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A Study of Stock Market performance of Large-cap Russian Companies in the Covid-19 Period

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For a long period, Russia maintained its dominance as one of the largest players in the oil market. Despite the significant dominance of oil-based exports, there is a lack of empirical studies investigating the impact of oil price fluctuations on the Russian economy, exchange rate and stock market performance. The relevance of the current research has been further enhanced as it covers the time horizon 2018-2021, and it explicitly recognizes Covid-19 as a significant determinant when investigating the impact of the oil price fluctuations on the Russian economy, exchange rate and stock market performance.

In early 2020, the world experienced an unprecedented existential threat in the form of Covid-19. The Russian economy was not an exception either (World Bank, 2020a; Kartseva & Kuznetsova, 2020; Simola, 2020). Several disruptions were witnessed on social, business, and political frontiers. The labour market reflected an enormous level of vulnerabilities, for example, the inability of the workforce to adjust to online work amidst the frequent lockdowns (Simola, 2020). The transition of economic activities was certainly not smooth. The Promsvyazbank (2020) finds that 40% of the SMEs in Russia were not even prepared to move to remote/online work.

Similarly, due to the falling demand and, at the same time, rising costs of certain goods and services, several business organizations started cutting their workforce. The unemployment rate of Russia increased by 1.6% in May 2020 compared to the statistics of the same month in 2019. Furthermore, 8% of the GDP shrank during the second quarter of 2020 (World Bank, 2020a, 2020b).

In addition to the unfavourable consequences of COVID-19, the Russian economy also experienced extreme vulnerability to the oil price shocks in late March 2020. During the period 2010-2019, oil production constituted 8.67% of the GDP of Russia (Statista, 2021b). Therefore, it is a well-acknowledged fact that the GDP of Russia is heavily dependent on oil production and exports. In a similar vein, Nyangarika et al. (2019) have suggested that the Russian economy is dependent on oil prices and the global oil price fluctuations directly impact the value of the Russian Ruble vis-à-vis significant currencies in the world. In the same vein, Rautava J. (2004) reported that from the long-term perspective, a 10% global oil price increase (decrease) is associated with a 2.2% increase (decrease) in the GDP of Russia. Finally, according to the International Energy Agency (2020), demand for Russian oil in the second quarter of 2020, when compared to the same period in 2019, has decreased by 11.7%. Therefore, it can be argued that due to the significance of oil production-related activities in Russia, any decrease in the oil price can reduce the country's GDP. The abovementioned phenomena have motivated the authors to explore the following three research objectives.

1. To explore the impact of exchange rate and oil price fluctuations on the stock market performance of large-cap Russian companies before and during the Covid-19 period.

2. To identify and compare the relative influence of core determinants on large-cap Russian companies' stock market performance before and during the Covid-19 period.

In the current study, Covid-19 is not only reckoned as the period starting from 2020 but also identified as a determinant, which is measured by various proxies. Therefore, the study also attempts-

3. To explore the impact of various proxies of Covid-19 on the stock market performance of large-cap Russian companies.

In the current study, the secondary data have been used for 2018-2021 to measure several variables, including the USD/RUB exchange rate, stock market performance measures, Covid-19 proxies, and other control variables. As many as six large-cap companies have been selected in the sample, listed in the Moscow Exchange (MOEX), along with the market index values. WTI oil prices have been analyzed to incorporate the impact of oil price fluctuations. The COVID-19 proxies have been obtained from Statista and Yandex DataLens databases.

Literature Review

The literature review section highlights various relevant concepts and their inter-relationship in the context of research objectives.

Oil Price Dynamics Before Covid-19

2020 witnessed various turbulent incidents, notably the Covid-19 pandemic and the oil price war between Saudi Arabia and Russia. The former has caused an unprecedented existential threat to the entire world, including Russia, whereas the latter has significantly affected the oil supply and its price fluctuations. As discussed before, Russia is heavily dependent on oil price movements. However, Covid-19 has further escalated the vulnerability of the Russian economy caused by price fluctuations.

Supply and demand impact Various factors influence the oil price, and one of the prominent ones is the changes in the oil supply related decisions taken by the key market players, such as the Organization of the Petroleum Exporting Countries (OPEC). It was suggested by Roumasset et al. (1983) that the decisions made by the OPEC type cartel led to the implementation of regulatory market power to some extent. Moreover, the study observes that oil prices were relatively overpriced in 1974 due to OPEC's monopolistic power. In 1973, the Arab embargo on oil supplies took place, which was suggested to be one of the results of the rising prices trajectory of oil market prices. This phenomenon led to the 'stagflation' type of economic situation in the US and elsewhere (Hamilton, 2011; Jang & Beruvides, 2020). Gasoline shortage, created by the OPEC, fueled stronger recessionary symptoms in the US and other countries (Hamilton, 2011). The relevance of OPEC, the oil cartel, has not diminished over time. Between 2009 to 2020, OPEC controlled 37-43% of total global crude oil production (Statista, 2021c). Even during the last three decades, there have been several instances when OPEC stretched its influence to create supply shortages to increase oil prices (Chai et al., 2011).

Based on the data analysis of 20 years, from 1998 to 2018, Jang and Beruvides (2020) have found a very interesting supply-price sensitivity. The study found that a 1% change in the oil production of Kuwait, China and Iran resulted in a 1.56%, 1.5% and 0.63% change in the Brent oil market price, respectively. At the same time, a 1% change in the oil production of Russia, Saudi Arabia and Iraq resulted in the 2.96%, 2.46% and 0.12% change in the Brent oil market price, respectively. The concept of supply-price sensitivity of oil is vital to assess the impact of oil price shocks on the GDP of nations.

Similar to supply-side effects, it is also vital to study the demand-side effects of oil prices. Here, it is pertinent to give an example of the Asian financial crisis (Hamilton, 2011). Asia is renowned for producing oil and is the critical oil consumer in the world compared with other parts of the world (Statista, 2021a). Hamilton (2011) highlighted that many Asian countries recorded the lowest oil price levels from 1997 to 1998 due to the substantial fall in demand caused by the East Asian financial crisis. The study further pointed out that the oil demand and the oil prices experienced a rise after the post-crisis recovery started in 1999. The demand-price sensitivity in the oil industry has been a well-established fact in Asia. Economic growth and oil prices are highly correlated in Asia. The significance of demand as an essential determinant in the oil price formation process has also been found in the context of China (Liu et al., 2016). The researchers have noted that the combined impact of the increased oil production from the major suppliers (Saudi Arabia and Russia) and the dropped demand from developing countries such as China supported the dropping trend in the WTI oil price.

USD Index impact This determinant has not been widely analyzed compared to other determinants when studying the phenomenon of crude oil price formation. However, this determinant is crucial because a vast majority of the oil contracts are denominated in the USD in the global oil markets (Chai et al., 2011). Several other studies have found that the USD index is critical in oil price formation and movements (Jang & Beruvides, 2020).

Oil Prices During Covid-19 (2020)

A study finds that there has been a negative price 'bubble' in terms of oil prices dropping by 85% during the period from January 1 to April 30 in 2020 (Gharib et al., 2021). Previously, it has been suggested by Fantazzini (2016), based on the analysis of WTI and Brent oil prices, that the negative bubble, which is considered an outcome of adverse investors' expectations, has been one of the critical causes of the oil price decrease.

In addition, it is worth important considering two significant determinants that appeared on the global centre stage in 2020-Covid-19 and the oil price war between Russian Federation and Saudi Arabia. M. Ali et al. (2020) have found that oil prices have undergone one of the most significant instabilities during the Covid-19 period. Narayan (2022) has also seen similar results by highlighting that the global markets have witnessed one of the most substantial oil price volatilities from January-June 2020. Regarding the impact of Covid-19 on investors of oil in the commodity markets, Hammoudeh et al. (2022) have found that the oil returns have substantially declined due to the severity of the Covid-19 pandemic. Furthermore, the COVID-19 pandemic has generally created market efficiencies, and the oil market has been no exception. The oil market structure has witnessed several inefficiencies ever since the first wave of Covid-19 (Narayan, 2022).

Another major 'player' identified in the ongoing discussion related to the oil price fluctuations during 2020 has been the oil price war between Russian Federation and Saudi Arabia, which took place almost at the same time when the Covid-19 pandemic started. Ma et al. (2021) have applied the event study method, CARs and CAARs models on the oil prices-futures and spot markets, trading in WTI, Brent and Oman crude oil instruments. The study underlines several interesting points. One of them is the Russian refusal to

decrease oil production, followed by the beginning of negative news in the financial media and the emergence of negative investor sentiments in the financial markets. In the same study, the CAARs model supported the evidence about the effects of negative news on oil futures, indicating that returns start dropping gradually within the first two trading days after the Russian refusal. However, returns later experienced substantially negative returns until the fifteenth day after the Russian refusal to reduce oil prices, which triggered the oil war between Russia and Saudi Arabia.

The Dynamics of Key Determinants Influencing Stock Performance

This sub-section reviews various determinants affecting stock price movements ever since the beginning of two significant disruptions in 2020, as discussed in the previous section.

Oil prices Russian dependency on oil is well recognized, however, it is still unclear and inconclusive if the oil price fluctuations impact the Russian stock market even though several oil giants of Russia, such as Rosneft (ROSN), Gazprom (GAZP), Tatneft (TATN) are not only listed on the Moscow exchange, but they are having a very influential presence in the global oil industry.

In 2010, Fedorova and Pankratov published a paper that reported that oil price movements were the most significant influencing factor of the Russian stock market. Another study finds that oil price growth has led to an increase in actual and expected returns on investments in the Russian capital markets (Balashova, 2018). Likewise, evidence has been provided that there has been a direct association between the WTI and Brent oil futures movements and RTS market returns during the pre-COVID period in Russia (S. R. M. Ali et al., 2022).

Exchange rate The exchange rate of USD-RUB currencies is the second most significant impacting factor on the Russian stock market (Fedorova & Pankratov, 2010). Likewise, another study points out that with the control of other variables, the growing value of the Ruble against the USD is considered to be the strategic growth indicator of the MSCI (Russian) stock index (Balashova, 2018). Moreover, it has been suggested by Mikhaylov (2018) that investors in the emerging stock markets consider the risk of losing their wealth partly or entirely because of the strong depreciation in the value of the national currency against major global reference currencies.

Stock market index Teplova and Shutova (2011) provide an in-depth analysis of the risk premium and risk with the traditional and extended CAPM models and cross-sectional regression. For the data analysis purpose, the sample consisted of stock prices of the listed firms for two periods: the pre-financial crisis period (2004 to 2007) and the financial crisis period (2008 to 2009). They highlighted that the traditional CAPM framework provides relatively low explanatory power of beta in the cross-sectional analysis for both pre-financial crisis and financial crisis periods in Russia. The extended CAPM with downside risk beta presented a higher explanatory power in the pre-financial crisis period but did not present any improvements for the financial crisis period.

It is also worth pointing out the evidence from other stock markets. In the research from Astuty (2017), the results reported the significant negative impact of the beta coefficient on the equity price, based on the LQ45 market analysis of Indonesia. Similarly, a substantial and negative impact on the Indonesian agricultural sector's market index has been found (Hutauruk et al., 2014).

Covid-19 Thus far, the widespread virus is a considerable factor influencing the stock returns on the various geographical stock markets (Naidu & Ranjeeni, 2021; Z. Liu et al., 2021; Rao et al., 2021).

In 2021, Naidu and Ranjeeni (2021) found that the effects of the Covid-19 pandemic have not been uniform across the stocks belonging to all the sectors in Australia. Although the effect was different across industries, the study concluded that the fear caused by the pandemic had affected the stock returns in the Australian market.

Other researchers have also studied the Chinese stock market. In a study conducted by Z. Liu et al. (2021), it has been found that COVID-19 not only caused the plummeting of stock returns but also exacerbated the risks of sudden and robust market crashes. Al-Awadhi et al. (2020) have also evidenced the negative impacts of COVID-19 on the stock performance in China. A study with similar results has been written in the Indian context. Rao et al. (2021) have pointed out the adverse effects of Covid-19, especially during the lockdown period, on the Indian stock market.

Research Hypotheses

The current study examines the following hypotheses:

H_1: Oil price determines the stock performance of large-cap Russian companies before and during the Covid-19 period.

H_2: Covid-19 determines the stock performance of large-cap Russian companies.

H_3: Exchange rate determines the stock performance of large-cap Russian companies before and during the Covid-19 period.

Research Methodology

In the current study, a sample of 6 publicly traded firms listed on the Moscow Exchange (MOEX) has been selected to test the hypotheses, covering airline (Stock 1), oil (Stock 2), insurance (Stock 3), telecommunications (Stock 4), IT (Stock 5), and banking (Stock 6) sectors. The balanced pooled data covers four years and is divided into two periods,

(1) pre-COVID, from 1 January 2018 to 1 March 2020, with 512 trade day observations and (2) COVID, from 2 March 2020 to 31 December 2021, with 482 trade day observations. The data market has been obtained from the MOEX index, as well as a respective central bank, whereas data related to the pandemic has been extracted from the state-owned primary data collection service.

Table 1 highlights the description of variables falling in the ambit of multiple phenomena.

Table 1. Variables

Variable	Label	Definition
Sample Stocks		
	Stock 1	The State-owned airline corporation; used as a proxy for the flight industry in Russia
	Stock 2	Most significant oil producer in Russia by turnover; used as a proxy for the oil industry in Russia
	Stock 3	One of the largest Russian insurance firms; used as a proxy for the insurance industry in Russia
	Stock 4	The firm supplying the largest share of the digital services; used as a proxy for the telecommunications industry in Russia
	Stock 5	The largest Russian IT production firm; used as a proxy for the IT industry in Russia
	Stock 6	The State-owned country-scale bank in Russia; used as a proxy for the banking industry in Russia
Dependent Variables		
1. Return	Return	Daily Stock Return
2. Risk	Risk	Daily Stock Risk
3. Beta	Beta	Stock with market co-movement coefficient
4. Capital Asset Pricing Model	CAPM	The Expected Rate of the Return for the given stock
5. Cumulative Abnormal Return	CAR	The Abnormal (Excess) return for the given stock; the degree of over- or under-performance
Determinants		
1. Market Performance	MKT	The Natural Log of MOEX price is used to measure market performance in Russia.
2. Daily COVID new cases	CVD1	Natural Log of Covid-19 new cases
3. Daily COVID recovery rate	CVD2	The coefficient covering the proportion of the new recovery cases to the new Covid-19 infection cases
4. Daily COVID mortality rate	CVD3	The coefficient covering the proportion of the new recovery cases to the new Covid-19 deaths
5. Daily new COVID recoveries	CVD4	Natural Log of Covid-19 new recoveries
6. Daily new COVID deaths	CVD5	Natural Log of Covid-19 new deaths
7. WTI Futures	OIL1	Natural Log of WTI Futures price
8. WTI Spot	OIL2	Natural Log of WTI Spot price
9. USD-RUB rate	CRC1	Natural Log of USD-RUB rate
10. RUB-USD rate	CRC2	Natural Log of RUB-USD rate

The current study applied the "least squares multivariate linear regression" (OLS MLR) econometric technique to analyze the data. In a typical OLS MLR model, the explanatory variables are represented by the X-matrix with the order M × N. In contrast, the explained variable is represented by a single vector, Y, an M × 1 vector, so that the model can be written as $Y = X\beta$. The solution vector "b" is ascertained by solving $\beta = (X'X)^{-1}X'Y$, that is, by multiplying the inverse of the product of the explanatory variable and its transpose with the product of the transpose of the explanatory and explained variable. The variance of the estimated solution is given by $V(\beta) = (X'X)^{-1}(SE)^2$, that is, the variance of the solution vector "β" is obtained by multiplying the inverse of the product of the explanatory variable and its transpose with the variance of standard error (Jolliffe, 1987). Thus, the MLR model applied in the current study is as below:

$$Y_{it} = a_{it} + \sum_{k=1}^{p} \beta_k Z_{it} + \beta_s S_{it} + \varepsilon_{it}$$

Where Y_{it} is a variable of a firm *i* in the period *t*, a_{it} is an intercept term, Z_{it} corresponds to the principal component representing the i_{th} firm in the t_{th} period, S_{it} represents the firm size, and εit is the error term.

Empirical Findings and Discussion

Table 2 highlights the effects of market performance and other explanatory variables on return, risk, beta, CAPM and CAR across six selected stocks during the pre-Covid-19 period. The result demonstrates an insignificant relationship between market performance and dependent variables, except for a significant negative correlation with beta. A similar observation can be drawn for the association of oil determinants and dependent variables: it is relatively insignificant across the board except for beta; an interesting observation follows that "spot" and "futures" oil contracts have an opposite effect on beta, which can be explained by the positive investor sentiment about the growing “spot” price and negative for the growing “futures” price. Regardless, there is not enough data to provide a uniform conclusion about the influence of oil prices on stocks’ performance in the pre-Covid-19 period, which might be explained by the vast difference in the nature of the operation of the underlying companies. Similarly, the exchange rate does not demonstrate significant relationships across the board, except for a significant adverse effect on the beta of stock 1 (airline), a significant positive effect on the CAPM of stock 1 (airline), and a significant negative effect on CAR of stock 1 (airline). The above-mentioned significant relationships can be explained by the nature of the operation of Russian international airline corporations, as their margins are highly dependent on exchange rates. Interestingly, both exchange rate variables negatively determine the beta of Stock 1.

Table 3 highlights the effects of market performance and other explanatory variables on Return, Risk, beta, CAPM and CAR across six selected stocks during the Covid-19

Table 2. Multivariate linear regression matrix with parameter estimates for the pre-Covid-19 period

	Stock	Intercept	MKT	OIL1	OIL2	CRC1	CRC2	R^2
Return	S1	.025***	.004***	-.003	.000	-.014	-.003	.653
	S2	-.035***	-.002***	.004	-.003	.003	-.007	.624
	S3	.029***	-.002***	-.022***	.028***	.002	.011	.539
	S4	-.043***	.003***	-.002	.002	.012*	.006	.822
	S5	.040***	.000	-.004	.006**	.002	.012	.714
	S6	.026***	.001***	-.010***	.013***	-.018	-.007	.678
Risk	S1	.210***	-.024***	.025***	-.029***	-.029	-.031	.879
	S2	.046***	-.012***	.023***	-.025***	-.022	-.038	.747
	S3	-.170***	-.003	.141***	-.175***	-.047	-.135	.594
	S4	.032***	-.004***	-.008	.010**	.012	.013	.501
	S5	.128***	-.010***	.051***	-.057***	-.05	-.049	.506
	S6	-.009	-.023***	.040***	-.040***	.005	-.044	.790
Beta	S1	12,643***	-.949***	.747*	-1,052**	-4,974**	-4,132**	.745
	S2	6,684***	-.455***	.320	-.331	-1,783*	-1,27	.814
	S3	-5,908***	.141	-1,952	2,811*	11,319	1.988	.183
	S4	4,810***	-.355***	.027	-.020	-.468	-.046	.745
	S5	.520	-.342***	1,983***	-2,418***	-3,416	-4,579*	.555
	S6	-.302	-.926***	2,025***	-1,951***	1,906	-.206	.667
CAPM	S1	-.834***	.037***	-.019	.042	.387**	.269*	.711
	S2	-.407***	.029***	-.018	.018	.122*	.078	.824
	S3	.505***	-.053***	.243**	-.310**	-.841	-.902	.233
	S4	-.259***	-.015***	.046**	-.048**	.042	-.062	.762
	S5	.001	.019***	-.158***	.194***	.264	.335*	.556
	S6	.121**	.095***	-.191***	.187***	-.15	.064	.719
CAR	S1	.860***	-.033***	.016	-.043	-.401**	-.272*	.706
	S2	.372***	-.031***	.022	-.021	-.119*	-.085	.820
	S3	-.476***	.051***	-.266**	.338***	.843	.913	.251
	S4	.215***	.017***	-.048**	.050**	-.03	.069	.753
	S5	.039	-.019***	.153***	-.188***	-.263	-.322*	.527
	S6	-.094*	-.093***	.180***	-.174***	.132	-.071	.721

Significant at *** $p < 0.01$, ** $p < 0.05$, and * $p < 0.10$

period. The multivariate regression matrix presents the evidence of the insignificant influence of market performance on the dependent variables, apart from the adverse effect on beta. The result is similar with the pre-Covid-19 period.

In the same vein, the determinants Covid-19 new infection cases and recovery rate do not demonstrate the significantly impact on the chosen stock performance variables. However, the mortality rate negatively influences stock beta. Correspondingly, the Covid-19 new deaths adversely affect the stock beta. In the opposite, the new recoveries possess the positive relative relationship with beta variable. Similarly, the oil price proxies insignificantly influence the Return, Risk, CAPM and CAR in the Covid-19 period. However, the "futures" contract price adversely determines the beta, while "spot" positively influences the same dependent variable. Interestingly, the effect of oil proxies on beta in Covid-19 period is opposite to the pre Covid-19 findings, which can be explained by the positive investor sentiment for growing "futures" price during the period of instable oil market prices. Both exchange rate variables do not provide the significant impact on any of stock performance components.

Table 3. Multivariate linear regression matrix with parameter estimates for Covid-19 period

	Stocks	Intercept	MKT	CVD1	CVD2	CVD3	CVD4	CVD5	OIL1	OIL2	CRC1	CRC2	R^2
Return	S1	-.009	.004***	.000	.000***	.021***	.000*	.000***	.000	-.001***	-.009	-.003	.609
	S2	-.025***	.003***	.000	-.001***	.054***	.000***	.000***	.000**	.000	.010	.010	.876
	S3	-.012	.005***	-.001***	-.002***	.015*	.001***	-.001***	-.001***	.000*	-.014	-.009	.385
	S4	.014**	-.002***	.000***	-.001***	.040***	.001***	-.001***	-.001***	.001***	.003	.002	.444
	S5	.013	-.005***	-.001***	-.002***	.026***	.002***	-.002***	-.001***	.002***	.004	-.002	.615
	S6	-.041***	.005***	.000***	-.001***	.026***	.000***	.000***	.000	.000	.009	.008	.875
Risk	S1	.337***	-.033***	-.001	-.002***	.068**	.006***	-.006***	-.005***	.006***	-.053	-.037	.707
	S2	.281***	-.029***	.000	.002**	-.053**	.003***	-.004***	-.004***	.004***	-.052	-.042	.781
	S3	.082	.008	-.001	-.003**	-.041	.003***	-.003**	-.005***	.004***	-.027	-.002	.129
	S4	.168***	-.018***	.000	.000	-.021*	.002***	-.002***	-.002***	.002***	-.016	-.012	.861
	S5	.146***	-.016***	-.001***	-.002***	.068***	.003***	-.003***	-.002***	.002***	-.020	-.020	.842
	S6	.227***	-.023***	.001***	.002***	-.009	.002***	-.002***	-.003***	.004***	-.039	-.030	.755
Beta	S1	11,285***	-.979***	-.016	-.117***	2,370**	.181***	-.189***	-.187***	.189***	-1,66	-1,002	.635
	S2	1.741***	-1,115***	-.008	.060**	-2,482***	.121***	-.112***	-.120***	.122***	-1,935	-1,737	.824
	S3	8,951***	-.673***	-.060***	-.029	-4,147***	.098***	-.058***	-.116***	.098***	-1,394	-.797	.741
	S4	3,510***	-.430***	-.001	.008	-1,002***	.036***	-.030***	-.046***	.071***	.615	.570	.735
	S5	1,969***	-.259***	.009*	-.008	2,057***	.008	-.010	-.002	-.014*	-.033	-.195	.593
	S6	2,112***	-.125***	.023***	.074***	-1,014***	-.042***	.027***	.011	.028***	-.627	-.584	.271
CAPM	S1	-.814***	.075***	.003	.013***	-.273***	-.016***	.016***	.015***	-.014***	.130	.076	.609
	S2	-.580***	.073***	.000	-.005***	.140**	-.006***	.007***	.007***	-.008***	.101	.100	.812
	S3	-.719***	.060***	.006***	.007***	.213***	-.011***	.007***	.011***	-.008***	.109	.055	.702
	S4	-.488***	.052***	.003***	.006***	.004	-.009***	.006***	.007***	-.007***	.031	.004	.754
	S5	-.245***	.032***	.001*	.004***	-.167***	-.005***	.003***	.003***	-.001	.060	.058	.728
	S6	-.058	.010***	-.002***	-.008***	.112***	.005***	-.003***	-.002**	-.002**	.034	.037	.307
CAR	S1	.805***	-.071***	-.003	-.013***	.295***	.016***	-.016***	-.015***	.013***	-.139	-.079	.602
	S2	.555***	-.070***	.000	.004***	-.086	.006***	-.007***	-.007***	.009***	-.091	-.090	.784
	S3	.707***	-.055***	-.007***	-.009***	-.198**	.012***	-.008***	-.012***	.009***	-.123	-.064	.647
	S4	.502***	-.054***	-.003***	-.007***	.036	.010***	-.007***	-.008***	.008***	-.028	-.002	.746
	S5	.259***	-.037***	-.002***	-.006***	.193***	.007***	-.005***	-.004***	.002***	-.056	-.059	.744
	S6	.017	-.005	.002***	.007***	-.086***	-.004***	.003***	.002***	.002***	-.026	-.029	.352

Significant at *** $p < 0.01$, ** $p < 0.05$, and * $p < 0.10$

Conclusion

This study used the multivariate linear regression model to compare the relative influence of determinants on the stock performance of large-cap Russian companies in pre-Covid (2018-2019) and Covid-19 (2020-2021) periods. The determination variables differently influence chosen for the analysis stock performance proxies. The determinants insignificantly influence stock risk and returns. Regarding the expected return and *Cumulative Abnormal Return* reaction, these stock performance components have been relatively determined in both periods. However, the relationship with *the beta* factor is detectable. The Moscow Stock Exchange index negatively interacts with the stocks' beta in both periods. In the same vein, the WTI oil influence on stock performance is

apparent in interaction with stock beta in both periods. The WTI Futures price positively determines the beta, while WTI Spot price inversely influences the beta factor in the pre-Covid-19 period. These results are opposite to the WTI oil price determination of beta in the Covid-19 period. Finally, the results support the hypothesis 1 about the Oil prices influence on stock performance in both periods.

Regarding the coronavirus influence, the Covid-19 mortality rate negatively determines the beta, which is similar to the Covid-19 new deaths influence. On the opposite, the Covid-19 new recovery cases positively interact with the beta. Consequently, the research also supports the hypothesis 2 about the Covid-19 influence on stock performance. Besides, the study provides evidence of the negative interaction between the USD-RUB rate and beta and the negative relationship with stocks' Cumulative Abnormal Return in the pre-Covid-19 period. However, the exchange rate does not determine the stock performance in the Covid-19 period, hence, the study partly disproves the hypothesis about the exchange rate determination of stock performance in both periods.

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