate. When building a multi-factor model for forecasting the dollar–ruble exchange rate, the following factors were included:

Resulting notation:

Y – Exchange rate ruble to US Dollar

Factorial notation:

X_1 - world price of oil; in US dollars

X_2 - inflation rate in Russia, in %;

X_3 - volume GDP monthly average, million rubles;

X_4 - transportation cost and export customs duties;

X_5 - capital inflows into the country (investments and access to financial markets); X_6 - tax rates on fossil fuels, the ruble.

Thus, the correlation–regression analysis requires entering factors for any period (*Table 1)*

compiles elements for several observations from 2019 to March 2021.

The first step in the study was to build a scatterplot where the x-axis (meaning x, ordinate axes y) points correspond to the preliminary observations between x and y coordinates. Thus, by analyzing a graph, one can judge the presence of such correlations.

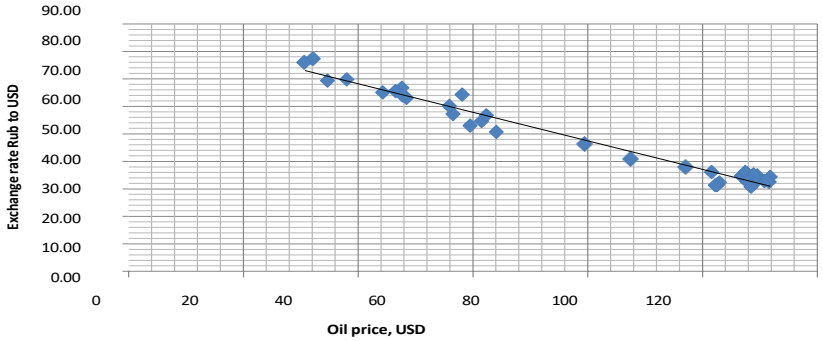
We concluded that the scatterplot has a negative slope, indicating heading feedback ruble and prices on the oil. At low oil prices, the ruble depreciates and vice versa; when oil prices are high, the ruble's exchange rate against the US dollar rises. Therefore, a decrease in oil prices contributes to an increase in inflation.

The scatterplot of the factor sign X_2 shows a direct relationship between course national currencies and inflation in the country. Thus, at about 70 rubles to the dollar, inflation fluctuates around 15% accordingly.

Table 1. Dynamics of x- factorials

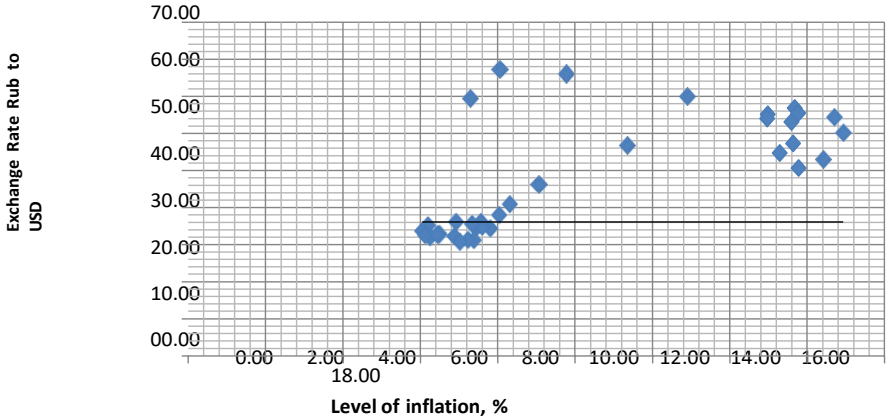
Month	x 1	x 2	x 3	x 4	x 5	x 6	y
Mar. 21	34.66	7.30	5412.01	39.50	331.90	4947.63	69.33
Feb. 21	32.18	8.06	5412.01	52.00	337.70	3890.01	77.23
Jan. 21	30.70	9.77	5412.01	73.30	279.74	3390.29	75.98
Dec. 20	38.01	12.91	5505.61	88.40	477.58	4343.60	69.87
Nov. 20	44.27	14.98	5505.61	97.10	397.31	5099.95	65.11
Oct. 20	48.43	15.59	5505.61	91.50	398.00	5852.62	63.08
Sep. 20	47.62	15.68	5274.55	109.20	466.40	6188.89	66.79
Aug. 20	46.52	15.77	5274.55	133.10	451.81	5796.47	65.47
Jul. 20	56.56	15.64	5274.55	143.10	454.70	6801.23	57.28
Jun. 20	61.48	15.29	4868.46	144.40	389.10	7306.11	54.71
May 20	64.08	15.78	4868.46	116.50	308.00	7137.13	50.67
Apr. 20	59.52	16.42	4868.46	130.80	354.49	6773.35	52.98
Mar. 20	55.89	16.93	4578.74	105.80	373.30	6930.53	60.16
Feb. 20	58.10	16.71	4578.74	112.90	393.70	8031.96	64.32
Jan. 20	47.76	14.97	4578.74	170.20	446.31	5655.07	63.97
Dec. 19	62.34	11.36	5723.71	277.50	748.20	4815.22	56.73
Nov. 19	79.44	9.07	5723.71	316.70	578.80	5491.57	46.30
Oct. 19	87.43	8.30	5723.71	344.70	643.90	5494.78	40.93
Sep. 19	97.09	8.03	5477.55	367.60	579.12	5767.95	38.01
Aug. 19	101.61	7.56	5477.55	388.40	535.12	5851.07	36.17
Jul. 19	106.77	7.45	5477.55	385.20	533.73	5898.44	34.73
Jun. 19	111.80	7.80	5099.14	385.00	526.71	6112.75	34.38
May.19	109.54	7.59	5099.14	376.10	568.00	6117.04	34.89
Apr. 19	107.76	7.33	5099.14	387.00	646.27	6177.14	35.67
Mar. 19	107.48	6.92	4709.95	384.40	603.53	6276.48	36.17
Feb. 19	108.90	6.20	4709.95	386.30	562.53	6169.40	35.26
Jan. 19	108.12	6.05	4709.95	401.00	482.23	5798.37	33.70
Dec. 18	110.76	6.45	5709.65	385.70	659.95	5622.61	32.86
Nov. 18	107.79	6.48	5709.65	395.90	566.04	5429.67	32.71
Oct. 18	109.08	6.25	5709.65	416.40	590.43	5361.01	32.07
Sep. 18	111.60	6.13	5429.88	400.70	570.33	5640.47	32.59
Aug. 18	111.28	6.49	5429.88	379.80	540.83	5742.60	33.00
Jul. 18	107.93	6.45	5429.88	369.20	580.36	5510.93	32.77
Jun. 18	102.92	6.88	5043.66	359.30	477.32	5103.73	32.33
May 18	102.56	7.38	5043.66	378.40	528.90	4905.67	31.33
Apr. 18	102.25	7.23	5043.66	401.50	599.08	4854.21	31.35
Mar. 18	108.47	7.02	4679.80	420.60	536.25	5078.02	30.81

Sources: Ministry of Finance of the Russian Federation, Ministry of Economic Development of the Russian Federation, Federal Customs Service, Federal Tax Service, Federal State Statistics Service, drawn by the author

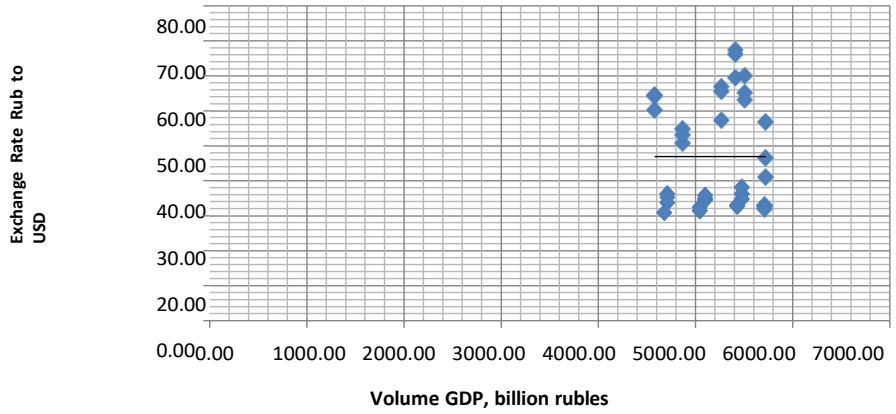


Picture 1: Diagram scattering factorial sign X 1

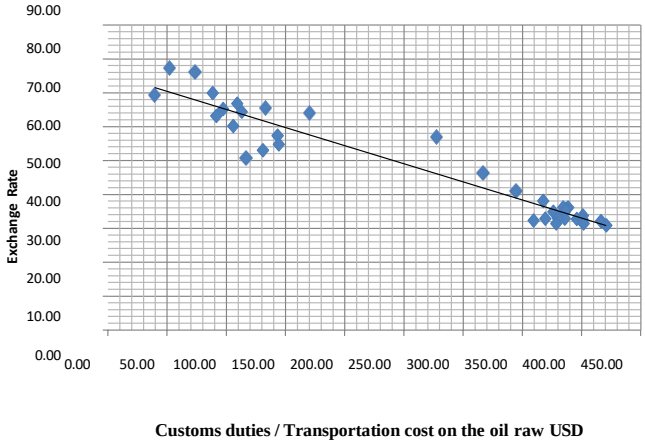
Source: drawn by the author



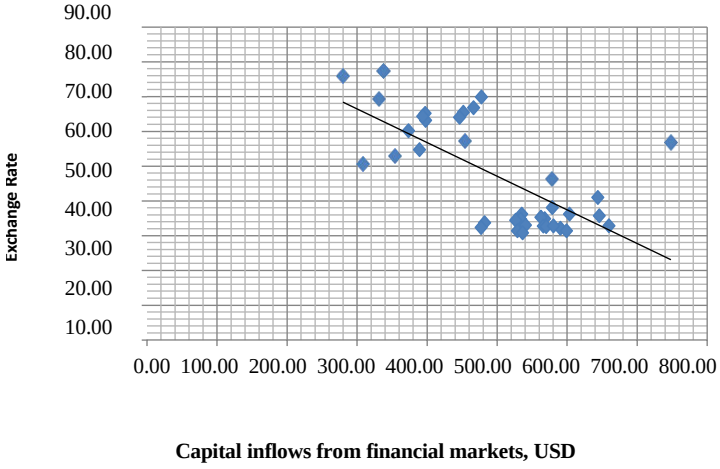
Picture 2: Diagram scattering factorial sign X 2



Picture 3: Diagram scattering factorial sign X 3



Picture 4: Diagram scattering factorial X4



Picture 5: Diagram scattering factorial sign X 5

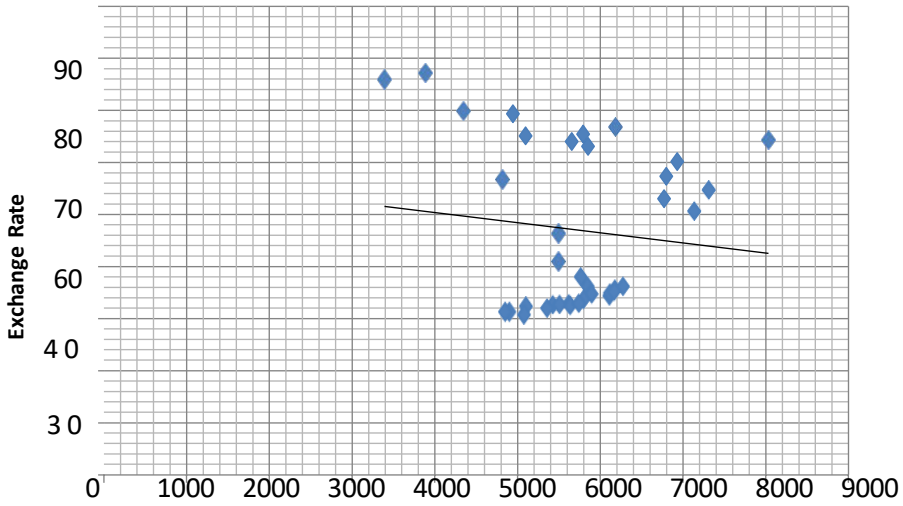
The constructed correlation field of the dependence of the dollar–ruble exchange rate on GDP volume clearly illustrates the absence of this relationship.

Considering the scatter diagrams of the dependence of the ruble exchange rate on the rate of export customs duty, increased transportation cost on crude oil, and federal budget revenue, we can deduce close connections between factorial and resulting signs. At high rates, export, customs, and transportation cost of the oil strengthen the ruble and vice versa. In the same way, we may conclude about the ruble stability toward total revenue: the decreased amount of incoming income into the federal budget correlates to the decrease of national currencies.

The progressive calculation scale redetermined the transportation cost and export customs duties on oil. The export customs duty rate for crude oil is calculated based on the average price of crude oil in the world

crude markets. The monitoring period is from each calendar month to the 14th day of the following calendar month. The average oil price was converted into US dollars per ton, calculated by multiplying the price of oil expressed in US dollars per barrel by a factor equal to 7.3. The received amount means the route ended up before the first decimal place, the decimal point, according to the mathematical rounding rules.

The rate of export customs duty on crude oil classified by the TN VED code of the EAEU 2709 00 is equal to zero at the prevailing average oil price per world markets oil raw materials before 109.5 USD per one ton. Each additional growth before 146.00 USD leads to a change in the export duties on the oil. At interval prices from 146 to 182.5 USD, a further increase in market price leads to oil export duties growth to 0.45 USD. If the market price of oil exceeds 182.5 USD/t, growth export duties on the oil are not more than 0.42 dollars per barrel from January 1 to December 31, 2021



The tax rate influence on the exchange rate

Picture 6: Diagram scattering factorial sign X 6

Table 2. Correlations Matrix

	x 1	x 2	x 3	x 4	x 5	x 6	y
X 1	one						
X 2	- 0.74807	one					
X 3	- 0.00452	- 0.27307	one				
X 4	0.97025	- 0.79291	0.088675	one			
X 5	0.707974	- 0.57671	0.334303	0.803134	one		
X 6	0.113881	0.451096	- 0.49034	- 0.04024	- 0.85625	One	
Y	- 0.98516	0.711799	0.003005	- 0.95766	- 0.68621	- 0.11485	one

Source: drawn by the author

Concerning the budget revenues, in addition to those listed, the financial capital inflow is also considered and forms the strongest correlation to the exchange rate.

Judging by graphics scattering factorial sign X_6, we determine the connection of the variance tax on the exchange rate given the little slope of the graph.

The tax differentials accumulate the degree of depletion of the reserves as well as the complexity of developing a particular subsoil area. In addition, for extra-viscous oil and oil produced in some regions of Eastern Siberia, the Caspian Sea, the Nenets Autonomous Okrug, and some other areas depending on the development period and production volumes of the fields, a zero-tax rate may be applied.

2.2 Calculation of the correlation matrices

The compiled matrix using the add-in "Data Analysis" (*Table 2*) has been introduced. The correlation matrix is a symmetric matrix in which, relative to the main diagonal, the intersection of the i-th lines and jth column illustrates the pair correlation coefficients between the i-th and j-th factors. Along the main diagonal, the coefficient of the factors equals 1.

The last row of the correlation matrix contains the coefficients of the pair correlations between factorial and resulting signs.

The proximity of the relationship between features is estimated according to the following rules:

The relationship is very close if proxy ≥ 0.9;

The relationship is close, if 0.7 rxy < 0.9;

The relationship is moderate, if 0.5 rxy < 0.7; and

The relationship is weak if rxy < 0.5

If a ligature between the i-th factor and the resulting sign is close, this factor affects the exchange rate and remains present in the model. Following this, we write out the modules of the corresponding correlation coefficients.

Thus, the analysis of the last row of the correlation matrix shows that factors X_3, X_5, and X_6 are excluded from the model, and factors X_1, X_2, and X_4 remain in the given model for further consideration.

2.3 Collinearity analysis.

Collinearity is the dependence of factor characteristics among themselves. The connection between factorial and resulting signs must be closer than the relationship between the factors themselves; that is, for any pair of selected elements, the following relationship must hold (*Formula 1*):

$$\begin{cases} |r(x_i x_j)| \le |r(x_i y)|; \\ |r(x_i x_j)| \le |r(x_j y)| \end{cases} \quad (1)$$

If the relations of this system are satisfied, then both factors remain in the model. If inequality is not performed, then one of the factors needs to be excluded from the model. Usually, elements with a lower correlation coefficient are excluded.

We define collinearity between factors as follows:

$$\begin{cases} |r(x_1 x_2)| \le |r(x_1 y)| \to |0{,}748| < |0{,}985|; \\ |r(x_1 x_2)| \le |r(x_2 y)| \to |0{,}748| > |0{,}712| \end{cases}$$

$$\begin{cases} |r(x_2 x_4)| \le |r(x_2 y)| \to |0{,}793| > |0{,}712|; \\ |r(x_2 x_4)| \le |r(x_4 y)| \to |0{,}793| < |0{,}957| \end{cases}$$

The primary condition is not met; thus, factor X_2 is excluded:

$$\begin{cases} |r(x_1 x_4)| \le |r(x_1 y)| \to |0{,}970| < |0{,}985|; \\ |r(x_1 x_4)| \le |r(x_4 y)| \to |0{,}970| > |0{,}958| \end{cases}$$

The primary condition is not performed; thus, factor X_4 is excluded. Thus, because of the analysis, we have factor X_1 to satisfy the given conditions.

Then the regression equation takes the following form (*Formula 2*):

$$\hat{y} = a + bx_1. \quad (2)$$

The coefficients of a linear regression equation can be given economic meaning. The coefficient of the regression equation shows how many times the result will change when the factor changes by one unit.

Coefficient b shows the average change in the performance indicator (in units measurements y) with the promotion or downgrade quantities; factor an X on its unit of measurement. The coefficient formally shows the predicted level of y, but only if x = 0 is close to the sample values.

2.3 Analysis of the parameter's equations regression

We calculated the main parameters to construct a regression equation for indicators X 1 and Y (*Table 3*). Based on *Table 2*, we use calculated indicators a and b for the regression equation (*Formula 3*):

$$\begin{cases} b = \frac{\overline{xy} - \bar{x} \cdot \bar{y}}{x^2 - (\bar{x})^2} \approx -0{,}52 \\ a = \bar{y} - b\bar{x} \approx 88{,}92 \end{cases} \quad (3)$$

Table 3 Parameters for calculations

No.	x	y	XY	x2 –	y2 –	ŷ
one	34.66	69.33	2402.98	1201.32	4806.65	70.96
2	32.18	77.23	2485.11	1035.55	5963.76	72.25
3	30.70	75.98	2332.57	942.49	5772.88	73.02
four	38.01	69.87	2655.62	1444.76	4881.31	69.23
5	44.27	65.11	2882.48	1959.83	4239.49	65.99
6	48.43	63.08	3054.92	2345.46	3978.96	63.83
7	47.62	66.79	3180.57	2267.66	4460.98	64.25
eight	46.52	65.47	3045.61	2164.11	4286.18	64.82
9	56.56	57.28	3240.02	3199.03	3281.54	59.62
ten	61.48	54.71	3363.52	3779.79	2993.09	57.07
eleven	64.08	50.67	3247.07	4106.25	2567.67	55.72
12	59.52	52.98	3153.11	3542.63	2806.42	58.09
13	55.89	60.16	3362.47	3123.69	3619.50	59.97
fourteen	58.10	64.32	3737.27	3375.61	4137.68	58.82
fifteen	47.76	63.97	3055.19	2281.02	4092.12	64.18
16	62.34	56.73	3536.43	3886.28	3218.08	56.62
17	79.44	46.30	3678.05	6310.71	2143.66	47.76
eighteen	87.43	40.93	3578.66	7644.00	1675.40	43.63
19	97.09	38.01	3690.86	9426.47	1445.13	38.62
twenty	101.61	36.17	3675.40	10324.59	1308.38	36.28
21	106.77	34.73	3707.73	11399.83	1205.92	33.61
22	111.80	34.38	3843.51	12499.24	1181.87	31.00
23	109.54	34.89	3821.42	11999.01	1217.04	32.17
24	107.76	35.67	3843.86	11612.22	1272.39	33.09
25	107.48	36.17	3887.76	11551.95	1308.41	33.24
26	108.90	35.26	3839.50	11859.21	1243.06	32.50
27	108.12	33.70	3643.57	11689.93	1135.64	32.91
28	110.76	32.86	3640.03	12267.78	1080.05	31.54
29	107.79	32.71	3526.19	11618.68	1070.17	33.08
thirty	109.08	32.07	3497.68	11898.45	1028.18	32.41
31	111.60	32.59	3636.49	12454.56	1061.78	31.10
32	111.28	33.00	3672.56	12383.24	1089.19	31.27
33	107.93	32.77	3536.38	11648.88	1073.58	33.00
34	102.92	32.33	3326.93	10592.53	1044.93	35.60

35	102.56	31.33	3212.95	10518.55	981.41	35.79
36	102.25	31.35	3205.39	10455.06	982.73	35.95
37	108.47	30.81	3341.79	11765.74	949.16	32.72
Mean	80.78	47.07	3365.99	7366.92	2448.77	47.07

Source: Ministry of Finance of the Russian Federation, Ministry of Economic Development of the Russian Federation, Federal Customs Service, Federal Tax Service, Federal State Statistics Service, drawn by the author

Using indicators a and b, the theoretical values of the influential parameter ŷ were calculated. Hence, the equation regression is Formula 4:

$$\hat{y} = 88{,}92 - 0{,}52x_1. \quad (4)$$

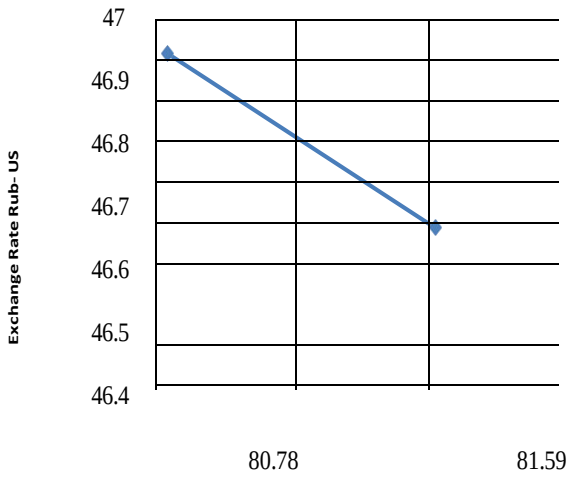
2.4 Analysis of factors of elasticity coefficient

The value of the regression coefficient cannot entirely judge the significance of factors. This analysis can be done by applying the elasticity coefficient (*Formula 5*).

The coefficient of elasticity shows by what percent the resulting attribute changes when the factor points change by 1%. The elasticity coefficient sign always matches the co-sign coefficient's regression:

$$Э_{xy} = b \cdot \frac{\bar{x}}{\bar{y}} = -0{,}52 \cdot \frac{80{,}78}{47{,}07} \approx -0{,}89\% \quad (5)$$

At change factorial sign on the one% from his middle result at changes by the value of the coefficient of elasticity 0.89% of its average.



Picture 7: Relation between world oil prices and the ruble to the USD exchange rate

As a result, the domestic currency exchange rate and world oil prices were found to have a linear correlation. The coefficient of determination shows the share of the variation of the result y due to the interpretation of factor x. The quality of the model is sound: 97.02% of the exchange rate depends on oil prices, and 2.98% depends on other factors.

3. Conclusion

We have concluded that with the decline of world oil prices, currency exchange is also declining and has an extremely high rate of dependence in the context of the Russian economy. This forecast implies associated risks and problems such as gross domestic product decline, inflation growth, stagnated real income of the population, poverty increase, and economic growth decline.

Based on the constructed scatter diagrams, a direct relationship was revealed between the exchange and inflation rates. Inverse relations were found between the ruble exchange rate and the level of world oil prices, the rate of export customs duties on the oil raw and sum income, and customs duties on the federal budget revenue items.

At the same time, low prices on the world oil market negatively affect Russian economic development prospects.

We conclude that the relationship between the exchange rate and the dynamics of oil prices is remarkably close. To determine the cause-and-effect relationship, a regression equation illustrates that the oil market prices will change by one percent from intermediate values of the domestic currency exchange rate by the value of the elasticity coefficient of 0.89%. Thus, the current exchange rate of the ruble depends on 97.02% of the market oil price.

The current political crisis, evident struggle with a priority of Russia's foreign policy, and lack of general economic sense demonstrated by the Russian government will increase the associated financial risks that might create a dangerous scenario that brings the Russian domestic economy to the threshold of a new recession in the following decades.

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