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The Impact of the Ruble Exchange Rate on Foreign Direct Investment from the EU to Russia in the Period 2014–2020

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ABSTRACT

The purpose of this study is to explain the impact of fluctuations in the exchange rate of the Russian currency on the inflow of FDI from the European Union to the Russian Federation in the period 2014–2020 in order to provide practical recommendations for the development of investment policy and FDI attraction. The author used a three-stage methodology, including theoretical, statistical and empirical analyses. The theoretical positions of the influence of the value of the currency on the inflow of various types of FDI into the national economy are determined. It has been established that the increase in the value of the currency has a positive effect on the inflow of FDI and on industries focused on the domestic market of the country. The weakening of the real exchange rate of the ruble generally had a negative impact on FDI inflows into the Russian market. With the fall in the exchange rate, foreign firms targeting the Russian market have reduced their investments. At the same time, export-oriented firms have increased their presence in the form of fixed investment in Russia. Empirical confirmation of theoretical provisions allows using the obtained results when making decisions regarding investment policy and attracting FDI to the national economy.

Keywords: foreign direct investments; European Union; economic sanctions; exchange rate; Russian Federation

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INTRODUCTION

For many years the European Union (EU) has been one of the most significant investment partners for the Russian Federation. Investment cooperation has intensified since the EU expanded in 2007 and the Russian Federation and the EU launched the bilateral institutional "Partnership for Modernization" in 2010. The goal of the partnership was to assist in solving the problems of modernizing the economies of both Russian Federation.[1] However, it was stopped in 2014.

Despite the mutual sanctions and drop in the volume of foreign direct investment (FDI) inflows, EU countries kept their FDI in the Russian economy. This tendency can be explained by many institutional characteristics of the Russian economy, including its high dependence on technology from EU countries as a part of FDI projects, as well as a long track record of investment cooperation. However, most of these institutional factors have long-term effects, which often do not change in the short or even medium term. As a result, investors consider these factors (including governmental institutions and international agreements) in their long-term decision-making.

Unlike institutional factors, factors such as inflation or exchange rates can affect FDI flows in the short run. The exchange rate is one severe economic factor that could impact investment decisions depending on foreign investors' expectations in the short term [1]. It also could explain the fluctuations in statistical data during the ups and downs in EU-Russia economic relations during the period of 2010–2020, especially in highly volatile times of sanctions and relevant political risks.

[1] EU and Russia launch new partnership for modernization. European Commission (2010). Brussels, 1 June, 2010. URL: https://ec.europa.eu/commission/presscorner/detail/en/IP_10_649 (accessed on 20.12.2021).

The goal of this study is to explain the effect of fluctuations in the Russian currency exchange rate on the inflow of the FDI from the European Union to the Russian Federation during the period 2014–2021 in order to provide practical recommendations for investment and FDI attraction policy-making.

The methodology uses a three-step approach. First, theories characterizing the connection between FDI and currency exchange rates, as well as relevant empirical studies, will be analyzed. It will help identify key FDI strategies and incentives for foreign capital. Moreover, a theoretical and empirical literature review helps to reveal the methodologies and data employed to study FDI to analyze the Russian case study further.

Second, a statistical analysis of EU FDI to the Russian Federation will be conducted. It will help to reveal the main characteristics of the EU FDI and the main strategies employed by European investors in the Russian market.

Third, the research will focus on identifying if Russian data proves the theoretical provisions and if they are consistent with the empirical findings.

Thus, the methodology of research stipulates the respective research methods. The main research methods in this study are associated with a theory-based approach, statistical analysis and case study analysis. Statistical analysis primarily deals with the visual data analysis, calculation of averages. The study period includes 2014–2020. 2021 is not included in study due to 2020 low base effect.

INVESTMENT COOPERATION BETWEEN THE EUROPEAN UNION AND THE RUSSIAN FEDERATION: STATISTICAL EVIDENCE

The success of European companies in the Russian Federation is often associated with their experience since the mid-1990s. EU companies were investing in Russian market then thanks to Russia's budget surplus and positive growth in gross domestic product (GDP), as well as increasing demand for the transfer of new technologies required by many sectors of the Russian economy.[2] The 2010 Partnership for Modernization initiative launched in 2010 was intended to encourage new investment projects that would stimulate economic growth and innovation, trade, and the development of small and medium-sized enterprises (SMEs).

The initiative was in force until 2014. The "Vnesheconombank", the Russian development bank, and the European development institutions together created an investment project portfolio with a finance facility of USD 1 billion. It was done to stimulate business activities in the Russian Federation in partnership with the EU.[3] According to the CBR, for 2009–2013 the volume of FDI from EU member states to the Russian Federation increased from USD 16.5 billion to USD 58.3 billion (*Fig. 1*). The EU's share in Russia's total FDI rose from 56.1% to 84.2%. However, after sanctions were imposed, the flow of European investments fell sharply. In 2014 it fell by 86.7% (to USD 7.8 billion in absolute terms). In 2015 EU FDI decreased by 201.3% (a negative indicator of EUR 7.9 billion (USD 9.05 billion) was recorded).

After the FDI fall in 2014–2015 the recovery began in 2016 with USD 2.7 billion of EU FDI to the Russian Federation. The European Union's share in total FDI of the Russian Federation was only 8.3%. This trend continued with EU FDI of over USD 15.0 billion (50.3% of total FDI in the Russian Federation) in 2017 and USD 22.7 billion (71.2% of total FDI in Russian Federation) in 2019. As a result of the COVID-19 pandemic, 2020 was associated primarily with EU disinvestment from the Russian market. However, the Russian economy attracted USD 9.2 billion in FDI from non-EU countries.

In general, during the period of 2010–2020, different companies had different impacts on the Russian market, depending on the

[2] Diversification in Russia Potential for regional differences. European Bank for Reconstruction and Development EBRD, 2012. URL: https://www.ebrd.com/downloads/research/economics/publications/specials/diversifying-russia-russian.pdf (accessed on 20.12.2021) (In Russ.).

[3] EBRD Strategy for the Russian Federation. Document of EBRD. URL: https://www.ebrd.com/downloads/country/strategy/russia.pdf (accessed on 20.12.2021).

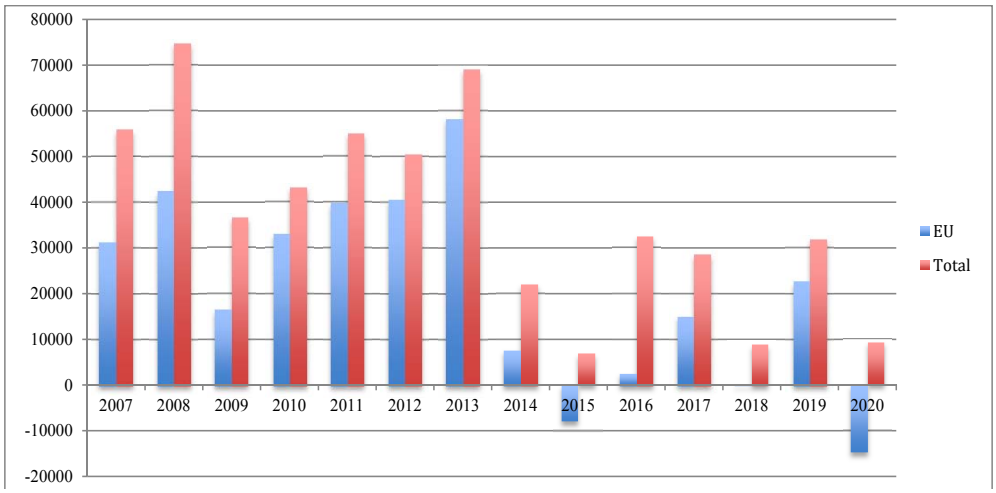

Fig. 1. **FDI Inflows from the European Union to the Russian Federation (2009–2020) in USD Million**
Source: CBR, 2021.

industry. For instance, European manufacturers significantly changed the structure of consumption in the Russian automotive market. In 2001, 92% of all new cars sold in the Russian Federation were domestic models. By 2007 this figure dropped to 42%, and by 2015 to 25% [2].

Other market-oriented investors, such as Bayer, Tönnies Lebensmittel GmbH & Co, Unilever, Bionorica, IKEA, Leroy Merlin Vostok and Auchan, were active in Russia's food, retail trade, wholesale and chemical industries. German companies such as Henkel and Volkswagen have had a significant impact on Russia's mechanical engineering and the chemical industries, with Germany's share in FDI stock in the Russian industrial sector making about 30%. More than 2,600 German enterprises operate in the Russian Federation, with a total volume of FDI in 2018 that exceeded EUR 3.2 billion.[4]

As mentioned, different factors affect the FDI inflow in the short and long run. This study primarily concentrates on the exchange rate as a factor affecting the FDI inflow in the short run. However, during the period considered for this research, other positive and negative factors can be identified.

Sanctions imposed by the EU as well as Russian counter-sanctions should be also considered negative factors. They have especially affected such sectors as energy, ICT, banking and defense. EU sanctions are mostly associated with restricting access to primary and secondary EU capital markets for some Russian banks, such as Sberbank, VTB, Gazprombank, Vnesheconombank and Rosselkhozbank, and for companies associated with the military-industrial complex. The EU also banned arms trade with the Russian Federation and exports of dual-use goods that can be used for military purposes, reducing Russia's access to European technologies and services for oil production and exploration. Russian economic counter-sanctions imposed in August 2014 are associated with embargos on agricultural products from countries that imposed unilateral restrictions against the Russian Federation and limited government purchases of light industry goods from foreign suppliers [3]. For most sectors in the Russian economy, sanctions have become a significant barrier to investment cooperation between the parties.

[4] Deutsche Welle (2019). Direct investments of Germany in Russia exceeded 3 billion euros. (In Russ.). URL: https://www.dw.com/ru/%D0%BF%D1%80%D1%8F%D0%BC%D1%8B%D0%B5-%D0%B8%D0%BD%D0%B2%D0%B5%D1%81%D1%82%D0%B8%D1%86%D0%B8%D0%B8-%D0%B3%D0%B5%D1%80%D0%BC%D0%B0%D0%BD%D0%B8%D0%B8-%D0%B2-%D1%80%D0%BE%D1%81%D1%81%D0%B8%D1%8E-%D0%BF%D1%80%D0%B5%D0%B2%D1%8B%D1%81%D0%B8%D0%BB%D0%B8–3-%D0%BC%D0%BB%D1%80%D0%B4-%D0%B5%D0%B2%D1%80%D0%BE/a-48341991 (accessed on 20.12.2021).

THE OVERVIEW OF FOREIGN DIRECT INVESTMENT THEORIES AND EMPIRICAL FINDINGS

FDI theories in international economics became extremely important in 1960 as the role of the FDI flows increased [4]. There are three main areas of FDI research in the modern literature: FDI at the micro and macro levels, and modern mixed (eclectic) theories that combine different approaches. This research concentrates on the macro-level theories given that they mainly explain the economic connection between FDI inflows and exchange rate fluctuations.

Cushman proposed a dynamic model of exchange rate expectations to deal with this issue [5]. He showed that the expected devaluation of the host country's currency can be positively or negatively correlated with the flow of FDI. He divided FDI into two groups: market-oriented (horizontal) and export-oriented (vertical). Similarly, foreign investors could be divided into firms providing horizontal and vertical FDI. Horizontal FDI includes investments made by a company in a foreign enterprise with a similar production and technological type. Thus, horizontal FDI focuses on the host country's domestic market in order to reduce costs, including those associated with transportation and trade barriers (customs tariff and non-tariff restrictions) [6].

Vertical or resource-oriented FDI refers to international companies that divide the production process vertically (into production stages) in a geographical region. If a company acquires or creates an enterprise in a foreign country to supply production factors such as raw materials and labour, it is known as backward vertical FDI. Thus, vertical FDI is associated with exporting goods used in production from foreign branches of TNCs, as part of the value chain of the parent company.

Cushman showed that there is a negative relationship between the expected currency devaluation in the host country and market-oriented FDI in that country, as well as there is a positive relationship between the expected depreciation of the host country's currency and export-oriented FDI [7]. Cushman, as well as other authors [8], argued that the depreciation of the country's currency can slow down the flow of horizontal FDI into that country, but promote the inflow of vertical FDI. As a result, different types of investments respond differently to changes in the exchange rate.

The main differences between market-oriented FDI and resource-oriented investment are summarized in *Table 1*.

Another way to distinguish horizontal and vertical investments is to use a sectoral approach to FDI analysis. Herger and McCorriston used in the standard industrial classification (SIC) to classify vertical and horizontal FDI based on cross-border acquisitions (CBAs) analysis from Thomson Reuter's SDC Platinum Database, which covers all merger and acquisition transactions from 1990 to 2012. The authors studied how firms are connected through the supply chain in the industries in which they operate. They found that the primary sector of the national economy (which includes agriculture, mining, fishing, forestry and hunting) is associated with vertical FDI, whereas manufacturing, transportation, wholesale and retail services relate mostly to horizontal FDI.

FOREIGN DIRECT INVESTMENT FROM THE EUROPEAN UNION TO THE RUSSIAN FEDERATION

The research analyzed above uses different data for revealing the empirical connection between the FDI inflow and exchange rate, such as GDP, inflation, the real effective exchange rate (REER), portfolio investments, the value of real interest rates on loans, corruption perception indexes, sovereign credit ratings and REER volatility. However, given the focus of this study, it uses REER and FDI data for the Russian Federation.

According to *Fig. 2*, FDI data (total volume and from the EU) and REER data seem to be positively correlated. The Russian currency depreciated first in 2014 as a result of the Ukrainian crisis and the start of CBR's free-floating exchange rate policy in November 2014. The next year the Russian currency continued its

Table

The Main Characteristics of Horizontal and Vertical FDI

Characteristics	Horizontal (market-oriented) FDI	Vertical (resource-oriented) FDI
The objectives	Access to new (foreign) markets; high transportation costs and trade barriers	Cheap factors of production
The main motives	How to sell products to foreign markets?	How best to minimize costs?
Increase of the national currency value	Positive reaction	Negative reaction
Decrease of the national currency value	Negative reaction	Positive reaction

Source: Compiled by the author based [9].

devaluation. The REER decreased by 16.5 points. In 2015 two main factors affected the exchange rate of the Russian currency: sanctions and the oil price. The cumulative effect of a wide range of EU and US economic and political sanctions on the ruble depreciation against the US dollar and the euro constituted about 8–15% of its devaluation [10]. There was a sudden drop in oil prices in November 2014 (to USD 70 per barrel) and December 2015 (to USD 38 per barrel). These drops led to a year-end close of USD 53.45 per barrel in 2014 and USD 37.13 per barrel in 2015.

As seen in *Fig. 2*, the ruble devaluation during this period coincided with a sudden drop in FDI. As a result of the sanctions, capital outflow from the Russian Federation amounted to USD 20 billion (2014–2015), which was 1.5% of GDP [11]. The transfer of the Russian capital offshore accounted for 40% of this outflow [11].

From 2016 through 2019, inward FDI increased except for a sudden decline of EU FDI in 2018 (to USD 214 million). Several factors caused the EU FDI recovery. First, EU investors launched some systematically important investment projects in the Russian Federation. The German company Daimler began construction of a Mercedes-Benz passenger car plant in the Esipovo industrial park. At that time, with total capital of USD 255 million, Esipovo was the largest project of western companies in the Russian Federation since the imposition of sanctions.[5] In 2019 the largest transaction in the energy sector was Russia's Novatek sale of a 10% stake in the Arctic LNG-2 project to the French company Total for USD 2.5 billion.[6]

Second, during this period some agricultural and food industry companies (previously importers to the Russian Federation) localized their production in Russia because of its counter-sanctions. The decision to localize production was attributed to EU companies experiencing direct losses caused by the Russian embargo, estimated at EUR 2 billion per year [12]. French food retailer Auchan opened a meat production plant in the Tambov region in August 2017.[7] Austrian bakery manufacturer Backaldrin Kornspitz opened a production plant on October 13, 2017, in the Stupino Kvadrat SEZ.[8]

[5] Daimler to invest over € 250 million in a 20,000 passenger car plant. 2017. (In Russ.). URL: https://www.vedomosti.ru/auto/articles/2017/02/22/678713-daimler-zavod (accessed on 20.12.2021).

[6] Total entered Arctic LNG-2. Kommersant, 05.03.2020. (In Russ.). URL: https://www.kommersant.ru/doc/3903534 (accessed on 20.12.2021).

[7] Auchan (2017). Auchan Russia has launched a Meat Distribution Center in the Tambov Region. 01.08.2017. (In Russ.). URL: https://www.auchan.ru/ru/press/762 (accessed on 20.12.2021).

[8] An Austrian company for the production of bakery products has opened a plant in the Moscow region. TASS, Russian news agency. 13.10.2017. (In Russ.). URL: http://tass.ru/moskovskaya-oblast/4643972 (accessed on 20.12.2021).

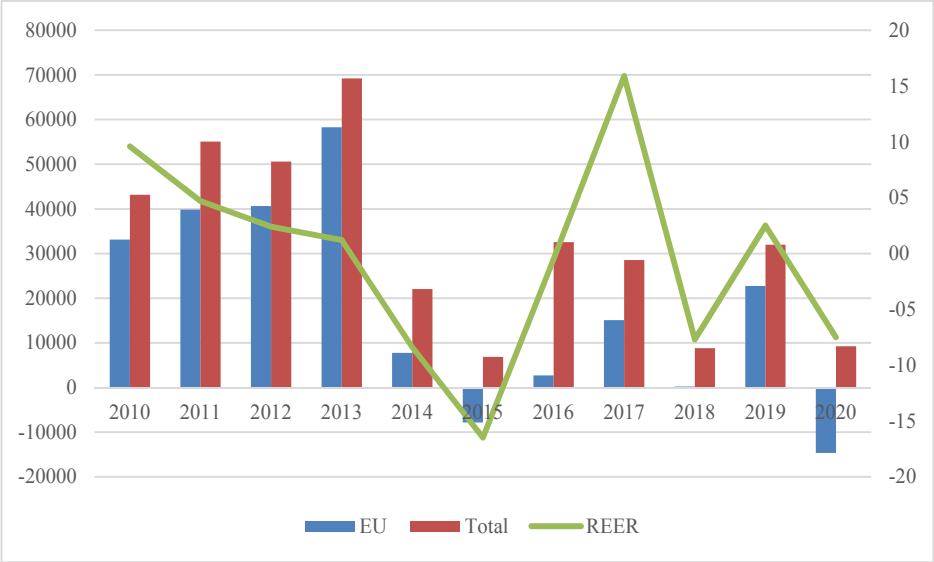

Fig. 2. **Inward FDI to the Russian Federation from the EU and from the World (Net Position, in USD Million) and the REER of the Russian Currency (2010–2020)**

Source: Compiled by the author based on CBR data (CBR, 2021a).

In 2017, the French cheese producer Savencia Fromage & Dairy acquired a controlling stake in the Russian Belebey dairy plant, one of the biggest cheese manufacturers in the Russian Federation.[9] Between 2015 and 2017, companies in the agricultural sector increased the volume of their FDI to the Russian Federation by 80%, to USD 26.78 million [3].

A positive FDI inflow in 2017 can be also attributed to some regulatory initiatives to support foreign investors, including the simplification of the import of foreign raw materials for the production of goods in the Russian Federation and subsequent export customs duties and VAT exemption.[10]

FDI fluctuations were accompanied by similar movements of REER. In 2016–2017 the ruble recovered as a result of the surge in oil prices. Oil prices by year end increased by 44.76% (up to USD 53.75) in 2016 and 12.48% (up to USD 60.46) in 2017. In 2018 oil prices dropped by 25.32% (at year end) with a corresponding ruble depreciation. The demand for foreign currency in the Russian Federation was increasing, while its supply was decreasing. The drop in foreign currency supply was associated with a decline in FDI inflows and in oil and gas revenues. However, the demand for foreign technology imports was increasing because of the production plans of the Russian manufacturers. The demand for foreign currency was increasing because of the high degree of dollarization of the energy sector and the private debt of the companies nominated in USD [13].

THE ANALYSIS

As seen in *Fig. 2*, the Russian case study is in line with theory that assumes a positive link between FDI and the value of the national currency. According to this theory, the depreciation of the national currency decreases the volume of horizontal FDI, whereas vertical FDI reacts positively to the currency's loss in value [7]. This theoretical counter-argument creates the need to analyze the sectoral structure of FDI in the Russian Federation so as to identify vertical and horizontal FDI. Based on the SIC approach identified by Herger and McCorriston, vertical

[9] 10 European companies localizing production in Russia this year. 27.10.2017. URL: https://www.rbth.com/business/326551-european-companies-localize-russia (accessed on 20.12.2021).

[10] The government intends to improve export conditions for foreign investors. 31.10.2017. (In Russ.). URL: https://www.vedomosti.ru/economics/articles/2017/10/31/739940-pravitelstvo-uluchshit-usloviya-eksporta (accessed on 23.12.2021).

and horizontal FDI can be classified by key sectors of a country's economy.

Vertical FDI is usually associated with separate stages of the production process in a particular country [14]. It therefore could be attributed to extractive industries, financial and insurance services, etc. Horizontal FDI, by contrast, is associated with a full production process [8]. It relates to wholesale and retail trade, construction, ICT, real estate property, etc. CBR's statistical classification is harmonized with NACE and SIC.[11] According to Herger and McCorriston's approach, horizontal FDI in Russia includes such industries as agriculture, forestry, hunting, and fisheries; construction; wholesale and retail trade; hotels and catering; ICT; real estate; scientific and technical activities; health; and education. Sectors such as mineral resource extraction, financial and insurance activities, transportation, and storage can be considered vertical investments. However, the manufacturing sector cannot be considered equally vertical or horizontal FDI given that manufacturers' business strategies can vary.

In further analysis, the theoretical assumptions for vertical and horizontal FDI will be checked against the Russian data. First, horizontal FDI will be discussed. Herger and McCorriston find the greatest portion of horizontal CBA deals are food production, chemical products, machinery and electrical equipment. This finding facilitates preliminary estimates for the total volume of the EU's horizontal FDI in Russia, which exceeds USD 197.6 billion (as of 1 January 2021). This figure constitutes about 60% of the total volume of EU FDI in Russia. The overall stock of horizontal FDI in Russia averages 60% of the total volume of FDI from the EU to the Russian Federation (*Fig. 3*).[12] However, EU horizontal FDI fell by 14.6% from 2014 to 2015 and by 24.6% from 2017 to 2018, when the ruble's REER fell to 16.5 points and to 7.7 points by respective year end.

According to theoretical provisions, the volume of horizontal FDI rises with the national currency's appreciation. Most of the empirical cases, analyzed in section 3, proved this assumption [15]. Moreover, in relative terms the share of horizontal FDI in the total FDI volume decreased from 40.01% to 36.87% between 2014 and 2020.

Some of the EU FDI projects described previously are associated with horizontal FDI. The Russian chemical industry, the food and agriculture sector, and transport engineering, with few exceptions, prove the theoretical considerations and empirical results.

In the chemical industry, the effects of sanctions and the general economic downturn in Russia led to a sharp increase in the outflow of FDI. However, the balance of FDI inflows and outflows remained positive. Some European chemical companies (such as Bayer and Bionorica) decided to stay in the Russian market and implement investment projects in the Russian Federation [16].

In the food and agriculture sector, some EU companies left the Russian market to focus on the supply of food products in the EU [17]. However, the imposition of counter-sanctions boosted EU FDI into the Russian food and agriculture sector. European food companies have opened new production facilities and increased the capacity of their plants already operating in different regions of Russia.[13]

In transportation engineering, the outflow of EU FDI from the Russian Federation was caused mainly by the ruble's devaluation and decreased purchasing power. Nevertheless, the largest European companies (such as Daimler

[11] OK 029–2014 Russian Classification of Economic Activities adopted by Order of Rosstandart of 01.31.2014 No. 14-st) (as amended on 08.12.2021). URL: http://www.consultant.ru/document/cons_doc_LAW_163320/ (accessed on 20.12.2021) (In Russ.).

[12] Authors' calculations based on CBR data. External Sector Statistics / Bank of Russia. URL: https://www.cbr.ru/eng/statistics/macro_itm/svs/ (accessed on 20.12.2021).

[13] European Parliament. Russia's and the EU's sanctions: economic and trade effects, compliance and the way forward. Directorate-general for external policies policy department, p. 57. 2017. URL: https://www.europarl.europa.eu/RegData/etudes/STUD/2017/603847/EXPO_STU(2017)603847_EN.pdf (accessed on 20.12.2021).

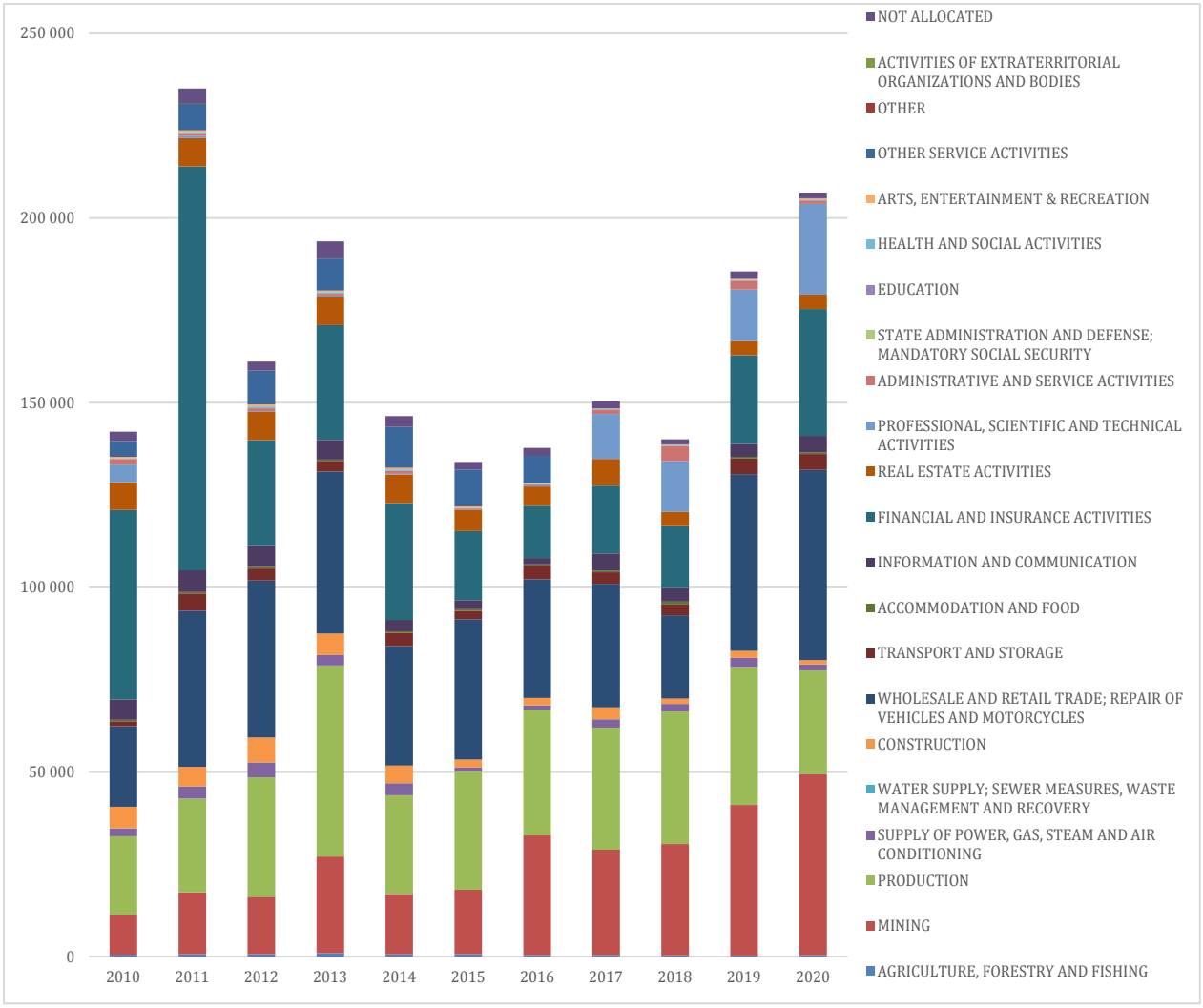

Fig. 3. **Distribution of Incoming FDI by Economic Sector in the Russian Federation, USD Million**

Source: Compiled by the author based on CBR data (CBR, 2021). CBR (2021b). Nominal volume of federal loan bonds (OFZ) owned by non-residents and the share of non-residents in the market. URL: https://cbr.ru/search/? Text=credit+statistics++ОФЗ&PageNum=0&Category=Any&Time=Any (accessed on 01.01.2022).

AG) continued to increase production in Russia and expand their product lines.[14]

Vertical FDI constitutes a substantial part of total FDI inflows for the Russian Federation, with mining and quarrying sectors having increased from 11.2% in 2014 to 23.7% in 2020 along with the ruble depreciation. Vertical FDI from the EU increased to USD 180.2 billion by the end of 2020 from USD 146.25 billion in 2014. In relative terms the share of vertical FDI in total FDI inflows constituted 52.7% in 2014 and 54.8% in 2020. The increase occurred in spite of the fact that the fuel and energy complex had become a main target for sanctions. In 2014, the US and the EU limited the access of the largest Russian banks, oil and gas companies to financing. They also prohibited the transfer of technology and equipment for oil and gas companies, as well as for the fuel and energy complex of the Republic of Crimea. Further, the sanctions were extended to the transport industry and oil and gas pipelines. Currently, western companies cannot participate in projects to develop shelf deposits or produce hard-to-recover shale oil and gas

[14] Daimler starts building a plant in the Moscow region. Vedomosti, 20.06.2017. URL: http://www.vedomosti.ru/auto/galleries/2017/06/20/695254-daimler-nachal-zavod (accessed on 20.12.2021). (In Russ.).

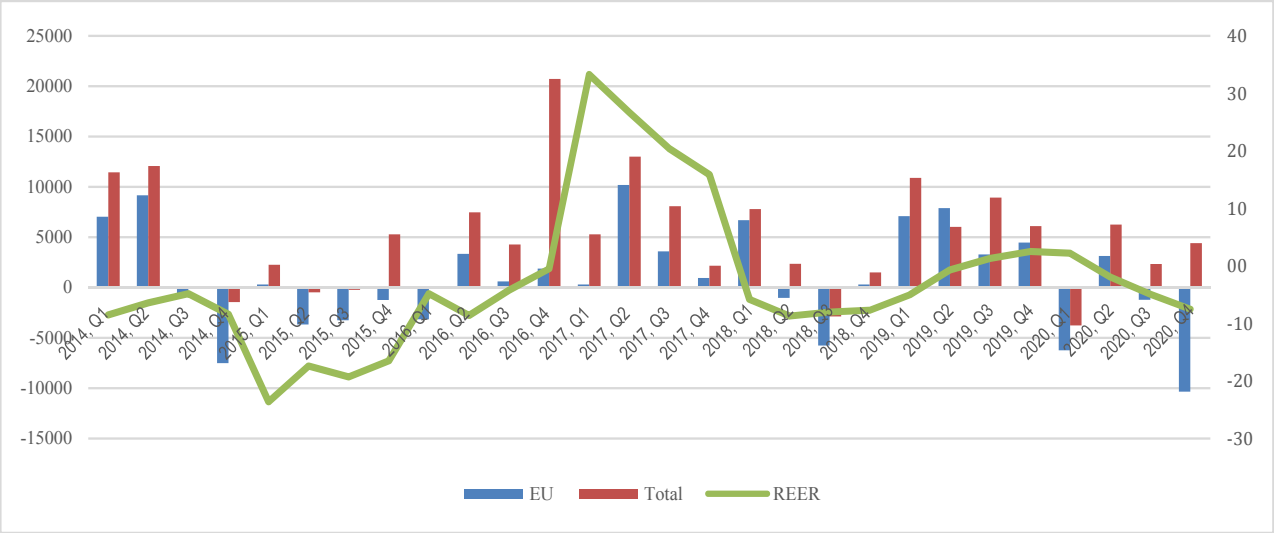

Fig. 4. **FDI into the Russia Federation from the EU and the World (Net, in USD Million) and the REER of the Russian Currency (Quarterly Data, 2014–2020)**

Source: Compiled by the author based on CBR data.

on the Russian territory. The sale of related equipment and the transfer of technologies are also prohibited [18].

The increase of vertical FDI with the parallel devaluation of the ruble is also in line with the theoretical provisions and empirical evidence [5]. This can be proved by a few cases from the financial and energy sector of the Russian economy.

For energy companies operating in the Russian Federation, it was relatively easier to keep up with new sanctions regulations and to support FDI in existing projects.

In the financial and insurance services sector, despite the downward dynamics of FDI from the EU to the Russian Federation in the early years of sanctions, there was a slight increase and a gradual recovery in 2020. According to CBR data, in that sector, the balance of FDI from the EU was 16.6% of the total volume of FDI inflow in 2020 in comparison to 10.3% in 2014. There was also an increase in the share of non-residents in Russia's federal loan bonds (OFZ) market, despite the ban on the sale and purchase of bonds, shares and other financial instruments of Russian state-owned banks to EU citizens and companies.

Another empirical relationship between FDI and currency volatility can be confirmed with Russian data. The negative relationship between exchange rate volatility and FDI established by Schmidt and Broll was evident for the Russian economy for the period of 2014–2017 (*Fig. 4*). In 2018 the exchange rate of the Russian currency became more stable, and 2019 demonstrated a robust FDI inflow with the EU's share exceeding 70% of the total volume.[15]

The economic sanctions introduced in 2014 forced the majority of foreign investors to revise their investment strategies. Most companies working in the Russian market joined the import substitution and localization trend, which was officially supported by the Russian government [19]. However, in practice, EU firms behaved in different ways. Thus, the dynamic model considered above, with firms classified as oriented to the domestic market (horizontal FDI) and oriented to exporting products from the host country (vertical FDI), makes it possible to subdivide foreign firms into two categories, depending on their reaction to exchange rate fluctuations.

With the fall in the exchange rate, foreign firms oriented to the Russian market reduced

[15] Author's calculations based on CBR (2021). External Sector Statistics / Bank of Russia. URL: https://www.cbr.ru/eng/statistics/macro_itm/svs/ (accessed on 20.12.2021).

their investments, while export-oriented firms increased their presence in the form of investments in fixed assets in the Russian Federation. However, some cases also demonstrate deviations from the theoretical and empirical provision, as mentioned in section 3. These deviations could be explained by localization strategies of EU companies as a result of Russia's embargo on food and agricultural products and increased import prices as a result of the ruble's devaluation.

CONCLUSION

The study has addressed the research question if the Russian currency exchange rate developments can explain the FDI inflows from the European Union to the Russian Federation.

The main theoretical conclusion from the analysis in this study is that the appreciation of the currency has a positive effect on the inflow of FDI. At the same time, the more export-oriented an industry is, the less attractive it becomes for foreign investment when the currency rises. But an increase in the currency's value has a positive effect on industries oriented to the domestic market.

The theoretical arrangements were supported by an overview of the findings of the empirical literature, as well as empirical data from the Russian Federation. First, the weakening of the ruble's real exchange rate generally had a negative effect on the inflow of FDI into the Russian market. Second, the depreciation of the ruble had a positive effect on export-oriented FDI in Russia. EU investors providing vertical FDI would have benefited less from a stronger national currency because of reduced competitiveness.

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REFERENCES

1. Chakrabarti R., Scholnick B. Exchange rate expectations and foreign direct investment flows. *Weltwirtschaftliches Archiv*. 2002;138(1):1–21. DOI: 10.1007/BF02707321
2. Kadochnikov P. Prospects for Russia's participation in global and regional integration processes. Moscow: Delo; 2020. 392 p. (In Russ.).
3. Knobel' A. Yu., Bagdasaryan K.M., Loshchenkova A.N., Proka K.A. Sanctions: Seriously and for a long time. Moscow: Delo; 2019. 80 p. (In Russ.).
4. Dunning J.H. The distinctive nature of multinational enterprise. In: Dunning J.H., ed. Economic analysis and multinational enterprise. London: Routledge; 1974:13–30.
5. Cushman D.O. Real exchange rate risk, expectations, and the level of direct investment. *The Review of Economics and Statistics*. 1985;67(2):297–308. 1985. DOI: 10.2307/1924729
6. Protsenko A. Vertical and horizontal foreign direct investments in transition countries. Inaugural-Dissertation zur Erlangung des Grades Doctor oeconomiae. München: Ludwig-Maximilians-Universität; 2003. 169 p. URL: https://citeseerx.ist.psu.edu/viewdoc/download?doi=10.1.1.633.1092&rep=rep1&type=pdf (accessed on 23.12.2021).
7. Chen K.-M., Rau H.-H., Lin C.-C. The impact of exchange rate movements on foreign direct investment: Market-oriented versus cost-oriented. *The Developing Economies*. 2006;44(3):269–287. DOI: 10.1111/j.1746–1049.2006.00017.x
8. Aizenman J., Marion N. The merits of horizontal versus vertical FDI in the presence of uncertainty. *Journal of International Economics*. 2004;62(1):125–148. DOI: 10.1016/j.jinteco.2003.08.003
9. Gurzhieva K.O. Classification of foreign direct investments depending on ways of doing international business. *Politematicheskii setevoi elektronnyi nauchnyi zhurnal Kubanskogo gosudarstvennogo agrarnogo universiteta = Scientific Journal of KubSAU*. 2013;(88):39–55. (In Russ.).

10. Maiorov D. Experts assessed how the sanctions affect the ruble exchange rate. RIA Novosti. Feb. 05, 2021. URL: https://ria.ru/20210205/sanktsii-1596107561.html (accessed on 23.12.2021). (In Russ.).
11. Gurvich E., Prilepskiy I. The impact of financial sanctions on the Russian economy. *Russian Journal of Economics*. 2015;1(4):359–385. DOI: 10.1016/j.ruje.2016.02.002
12. Kuznetsov A.V., ed. Optimization of Russian external investment ties in the context of deteriorating relations with the EU. Moscow: IMEMO RAS; 2016. 120p. URL: https://www.imemo.ru/files/File/ru/publ/2016/2016_043.pdf (In Russ.).
13. Domínguez-Jiménez M., Poitiers N.F. An analysis of EU FDI inflow into Russia. *Russian Journal of Economics*. 2020;6(2):144–161. DOI: 10.32609/j.ruje.6.55880
14. Cherkasova V.A, Cherkasova E.S. The role of vertical integration in the activity of Russian manufacturers. *Finansovyi menedzhment = Financial management*. 2011;(1):62–71. (In Russ.).
15. Schmidt C.W., Broll U. Real exchange-rate uncertainty and US foreign direct investment: An empirical analysis. *Review of World Economics.* 2009;145(3):513–530. DOI: 10.1007/s10290–009–0024–3
16. Lin P., Saggi K. Foreign direct investment in a two-tier oligopoly: Coordination, vertical integration, and welfare. *International Economic Review.* 2011;52(4):1271–1290. DOI: 10.1111/j.1468–2354.2011.00667.x
17. Fritz O., Christen E., Sinabell F., Hinz J. Russia's and the EU's sanctions: Economic and trade effects, compliance and the way Forward. Wien: Austrian Institute of Economic Research; 2017. 59 p. URL: https://www.wifo.ac.at/jart/prj3/wifo/resources/person_dokument/person_dokument.jart?publikationsid=60669&mime_type=application/pdf (accessed on 20.12.2021).
18. Tkachev I. US "oil sanctions" are tougher than those of the European Union. RBC. Aug. 05, 2014. URL: https://www.rbc.ru/newspaper/2014/08/05/56be09339a7947299f72cbb6 (accessed on 23.12.2021). (In Russ.).
19. Timoshenko V. Import substitution policy in Russia: From words to deeds. Garant.ru. Jun. 09, 2015. URL: https://www.garant.ru/article/630000/ (accessed on 23.12.2021). (In Russ.).

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