



INFLUENCE OF FACTORS ON CROSS-BORDER CAPITAL FLOWS FROM AND TO EMERGING COUNTRIES: CASE STUDY OF RUSSIA

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ABSTRACT

Objective: The purpose of the study was identification of factors affecting the participation of the Russian Federation as an emerging country in cross-border capital flows in 2004–2020. **Methods:** The authors conducted regression analysis of factors affecting the participation of the Russian Federation in the cross-border movement of capital (direct investment to/from Russia, the inflow of portfolio investment into the Russian economy, volumes of capital outflow from Russia) with the inclusion of lagged variables in the regression equations to eliminate the autocorrelation of the results. **Results:** The influence of factors on the participation of the Russian Federation in the cross-country movement of capital is in line with the dependencies that are relevant for emerging markets, however, with the need to take into account the impact of international political tension. To reduce risks in the sphere of cross-country capital movement, one must implement measures to gradually decouple the Russian economy from the raw material component, in combination with measures to respond to foreign political market tensions. When developing public policy measures, one should also consider aspects of capital flight, which require, one way or another, further development of control and state regulation of capital flows. **Conclusion:** Taking into account the identified factors will make it possible to justify the use of innovative and other measures and instruments of state policy in the field of ensuring the interests of Russia's participation in the international movement of capital. The article is the first comprehensive empirical study of the factors affecting the participation of the Russian Federation as an emerging country in cross-border capital flows, covering in the analysis the period including the 2010s when there were fundamental changes in the framework of external risks to the national economy traditionally considered among the leading determinants of cross-border capital flows to/from emerging markets.

Keywords: International migration of capital; Emerging market; Russian Federation; International investment; Portfolio investment



INFLUÊNCIA DE FATORES NOS FLUXOS DE CAPITAIS TRANSFRONTEIROS DE E PARA PAÍSES EMERGENTES: ESTUDO DE CASO DA RÚSSIA

RESUMO

Objetivo: O objetivo do estudo foi identificar os fatores que afetam a participação da Federação Russa como país emergente nos fluxos de capitais transfronteiriços em 2004-2020. **Métodos:** Os autores conduziram uma análise de regressão de fatores que afetam a participação da Federação Russa no movimento transfronteiriço de capital (investimento direto de/para a Rússia, a entrada de investimento de carteira na economia russa, volumes de saída de capital da Rússia) com a inclusão de variáveis defasadas nas equações de regressão para eliminar a autocorrelação dos resultados. **Resultados:** A influência dos fatores na participação da Federação Russa no movimento de capitais entre países está em consonância com as dependências que são relevantes para os mercados emergentes, porém, com a necessidade de levar em conta o impacto da tensão política internacional. Para reduzir os riscos na esfera do movimento de capitais entre países, é preciso implementar medidas para dissociar gradualmente a economia russa do componente de matéria-prima, em combinação com medidas para responder às tensões do mercado político externo. Ao desenvolver medidas de política pública, deve-se considerar também aspectos da fuga de capitais, que requerem, de uma forma ou de outra, maior desenvolvimento do controle e regulação estatal dos fluxos de capitais. **Conclusão:** Tendo em conta os fatores identificados, será possível justificar a utilização de medidas e instrumentos de política estatal inovadores e outros no domínio da garantia dos interesses da participação da Rússia no movimento internacional de capitais. O artigo é o primeiro estudo empírico abrangente dos fatores que afetam a participação da Federação Russa como país emergente nos fluxos de capitais transfronteiriços, abrangendo na análise o período que inclui a década de 2010, quando ocorreram mudanças fundamentais no quadro de riscos externos para a economia nacional tradicionalmente considerada entre os principais determinantes dos fluxos de capitais transfronteiriços de/para mercados emergentes.

Palavras-chave: Migração internacional de capital; Mercado emergente; Federação Russa; Investimento internacional; Investimento em carteira.

1. INTRODUCTION

In the modern era of globalization, each state acts as a world economy participant, although, at the same time, the level of integration of specific countries into the international economy can differ significantly. An important economic phenomenon that mediates modern world economic relations is the international movement of capital, and its objects are global capital flows.

Although there is no consensus among researchers on the positive and negative aspects of state participation in the cross-border movement of capital, at the same time, the general opinion at the level of governments and international financial organizations is that to achieve sustainable growth in a developing economy, there



should be a net inflow of private capital.

The problem seems to be very relevant for emerging markets, in the context of ensuring the interests of national economic security and future dynamic and balanced economic development, considering the uncertainties inherent in emerging market models.

In the context of current socio-economic development, dynamic transformations are occurring, sometimes dramatically changing megatrends in key areas. In particular, this refers to socio-political and financial, and economic globalization, the rapid improvement of computing technologies, the development of end-to-end communications and digital tools which contributed to the fact that many of the countries that previously occupied the most important places in the world economic relations cease to be priority partners as participants in international economic relations, from exporters/importers to speculative investors, turn their attention to emerging markets.

Moreover, as in the case of Russia, this group of countries is forced to pay attention not only to objective factors, including the potential of emerging markets and the similarity of the economic structure of the respective countries and the Russian one but also to the regime of sanctions against Russia arbitrarily introduced in 2014 and the subsequent period by a group of economically developed countries, which, together with the retaliatory measures taken and introduced by Russia became factors of containment and stagnation of economic relations between the Russian Federation and developed countries.

In the current unfavorable foreign economic and foreign-policy conditions, an important task of the Russian state policy is the financial recovery of the country's economy, including active efforts to foster the attraction of capital into the economy. It is also significant to overcome the imperfections of the Russian monetary and stock market which do not meet the needs of ensuring the development of the national innovation system of Russia in the new technological order, as well as the global and regional competitiveness of the Russian economy.

Finally, the importance of the issues covered in this study is related to the current changes in the conceptual organization of cross-border capital flows. At present, a global capital market has developed, and its subjects are business, individuals, governments, credit, and international financial organizations. Meanwhile, it seems



premature to say that the global capital markets have already been finalized – in the era of the knowledge economy, such a statement seems disputable (Haddad, & Hornuf, 2019). Blockchain, cryptocurrencies, and other innovative financial technologies are clearly contributing to the transformation of global financial markets, the destruction, and the restructuring of seemingly unshakable conditions for their creation. The turnover of cryptocurrencies, not yet fully understood, seems to be changing the landscape of global capital flows; blockchain technologies are significantly transforming the architecture of payments and payment systems, while the analysis and management of big data, for example, on the contrary, provide new opportunities for regulating and controlling the movement of capital, giving rise to the rapid development of supotech (King, & Barefoot, 2018; di Castri, Grasser, & Kulenkampff, 2020).

These circumstances should be taken into account on a large scale in current studies of factors affecting the cross-border movement of capital, the purpose of which is to identify ways to ensure priority national interests in this area and develop evidence-based proposals for improving public policy.

The theory of the cross-border movement of capital is expounded within the framework of fundamental concepts developed by representatives of key economic schools of the past. In particular, one should mention the representatives of the neoclassical school (whose works are conceptualized in the theory of Mill and the models by Heckscher-Ohlin, Nurkse, and Mill); the Keynesian school (primarily the concepts by Harrod, Machlup, and Domar) and modern hybrid and synthetic concepts and schools. The latter include localized models of the participation of transnational corporations (TNCs) in the international transmission of capital that explain certain key determinants (models by Camp, Vernon, Chimeras, Buckley, Dunning, and others, including co-authors and authors of modifications), and models that mediate the economic and statistical relationship international investment and national economic growth (by Rosenstein-Rodan, Pincus, Onitsuka, Kurihara, three-phase economic development, capital flow balance, and others).

In the current research literature, there is an increased interest in issues related to ensuring national economic development, national economic security, and the development of state policy measures for participation in international financial and economic relations (Tsvetkov *et al.*, 2019). Meanwhile, studies of the systems of



factors influencing the cross-border movement of capital and the participation of states in such movement are characterized by incompleteness and incompleteness, the absence of a unified theoretical and methodological approach. As for Russia, the identification of factors influencing the participation of the state in the cross-border movement of capital is hindered by the complexity of considering such exogenous factors as geopolitical instability and the sanctions war.

Conducting a comprehensive analysis of the factors affecting the cross-border movement of capital is difficult due to the inconsistency of the methodology for statistical measurements of the capital movement, the difficulty of identifying many parameters of non-observable economic relations, primarily in the shadow economy and illegal export of capital.

Such circumstances have negatively affected public policy in the field of participation of emerging economies in the international movement of capital, although this area of public policy is designed to focus on scientific advancements, which determines the further conduct and improvement of research in this area.

In the context of the subject of this publication, the studies that examine the factors affecting the cross-border movement of capital and the problems of participation of emerging markets in the cross-border movement of capital are of practical interest.

There are two groups of factors affecting cross-border capital flows (Barrot, & Serven, 2018). The first group is called pull factors driving capital flows – these factors relate to each specific state, reflect its investment attractiveness, the development of financial markets, the economic situation, as well as the level of risks associated with attracting capital. One of the key factors in this group is the solvency of the state which is usually expressed in the sovereign credit rating. Within this group, there is another key factor that affects capital flows to a particular state – the rate of return. It is high in financial markets with high risks, including emerging markets, and acts as a factor in attracting, first of all, speculative capital. The third significant factor in attracting capital is the indicators of the overall macroeconomic situation in the country (Eller, Huber, & Schuberth, 2020).

The second group of factors influencing the cross-border movement of capital includes global factors that are common to all countries and external to the particular state. Such factors are often referred to as "push factors". The main role among these factors is played by world interest rates. It seems important to consider that the inflow



or outflow of capital significantly affects the state of the national economy, especially in emerging markets. As described in specialized research (Hannan, 2018; Anggitawati, & Ekaputra, 2020; Bhasin, & Kapoor, 2021), a significant share of capital inflows to emerging markets has traditionally been accumulated in the form of gold bars. In other words, if the current account deficit does not fully compensate for the surplus in transactions with capital and financial instruments, then the capital inflow should lead to an increase in the state's gold and foreign exchange reserves. As shown by the authors of the cited work, there is a rapid growth in the money supply in a lot of emerging markets, both in nominal and in real terms, due to the inflow of capital.

Attempts to identify the relevant push factors revealed that, in addition to the global interest rate, the factors should also include the yield of conservative financial instruments, excess liquidity in global financial markets, which at the same time determine the risk appetite of foreign investors. Since in the current economic conditions, when identifying and evaluating the factors influencing the cross-border movement of capital, one cannot ignore the flow of entrepreneurial capital, the expansion strategies of transnational companies, and other similar factors that can be classified as significant global push factors.

Factors affecting cross-border capital flows involving emerging markets differ somewhat from the universal model, which is predetermined by the characteristics of emerging economies as such (Gallagher, 2014; Koepke, 2019). Emerging markets hold an important place among developing economies, which is characterized, on the one hand, by the dynamic restructuring of the markets with a prominent political component, and, on the other hand, by the borderline state between developing and developed countries. In general, these countries include, first, BRICS and the Next 11 countries (Choudhry, Marelli, & Signorelli, 2020; Coppola, Maggiori, Neiman, & Schreger, 2021). Research into the participation of emerging markets in international capital flows (Herrmann & Mihaljek, 2013; Alderighi, Cleary, & Varanasi, 2019; Chalencon, & Mayrhofer, 2018) reveals several patterns, including the active influence of the geopolitical factor (Nwogugu, 2021; Lee, & Chen, 2020; Zhou *et al.*, 2020), the redistribution of innovative development factors between national economies (Alderighi, Cleary, & Varanasi, 2019), the state and subjective assessments of economic growth prospects in indicative emerging economies, primarily in China. Observations of the behavior of foreign investors show that when placing speculative



capital (and making decisions on its withdrawal from the securities of a particular state), the investors are actively guided by considerations related to forecasts and expectations of economic growth in the Asia-Pacific countries, primarily in China, or economic slowdown (Taffler, Agarwal, & Wang, 2017).

The relevant aspects characterize the predominance of risk factors in determining the processes of capital inflow/outflow to/from emerging economies (Choi, & Furceri, 2019), which requires a thorough consideration in the national economic policy.

There are relatively few comprehensive studies of factors affecting capital flows in the Russian Federation. These issues were studied by Russian authors, thus, the approaches to research and the conclusions drawn are largely based, among other things, on the research traditions of the Russian economic school.

When assessing the determinants of the participation of the Russian Federation in the cross-border movement of capital, one should consider significant changes in the macroeconomic environment that took place in the middle of the 2010s, including the implementation of international sanctions against Russia and a significant decrease in world prices for energy resources, the main Russian export. Consequently, the practical recommendations made earlier regarding the prospects for Russia's participation in cross-border capital flows will not necessarily be relevant in the current macroeconomic conditions. Therefore, the main value of earlier studies for this work lies in testing methods that allow one to assess the impact of factors on capital flows in Russia, as well as clarifying the set of relevant factors, which allowed us to slightly narrow down the search scope of this study.

It seems appropriate to mention the following Russian studies among the most noteworthy published in recent years. The authors (Drobyshevsky, & Trunin, 2006) analyze the impact of capital account movements on macroeconomic indicators in the Russian Federation. The indicators selected by the authors include the real exchange rate of the Russian ruble, consumer price and stock market indices, gross domestic product (GDP), and investment trends. This study also featured inverse relationships, namely the determinants of capital flows to and from Russia. The modeling of the influence of factors on the movement of capital in the Russian Federation was carried out based on the regression models of time series, reflecting, among other things, the dependence of the behavior of various capital flows, and the main source of data was information from the Bank of Russia on the balance of payments over ten years. It is



worth noting that the authors indicate the construction of a vector autoregression model as the optimal research method as it had been previously used in similar studies by foreign authors, in particular, in the works (Kim, 2000; Calvo, Leiderman, & Reinhart, 1996). The advantage of such models is the possibility of complex modeling of the matrix of factors affecting the cross-border movement of capital.

However, in the study (Drobyshevsky, & Trunin, 2006), this methodology was not used due to insufficiently long data series, according to the authors. Significantly, this approach was adopted by more relevant studies conducted by Russian authors, although the latter had data series for 15 or more years at their disposal.

The study (Drobyshevsky, & Trunin, 2006) showed that the movement of capital in the Russian Federation was described by fundamental macroeconomic indicators, which corresponded to the conceptual foundations of macroeconomic theory. However, from 1996 to 2005, the vast majority of capital transfer transactions are related to the management of Russia's public external debt, and the trend of capital inflow was explained, first of all, by internal factors. The greatest influence on the movement of capital was exerted by portfolio investment flows, the direction of which in the specified period was associated with a change in the real exchange rate of the Russian ruble (Drobyshevsky, & Trunin, 2006).

This publication reflects the results of the study that can be characterized as aimed at supplementing and developing earlier scientific ideas about the factors affecting the national interests of Russia in the cross-border movement of capital, considering the progress in the national economy of Russia in the 2010s and at the same time increasing primarily external risks to economic security.

2. METHODS

As the literature review has shown, the methodology of these studies is based on regression analysis – the authors create linear regression equations (time series regression models), based on which the presence of a statistically significant influence of a factor on capital flows to the Russian Federation is determined, as well as the degree of influence of these factors. Several studies also contain recommendations for optimizing Russia's participation in international capital flows, based on the results of factor analysis.

The approach proposed in (Drobyshevsky, & Trunin, 2006) to the study of factors



influencing capital flows can be actively applied to study (create an econometric model of) the factors affecting the participation of the Russian Federation in cross-border capital flows – primarily in the context of distinguishing between categories "outflow", "export" and "flight" of capital, as well as taking into account the observed and unobserved influence of exogenous factors (variables), such as turbulence in foreign policy. As a result, when making calculations, we will build multifactor regression models of key indicators of the participation of the Russian Federation in the cross-border movement of capital, in which the following are selected as dependent (explanatory) variables:

- direct investments in the Russian Federation;
- direct investments abroad from the Russian Federation;
- portfolio investments in the Russian Federation;
- the export of capital from Russia.

Analysis period: from the 3rd quarter of 2004 to the 4th quarter of 2019 (data for the 1st and 2nd quarters of 2004 were taken into account when calculating lagged variables, per the specific features of econometric models). Data for 2020–2021 were not included in the analysis due to their incompleteness, as well as due to the need to additionally consider the pandemic factor, which, apparently, significantly corrected universal trends in international capital flows, including those with the participation of emerging markets (Beirne, Renzhi, Sugandi, & Volz, 2021; Kalemli-Ozcan, 2020; Song *et al.*, 2021), which in itself requires additional comprehensive study in a separate paper.

Data source: assessment of key aggregates of the Russian balance of payments carried out by the Bank of Russia using the BPM-6 (Balance of payments manual). Despite the imperfection and inconsistency of the assessment methodology used by Rosstat, the Bank of Russia, and foreign sources, the data of the Bank of Russia are characterized by the greatest completeness and consistency, which makes it possible to carry out econometric analysis, subject to existing limitations and assumptions.

The data step for accumulation, lag, and analysis is a quarter.

The assessment of the factors influencing the flight of capital from Russia was not carried out due to the lack of relevant statistical data comparable with the data of state statistics, including the methodology of collection and analysis, which, we believe, does not allow one to ensure the reliability and relevance of modeling.



3. RESULTS AND DISCUSSION

Below is an assessment of the factors affecting cross-border capital flows involving Russia. The first econometric model that we tested and calculated (1) characterizes the influence of factors on the inflow of foreign direct investment into the Russian economy, and is represented by the following regression equation:

$$FDIRU_t = a_0 + a_1 \cdot FDIRU_{t-2} + a_2 \cdot DREER_t + a_3 \cdot DOIL_t + a_4 \cdot \varepsilon_{t-2} + \varepsilon_t \quad (1)$$

where $FDIRU_t$ is direct investment in Russia for quarter t , % of GDP;

a_0 is the free term of the regression equation;

$FDIRU_{t-2}$ is the lagged value of direct investment with a step value of two quarters;

$DOIL_t$ is the rate of increase in the price of Brent oil for the quarter t , %;

ε_{t-2} is the second-order moving average.

The inclusion of the lagged value of the endogenous variable in the model is explained by the need to exclude the autocorrelation of residuals, since direct investment in the field of cross-border capital movement, most often, is an inertial process. The purpose of eliminating the autocorrelation of the residuals was also consistent with the addition of a moving average to the model – in this case, a second-order one.

The indicators of the econometric model obtained from the results of data processing are shown in Table 1.

Table 1. The results of modeling the impact of factors on the inflow of foreign direct investment into the Russian economy

Indicator	Coefficient t	Probability
The free term of the regression equation	-0.43	-
The inflow of foreign direct investments into the Russian economy with a time lag of six months	0.221	0.001
The growth rate of the exchange (real effective) rate of the Russian ruble	-0.024	0.019
The growth rate of quoted market prices for North Sea oil	0.0015	0.043
Second-order moving average regression equation term	-0.123	0.000
Regression equation statistics		
Indicator	Value	
R^2 – indicator (coefficient) of determination (adjusted)	0.21	
Lagrange multiplier test	0.64	
F-test	0.0011	

The model is characterized by statistical significance, the values of LM-statistics are below critical, which indicates the absence of autocorrelation of the residuals, checking

the value of the F-test allows one to reject the null hypothesis, i.e., it allows one to note the presence of a statistically significant relationship between the variables.

Thus, foreign direct investment (FDI) inflows in modern economic history were positively affected by the growth in commodity prices (with an increase in the growth rate of Brent oil prices by 1 percentage point, one can expect an increase in FDI by 0.0015 percentage points of GDP), which affected the attractiveness of real projects in the oil and gas sector, as well as, most likely, the expectations of investors of increased consumption in the country, which entailed direct investment in other industries. The strengthening of the national currency which automatically entailed an increase in the value of Russian assets restrained direct foreign investors (with an increase in the growth rate of the real exchange rate of the Russian ruble by 1 percentage point, one can expect a reduction in FDI by 0.024 percentage points of GDP), which can also be considered natural.

The presence and value of the free term of the equation can be interpreted as a statistically unobservable influence of external factors, such as sanctions-related pressure and general tension in relations between foreign investors and Russian partners, the impact of which has become more important in recent years. However, the use of residual autocorrelation tools combined with a sufficiently large period for data analysis still allows one to obtain a statistically reliable econometric model.

The model of the influence of factors on the export of capital from the Russian Federation abroad in the form of direct investment is represented by equation (2):

$$FDIabRU_t = a_0 + a_1 \cdot FDIabRU_{t-1} + a_2 \cdot BD_t + a_3 \cdot DOIL_t + a_4 \cdot \varepsilon_{t-1} + \varepsilon_t \quad (2)$$

where $FDIabRU_t$ represents direct investments from the Russian Federation to foreign countries for quarter t , % of GDP;

BD_t is budget surplus or deficit in quarter t , % of GDP;

ε_{t-1} is the moving average of the first order.

The indicators of the econometric model obtained from the results of data processing are shown in Table 2.

Table 2. Results of modeling the influence of factors on direct investment from the Russian Federation to foreign countries

Indicator	Coefficient	Probability
The free term of the regression equation	-0.002	-
FDI from the Russian economy into the foreign economy, recorded with a time lag of three months	0.877	0.000
The size of the surplus of the consolidated budget of the Russian Federation	-0.0456	0.0125
The growth rate of quoted market prices for North Sea oil	0.0028	0.049
First-order moving average regression equation term	-0.123	0.000
Regression equation statistics		
Indicator	Value	
R^2 – indicator (coefficient) of determination (adjusted)	0.495	
Lagrange multiplier test	0.556	
F-test	0.000	

The model is characterized by statistical significance, the values of LM-statistics are below critical which indicates the absence of autocorrelation of the residuals, checking the value of the F-test allows one to reject the null hypothesis, i.e., it allows one to speak about the presence of a statistically significant relationship between the variables.

Thus, Russian FDI in foreign countries is positively affected by an increase in oil prices, which leads to excess profits available for investment, as well as a general improvement in the investment climate within the country (with an increase in the growth rate of Brent oil quotations by 1 percentage point, one can expect an increase in Russian FDI abroad by 0.0028 percentage points of GDP), negatively – an increase in the budget surplus, which makes direct investments within the national economy more attractive (with an increase in the growth rate of the budget surplus by 1 percentage point of GDP, one can expect a decrease in domestic FDI by 0.00456 percentage points of GDP).

The model of the influence of factors on the inflow of portfolio investments in the Russian Federation is represented by equation (2.3):

$$PIRU_t = a_0 + a_1 \cdot PIRU_{t-1} + a_2 \cdot DREER_t + a_3 \cdot DOIL_t + a_4 \cdot MBK_t + a_5 \cdot BD_t + a_6 \cdot DGDPT + a_7 \cdot \varepsilon_{t-1} + \varepsilon_t \quad (3)$$

where $PIRU_t$ is portfolio investments in the Russian Federation for quarter t , % of GDP; MBK_t is the average (in quarterly terms (for period t)) interest rate in the interbank loan market, %;

BD_t is the deficit or surplus of the consolidated budget of the Russian Federation in quarterly terms (for period t), % of GDP;

$DGDP_t$ is the quarterly (for the period t) rate of real growth in the physical volume of the GDP in the Russian economy, %.

The indicators of the econometric model obtained from the results of data processing are shown in Table 3.

Table 3. Results of modeling the influence of factors on foreign portfolio investment in the Russian Federation

Indicator	Coefficient	Probability
The free term of the regression equation	-0.67	-
Inflow of portfolio investments into the Russian economy from abroad with a time lag of three months	0.54	0.000
The growth rate of the exchange (real effective) rate of the Russian ruble	0.245	0.046
The growth rate of market quotations of the price of North Sea oil	0.012	0.033
The average (in quarterly terms) interest rate in the interbank loan market	0.22	0.045
The deficit or surplus of the consolidated budget of the Russian Federation in quarterly terms	-0.11	0.001
The quarterly rate of real growth in the physical volume of the GDP in the Russian economy	0.6455	0.011
First-order moving average regression equation term	-0.9655	0.000
Regression equation statistics		
Indicator	Indicator	
R^2 – indicator (coefficient) of determination (adjusted)	0,23	
Lagrange multiplier test	0,26	
F-test	0,0048	

The model is characterized by statistical significance. The hypothesis of autocorrelation of balances is not rejected, autocorrelation may be associated with a strong statistically not estimated influence of external factors such as sanctions-related tensions and general tension in relations between foreign investors and Russian partners, and increased speculative motives in short-term portfolio investments such as carry-trade. Interpreting the obtained data and statistical relationships, it also seems appropriate to consider the factor of the general underdevelopment of the Russian stock markets, the complex nature of the administrative influence of the state, which can influence the behavior and mood of foreign portfolio investors.

Thus, a positive effect on foreign portfolio investment in the Russian economy is exerted by the growth rate of the real effective exchange rate of the national currency, which makes portfolio investment more attractive than real investment, counting on further growth in quotations of Russian securities and the ruble itself (with an increase in the growth rate of the real exchange rate of ruble by 1 percentage point, we can

expect an increase in foreign portfolio investment in the Russian economy by 0.245 percentage points of GDP), the growth rate of the price of Brent oil as a general indicator of the attractiveness of Russian securities, primarily in the commodity sector (with an increase in the growth rate of oil quotations "Brent" by 1 percentage point, we can expect an expansion of foreign portfolio investments in the Russian economy by 0.012 percentage points of GDP), an increase in the borrowing rate in the interbank lending market of the Russian Federation which characterizes the growth in profitability from portfolio investments in Russian securities (with an increase in the growth rate of interbank loans by 1 percentage point, one can expect an increase in foreign portfolio investment in the Russian economy by 0.22 percentage points of GDP), GDP growth in real terms that reflects the overall attractiveness of investing in the Russian economy (with an increase in real growth rates GDP by 1 percentage point, we can expect an increase in foreign portfolio investment in the Russian economy by 0.6455 percentage points of GDP). The growth of the budget surplus reduces the inflow of foreign portfolio investments, many of which are made directly into government securities of the Russian Federation, the issue of which will slow down with the growth of the budget surplus (if the growth rate of the budget surplus increases by 1 percentage point of GDP, one can expect a reduction of foreign portfolio investment by 0.11 percentage points of GDP).

The model of the influence of factors on the export of capital from the Russian Federation is represented by the equation (4):

$$CF_t = a_0 + a_1 \cdot CF_{t-1} + a_2 \cdot DGDP_t + a_3 \cdot SAV_t + a_4 \cdot OECD_t + a_5 \cdot DRTS_t + a_6 \cdot \varepsilon_{t-2} + \varepsilon_t \quad (4)$$

where CF_t is the volume of capital export from the Russian Federation for quarter t , % of GDP;

SAV_t is the quarterly (for period t) growth rate of the Russian population's savings in Russian rubles in the Russian banking system, %.

$OECD_t$ is the average quarterly (for period t) growth rate of GDP (in physical terms) in the Organisation for Economic Co-operation and Development (OECD) countries, %;

$DRTS_t$ is the quarterly (for period t) growth rate of the value of the Russian stock market index (RTS), %;



Table 4. Results of modeling the influence of factors on the export of capital from the Russian Federation

Indicator	Coefficient	Probability
The free term of the regression equation	0.334	-
The volume of capital export from the Russian Federation for the quarter with a time lag of three months	0.567	0.0001
GDP growth of the Russian Federation (real)	-0.256	0.031
The quarterly growth rate of savings of the Russian population in Russian rubles in the banking system of Russia	0.0987	0.025
The average quarterly growth rate of GDP (in physical terms) in OECD countries	0.9878	0.013
The quarterly growth rate of the value of the Russian stock market index (RTS),	-0.008	0.001
Second-order moving average regression equation term	-0.976	0.000
Regression equation statistics		
Indicator	Value	
R^2 – indicator (coefficient) of determination (adjusted)	0.49	
Lagrange multiplier test	0.56	
F-test	0.000	

The model is statistically reliable and significant. It can be stated that the acceleration of the export of capital is enhanced by the increase in the tendency of the population to save as an integral identifier of the deterioration of the investment climate within the country (with an increase in the growth rate of savings in deposits in rubles by 1 percentage point, we can expect an increase in the outflow of capital from Russia by 0.0987 percentage points of GDP), economic growth in the OECD area as a factor in increasing the attractiveness of investing funds abroad (with an increase in GDP growth rates in OECD countries by 1 percentage point, we can expect an increase in the outflow of capital from Russia by 0.9878 percentage points of GDP). GDP growth in real terms, which corresponds to a general improvement in the state and development prospects of the domestic economy, has a negative effect on the growth of capital export, and a positive effect on strengthening the national economic security of Russia (with an increase in real GDP growth rates by 1 percentage point, one can expect a decrease in capital outflow from Russia by 0.256 percentage points of GDP), the growth of domestic stock indices as an indicator of the growth in the attractiveness of portfolio investment within the country (with an increase in the growth rate of the RTS index by 1 percentage point, we can expect a decrease in the export of capital from Russia by 0.008 percentage points of GDP).

4. CONCLUSION

The study showed that the influence of factors on the participation of the Russian



Federation in the cross-border movement of capital was in line with the generally accepted dependences for emerging markets. However, we need to consider the impact of international political tensions ("sanctions war"), a more detailed account of which requires an appropriate development of methodology and accumulation of empirical data over a longer period. In particular, it can be argued that to strengthen the priority national interests of Russia in the cross-border movement of capital, one must:

- ensure economic growth;
- improve the investment climate in the country and increase the investment activity of residents, increase the investment attractiveness of the Russian economy;
- develop financial markets;
- balance the budgetary and fiscal aspects of ensuring the dynamically sustainable development of the national economy.

To reduce risks in the field of cross-border movement of capital, it is necessary to implement measures to gradually decouple the Russian economy from the raw material component, in combination with measures to respond to foreign political market tensions. When developing public policy measures, one should also consider aspects of capital flight, which require further development of control and state regulation of capital flows. Focusing on the relationships above will make it possible to take into account the systemic and structural relationships between the factors affecting the participation of the Russian Federation in the cross-border movement of capital when developing appropriate measures and tools of state policy.

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