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Unrealized opportunities: Exploring Russia's untapped OFDI potentials amidst economic sanctions

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Abstract

The economic sanctions imposed by the United States, Europe, and other countries since 2014 have heightened the unpredictability and turbulence in the business environment for Russian firms, necessitating exploration of new international partners and transformation of economic relationships. This paper aims to examine the redirection of Russian outward foreign direct investment (OFDI) in the context of these economic sanctions, particularly those intensified since 2022. The analysis employs an estimated econometric model to compare actual and potential levels of OFDI, utilizing a comprehensive database covering 74 origin and 102 destination countries from 2010 to 2019. The estimation technique employs Poisson pseudo-maximum likelihood approaches. The findings indicate that Russian firms demonstrated underinvestment in most regions, except for Northern and Western Europe, during the examined period. The 2014 sanctions resulted in a significant decline in Russian OFDI to the countries imposing sanctions, while there was an increase in OFDI to Asia, the Middle East, and the CIS countries. As anticipated, the 2022 sanctions exerted additional pressure on Russian OFDI, leading to a further shift of their outflows towards Asia and the Middle East, which, however, could not compensate for the sharp decline in OFDI to the EU countries and North America. The results highlight the existence of untapped OFDI potential for Russia in African and Latin American countries as well as in the Middle East. These regions emerge as desirable partners for bilateral economic liberalization. From a policy perspective, the findings emphasize the importance for the Russian Federation to pursue deep trade agreements that encompass investment preferences, public procurement, and the protection of intellectual property rights with regions harboring untapped potential for OFDI. Additionally, expanding government support for domestic firms venturing abroad is crucial to sustain and enhance integration into the global economy, especially in the face of sanctions.

Keywords: OFDI, Russian economy, sanctions, gravity model, Russia–West relationships
JEL classification: F23, F51, P33.

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1. Introduction

Over the past three decades, foreign direct investment (FDI) activity has experienced fluctuations, influenced by political and economic uncertainty, trade tensions, and protectionism, leading to changes in their geographical distribution. Prior to the 1980s, FDI primarily originated from developed countries, but during the 1990s and 2000s, there was a steady increase in FDI from emerging economies (Anwar and Iwasaki, 2022; Cieślik and Tran, 2019). The primary motivations for outward FDI (OFDI) from emerging economies differed from those of developed countries, as firms from the former faced the need to internationalize at earlier stages of their growth due to a globalized market and increasing pressure from multinational firms based in developed countries (Gammeltoft and Kokko, 2013).

Aligned with other emerging economies, the Russian Federation witnessed a significant surge in OFDI throughout the 2000s, receiving considerable attention from researchers (Andreff, 2016; Dikova et al., 2019; Filippov, 2010; Hanson, 2010; Kalotay and Sulstarova, 2010). According to Liuhto and Majuri (2014), Russian OFDI stock stood at a mere $20 billion at the turn of the century, but by 2014, it had surpassed $500 billion, just before the imposition of Western sanctions on the Russian economy. The remarkable investment growth between 2000 and 2013 positioned Russia as the largest contributor of FDI among transition economies and one of the leading contributors among developing economies.[1]

However, during the 2010s, Russia experienced a deceleration in the growth rate of its OFDI, similar to many other countries, influenced by various factors. These include the global economic downturn, which impacted firms' future FDI plans (Ucal et al., 2010), as well as international efforts to combat harmful tax practices (Saguna and Radu, 2015). In the 2000s, OFDI from emerging economies, including Russia, displayed a bias towards offshore entities and conduit countries (Bulatov, 2017). However, Russia's OFDI faced an additional significant negative factor, namely the economic sanctions imposed by Western countries starting in 2014.

Economic sanctions introduced by the EU, the USA and other countries on Russia since 2014 have made the business environment in the country more unpredictable and turbulent (Laine and Galkina, 2017), and the country's private investment and FDI have become more dependent on the government support. While certain studies indicate that positive institutional factors can enhance firms' competitive advantages and facilitate foreign investment abroad (Cuervo-Cazurra and Ramamurti, 2017; Cui and Xu, 2019), other research highlights the adverse effects of weak domestic institutions, prompting companies to seek overseas investment to evade unfavorable investment conditions (Barnard and Luiz, 2018; Enderwick, 2017). Some evidence suggests that after the world crisis of 2008–2009 the Russian government's increased attention to improving the investment climate, coupled with reduced regulatory uncertainty at the regional level, has contributed to firms' incentives to invest (Yakovlev, 2015; Levina et al., 2016). However, as discussed earlier (Hoff and Stiglitz, 2004), the future of Russian assets is largely uncertain and depends on institu-

[1] Authors' calculations based on the World Bank data (http://www.data.worldbank.org).

tions. Consequently, the impact of sanctions on Russia's outward foreign direct investment remains inconclusive.

The purpose of this study is to examine the influence of international sanctions on Russian OFDI, evaluate its potentials from Russia, and discuss the implications for the Russian economic policy aimed at increasing the integration of the Russian economy into global production amidst stringent sanction pressures.

The key research questions of this study are as follows. 1. How have the sanctions affected OFDI from Russia? 2. In which macro regions has Russia underinvested, and which macro regions should be considered for redirecting OFDI and expanding cooperation with countries neutral to sanctions against Russia?

To estimate OFDI potentials, we adopt a commonly used approach based on the gravity equation, utilizing a database of bilateral FDI flows, and employ data analysis techniques using the Poisson pseudo-maximum likelihood (PPML) method. To the best of our knowledge, this is the first study that applies the gravity equation approach to analyze the prospective positioning of a country within global FDI flows and discusses results from a policy perspective.

The paper is structured as follows. Section 2 provides an overview of the determinants of OFDI and reviews empirical studies on OFDI potentials. Section 3 presents a comprehensive analysis of OFDI from Russia in the 2000s and highlights its current structural characteristics. In Section 4, the gravity model setting and estimation technique are explained. The estimation results are presented in Section 5, followed by an assessment of OFDI potentials in Section 6. Robustness checks are conducted in Section 7. Finally, Section 8 concludes the paper and provides policy recommendations.

2. Literature review

The analysis of outward foreign direct investment potentials in this study is grounded in the gravity model, which was first introduced by Brainard (1997). The gravity model posits that the flow of FDI between two countries is directly influenced by their economic size (GDP) and inversely influenced by the distance separating them. A compelling reason to utilize the gravity model in empirical research is that gravity variables can be derived from various theoretical models, as pointed out in Kleinert and Toubal (2010).

The gravity approach in empirical research has received substantial support from various studies (Bénassy-Quéré et al., 2007; Daude and Stein, 2007; Kleinert and Toubal, 2010; Bloninger and Piger, 2014; Cezar and Escobar, 2015). Numerous determinants of outward FDI have been identified, including gravity variables as well as factors related to trade conditions, resource abundance, macroeconomic environment, institutional and regulatory environment, political environment, corruption, cultural similarity, and historical ties. For instance, Egger (2001) demonstrates that companies are motivated to invest abroad due to scarce factor endowment in their home country. Trade openness, as a measure of a country's engagement in globalization, stimulates outward FDI (Mishra and Daly, 2007; Das, 2013). There is typically a positive correlation between outward and inward FDI, reflecting similar underlying reasons (Stoian and Mohr, 2016). Daude and Stein (2007), Cieślik and Tran (2019) observe a negative relationship

between OFDI and trade costs, indicating vertical motives for outward FDI in the global economy. Companies from countries with stronger currencies tend to make larger investments abroad due to their higher purchasing power (Kyrkilis and Pantelidis, 2003; Amal et al., 2009). Additionally, Das (2003) demonstrates that countries with higher expenditures on innovation tend to have greater levels of outward FDI.

Empirical models of bilateral FDI flows commonly incorporate various proximity indicators, as companies tend to face lower adaptation costs when investing in countries that share similarities. These indicators often encompass factors such as common religion, common language (Cieślik and Tran, 2019), common borders, the existence of colonial ties in the past (Perea and Stephenson, 2017), as well as GDP similarity (Cezar and Escobar, 2015).

Many researchers have examined the influence of government interventions and institutions in the host country on outward FDI, but a consensus has not been reached. For instance, Rasiah et al. (2010) find a positive effect of improving government regulation in the home country on outward FDI, while the significance of liberalization reforms appears to be negligible. Conversely, Stoian (2013) finds that home country trade liberalization reforms do not positively impact OFDI, but policy reforms and overall institutional improvement contribute to the increase in outward FDI. In terms of institutions, Wang et al. (2012) demonstrate that government participation in the economy, which exerts institutional pressure on domestic firms, significantly affects the outflow of FDI. In contrast, Bénassy-Quéré et al. (2007) report a nearly insignificant impact of home country institutional quality on outward FDI.

In summarizing the results, Batschauer da Cruz et al. (2020), Cuervo-Cazurra et al. (2014), Jain et al. (2015) conduct a comprehensive review of numerous studies and find that location advantages are the most commonly examined determinant of FDI. However, they note that many of these studies treat the characteristics of the location as given without delving into the process by which the advantage is created. Additionally, Nielsen et al. (2017) review 153 studies and conclude that our understanding of FDI determinants is still limited, highlighting the need for improvements in data collection and addressing methodological issues.

The idea of calculating potential values using the gravity model originated from the studies on trade flows. In simple terms, the potential level of trade is predicted or the expected value of the dependent variable is calculated based on the estimated econometric model. There are two approaches commonly used to calculate trade potentials. The "out-of-sample" approach involves calculating trade potentials based on an estimation of the dataset which includes countries that are highly integrated into the world economy and operate at the forefront of trade efficiency. The difference between the observed and predicted trade flows is interpreted as unexplored trade potential. The "in-sample" approach includes all countries in the dataset. The residual of the estimated equation is interpreted as the difference between potential and actual bilateral trade relations. For a discussion on the advantages and disadvantages of these two approaches, see Egger (2002, pp. 297–298).

To the best of our knowledge, Brenton and Di Mauro (1999) were the first to apply the idea of calculating potentials to foreign direct investment flows.

In their analysis of FDI inflows to the countries of Central and Eastern Europe from 1992 to 1995, they found that investment by the EU countries in more advanced transition economies exceeded expectations based on income, market size, and relative proximity.

Estimating the gravity model with a focus on FDI was challenging for a long period due to limitations in FDI data. However, since the mid-2000s, several studies have demonstrated that bilateral FDI can be well approximated by the gravity model (Navaretti and Venables, 2004; Egger and Pffaffermayr, 2004; De Mello-Sampayo, 2009). However, most of these studies have primarily focused on estimating FDI determinants within the gravity approach, with only a few examining FDI potentials using the gravity model. For instance, Greaney and Kiyota (2020) analyze Japan's OFDI and conclude that the country has no unrealized potential for outward FDI. Mariev et al. (2016) investigate potential FDI inflows to Russia from 2001 to 2011 and find that large developed countries tend to overinvest in the Russian economy, while smaller and less developed countries underinvest. A study similar to ours is conducted by Shahriar et al. (2019), who examine the major determinants of China's OFDI to discuss their prospects and rationale in economies along the Belt and Road Initiative.

3. OFDI in the Russian economy

Since the early 2000s, Russian firms have been actively investing abroad, with the value of outward FDI significantly exceeding the value of inward FDI. According to the World Bank, the inward FDI flows into Russia from 2000 to 2019 reached $601.5 billion (1.63% of the total world FDI inflows), while the level of FDI outflows from Russia amounted to $676.0 billion (1.97% of the world FDI outflows).[2]

The structure of FDI inflows and outflows in Russia exhibits specific features (see Fig. 1). The largest investors in the Russian economy are offshore countries such as Cyprus, Jersey, Bermuda, and Bahamas. Additionally, countries that offer tax exemptions for holding companies like the Netherlands, Switzerland, and Luxembourg make a significant contribution. The combined share of the four largest non-offshore direct investor countries (Great Britain, France, Germany, and Finland) in total inward FDI does not exceed 15%.[3]

The list of recipients of Russian outward FDI closely aligns with the list of FDI senders, indicating the presence of round-tripping foreign direct investment in the Russian economy. The primary recipients include Cyprus, Jersey, Bermuda, and the British Virgin Islands (BVI). The Netherlands and Switzerland also receive significant shares of FDI inflows. Non-offshore FDI recipients consist of Austria, Great Britain, Germany, and the USA, collectively accounting for less than 10% of Russian FDI outflows.

In comparison to major FDI donors, the Russian Federation has a larger proportion of outward FDI directed towards offshore destinations. As illustrated in Fig. 2, the share of FDI outflows to offshores among developed countries does not exceed 15% (reaching 18.2% in China). In Russia, this proportion is

[2] Authors' calculations based on the World Bank data (https://data.worldbank.org/).

[3] Here and below the calculations across partner countries are based on IMF data (https://data.imf.org/).

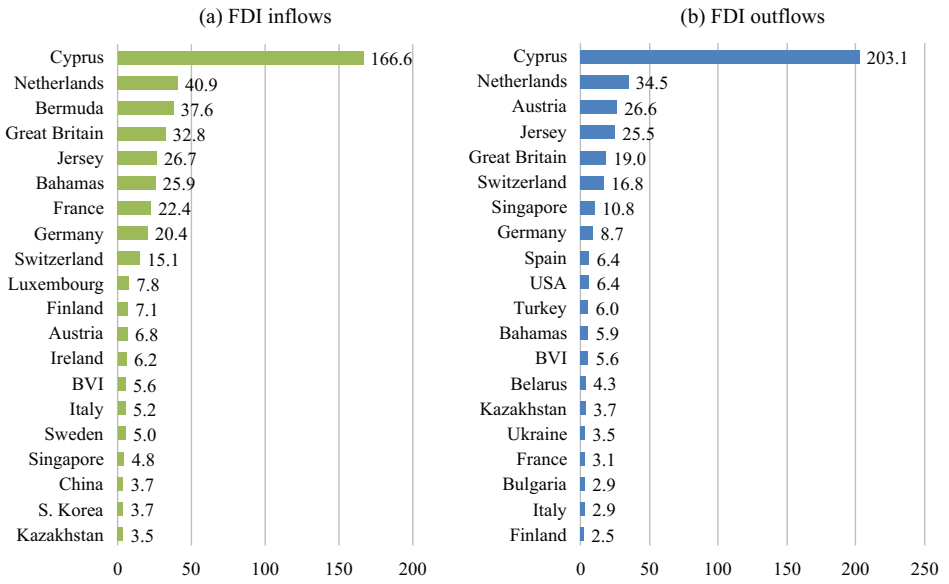

Fig. 1. Inward and outward FDI stock in the Russian Federation across country partners as of end 2019 (billion U.S. dollars).

Source: IMF data (https://data.imf.org).

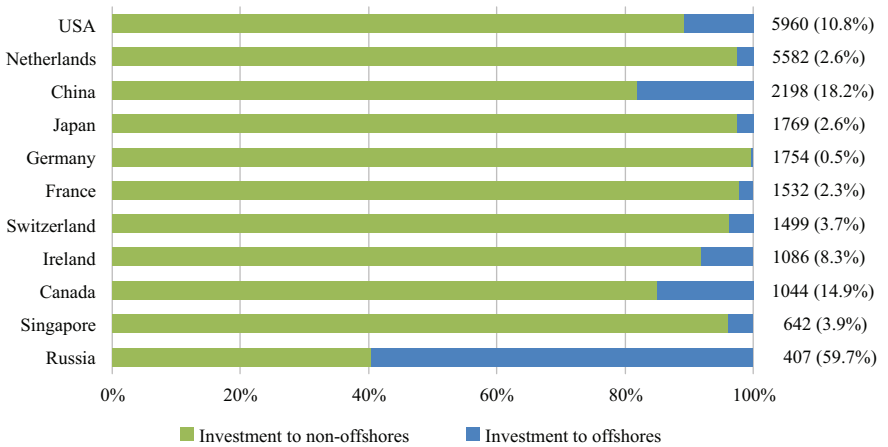

Fig. 2. Outward FDI stocks to offshore and non-offshore countries by 10 largest world donors and Russia for the end of 2019.

Note: Figures in the diagram are total investment positions (billion U.S. dollars), figures in brackets — the share of investment to offshores in total FDI stock.
Source: Authors' calculations based on Coordinated Direct Investment Survey (https://data.imf.org).

a remarkable 59.7%. In terms of nominal values ($243 billion), Russia ranks as the third-largest investor in offshores globally, following the USA ($644 billion) and China ($400 billion), despite the incomparable sizes of their respective economies.

If we exclude offshore territories from consideration, it would be reasonable to assume that the geography of Russian OFDI largely follows the geography of international trade. Traditionally, the Russian economy has had active economic

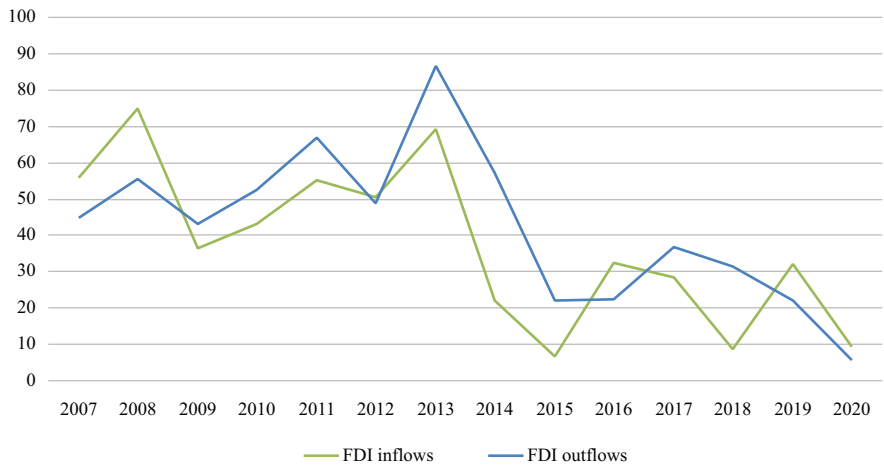

Fig. 3. FDI inflows and outflows in the Russian economy in 2007–2020 (billion U.S. dollars).

Sources: Bank of Russia; authors' calculations.

ties with other post-Soviet countries, while also relying heavily on trade with the EU countries. Collaboration with Asian, African, and Middle Eastern countries intensified in the 2010s (Spartak, 2023). These factors shaped the interests of Russian companies in foreign markets. The expansion of Russian companies into the markets of the CIS countries primarily reflects resource-seeking motives, while their entry into the US, Western and Eastern Europe is driven by market-seeking and efficiency motives (Filippov, 2010). Other regions, generally, receive less attention. This allows us to formulate the following hypothesis regarding the potential of OFDI:

Hypothesis 1: The structure of potential Russian outward foreign direct investment significantly differs from the actual distribution, with Russia prioritizing countries within the post-Soviet space (CIS) and Europe.

The reason for the extremely high proportion of offshore companies in Russian OFDI can be attributed to two factors. First, a significant share of FDI outflows from Russia represents Russian capital accumulated abroad for subsequent investment within Russia. This is evident from the strong correlation between Russian FDI outflows and FDI inflows, as depicted in Fig. 3. Second, FDI outflows also include the repatriation of direct investments made by foreign companies in previous periods.

Starting in 2014, Russia experienced a significant decline in FDI inflows, primarily due to the sanctions imposed by major investing countries as a result of the Ukrainian conflict. Similarly, FDI outflows from Russia also experienced a significant decrease since 2014. This decline can be attributed to two main factors. First, the deoffshorization policy implemented by the Russian government in recent years has played a crucial role (Kheyfets, 2018; Smirnov, 2019). Second, relatively low growth rates of the Russian economy have contributed to the decrease in FDI outflows. Based on this, we formulate the following hypothesis:

Hypothesis 2: Sanctions have had a negative impact on outward foreign direct investment from Russia.

4. Gravity model setting and estimation technique

This section presents empirical methodology. The dependent variable FDI_{ijt} in our model is bilateral FDI flow between countries i and j in year t.

Based on the gravity approach, the explaining variables include the GDP of both home (GDP_j) and recipient (GDP_i) countries as well as the distance between their capitals ($Dist_{ij}$). Larger GDP in the home country assumes scale benefits for domestic companies and hence higher share of companies investing abroad. Larger GDP in the host country implies larger market opportunities for foreign investors and thus higher levels of inward FDI. The distance in the model of bilateral FDI flows is a proxy of communication, logistic and specific market costs of doing business abroad. Larger distance between two countries implies larger dissimilarities between them, impeding FDI flows.

Two key ideas regarding the pattern of FDI in the world economy are integrated into the estimated model. First, the degree of technological development in both home and recipient countries is important for bilateral FDI flows. On the one hand, the ability of companies to invest abroad depends crucially on their productivity (Helpman et al., 2004). On the other hand, FDI directed towards technologically advanced countries may seek access to new technologies for the investing company. The GDP per capita of both origin and destination countries (GDP_cap_{jt} and GDP_cap_{it}) is included in the model as a proxy for the technological complexity of their respective economies.[4]

Second, foreign direct investment is closely linked to international trade flows, a relationship widely discussed in the empirical literature examining whether FDI and trade act as substitutes or complement each other (see, for example, Bhasin and Paul, 2016; Bhasin and Kapoor, 2020). We incorporate the ratios of bilateral trade to GDP for both home and host countries ($Trade_{jt}$ and $Trade_{it}$) as an indicator of the level of trade relations between the two countries.[5]

Following the mainstream literature, two proximity dummies are also included in the model: official common language ($ComLang_{ij}$) and common border ($Contig_{ij}$). Country year dummies are included in each model to absorb for potential shocks common for all countries and thus reduce cross-sectional correlation.

The list of variables, data sources, and expected signs are presented in Table 1. The dataset comprises information on 74 origin and 102 destination countries over the period 2010–2019, forming an unbalanced panel. The dependent variable consists of 42,620 observations, including 13,350 zeros and 9,981 negative values. The list of origin and destination countries can be found in Appendix Table A1. We have excluded offshore countries from our analysis, as OFDI to offshore jurisdictions typically serves different objectives than international expansion. Descriptive statistics of the variables are presented in Appendix Table A2.

$$\begin{aligned} FDI_{ijt} = \exp[&(\ln GDP_{it})^{\alpha_1} \times (\ln GDP_{jt})^{\alpha_2} \times (\ln GDP\_cap_{it})^{\alpha_3} \times \\ &\times (\ln GDP\_cap_{jt})^{\alpha_4} \times (\ln Dist_{ij})^{\alpha_5} \times (Trade_{it})^{\alpha_6} \times (Trade_{jt})^{\alpha_7} \times \\ &\times (Comlang_{ij})^{\alpha_8} \times (Contig_{ij})^{\alpha_9} \times \varepsilon_{ijt}], \end{aligned}$$

where a_1–a_9 — regression coefficients, ε_{ijt} — error term.

[4] We use the Economic Complexity Index instead of GDP per capita as a robustness check in Section 7.

[5] Alternatively, we use countries' nominal values of import and export as a determinant of FDI outflows in Section 7.

Table 1
Variables, data source and expected influence of regressors on dependent variable.

No.	Variable	Acronym	Units	Source	Expected influence
1	Foreign direct investment outflows	FDI_{ijt}	thousand U.S. dollars (log)	IMF	dependent variable
2	GDP of the home country	$\ln GDP_{jt}$	thousand U.S. dollars (log)	CEPII	+
3	GDP of the host country	$\ln GDP_{it}$	thousand U.S. dollars (log)	CEPII	+
4	GDP per capita of the home country	$\ln GDP\_cap_{jt}$	thousand U.S. dollars (log)	CEPII	+
5	GDP per capita of the host country	$\ln GDP\_cap_{it}$	thousand U.S. dollars (log)	CEPII	+
6	Distance between capitals	$\ln Dist_{ij}$	km (log)	CEPII	–
7	Openness (trade to GDP ratio) of the home country	$Trade_{jt}$	%	IMF, CEPII	+
8	Openness (trade to GDP ratio) of the host country	$Trade_{it}$	%	IMF, CEPII	+
9	Common language between country pair	$Comlang_{ij}$	0 or 1	CEPII	+
10	Contiguity between country pair	$Contig_{ij}$	0 or 1	CEPII	+

Source: Compiled by the authors.

Brief discussion of the proper estimation technique is necessary when dealing with bilateral FDI flows. Their specific feature is a lot of zeros among the observations (approx. 26% in our database). Taking log of the dependent variable drops these observations, leading to biased estimates. Using small constant instead of zero (say, $1 + FDI$) is only a partial solution of the problem: ordinary least squares (OLS) will not provide unbiased estimates because dependent variable is not normally distributed. Another problem to be dealt with is the presence of heteroscedasticity and serial correlation. Finally, within the panel data framework the choice between fixed and random effects (FE and RE) should be made. Although the results of the Hausman test are usually in favor of FE model, in this case the distance as well as similarity dummies are dropped off the model as time invariant variables.

To derive unbiased estimates, we use PPML method, first applied to gravity data by Santos Silva and Tenreyro (2006). This method is robust to data with a large proportion of zero observations and to heteroskedastic errors. Currently, applying the PPML method is considered to be the best solution for gravity-type models (Santos Silva and Tenreyro, 2022).

Negative FDI flows (30% in our database) is another delicate feature. As far as negative FDI means divestment (paying back long-term credits or diminishing foreign equity capital), we treat these observations as zero investment flows.[6]

5. Estimation results

To provide the evidence of the model's stability across different estimation techniques, Table 2 presents the results of estimation by OLS (with and without zero observations), panel RE and PPML. Estimates for OLS and panel RE are corrected for heteroskedasticity, PPML standard errors are clustered at country-pairs.

[6] This increases the number of zero observations in the database up to 55%.

Table 2
Determinants of bilateral FDI flows (estimates using OLS, panel RE and PPML).

Variable	OLS	OLS	Panel RE	PPML	PPML
	Model 1	Model 2	Model 3	Model 4	Model 5
Dependent variable	$\ln(FDI_{ijt})>0$	$\ln(1+FDI_{ijt})$	$\ln(FDI_{ijt})$	FDI_{ijt}	FDI_{ijt}
GDP	0.554***	0.305***	0.297***	0.378***	0.363***
(home, log)	(0.025)	(0.017)	(0.016)	(0.069)	(0.069)
GDP	0.512***	0.249***	0.243***	0.394***	0.371***
(host, log)	(0.018)	(0.011)	(0.011)	(0.059)	(0.062)
GDP per capita	0.734***	0.382***	0.370***	0.578***	0.594***
(home, log)	(0.026)	(0.015)	(0.014)	(0.167)	(0.168)
GDP per capita	0.269***	0.079***	0.075***	0.474***	0.488***
(host, log)	(0.026)	(0.015)	(0.014)	(0.062)	(0.064)
Distance between	–0.610***	–0.326***	–0.318***	–0.309***	–0.190***
capitals (log)	(0.035)	(0.024)	(0.024)	(0.072)	(0.062)
Trade/GDP	5.667***	5.201***	5.348***	4.995***	4.251***
(home)	(1.204)	(1.287)	(1.250)	(0.384)	(0.369)
Trade/GDP	10.374***	11.707***	12.342***	4.255***	3.395***
(host)	(3.354)	(3.732)	(3.863)	(0.627)	(0.545)
Common language	1.421***	0.891***	0.865***	0.508**	0.310
	(0.096)	(0.074)	(0.072)	(0.208)	(0.204)
Common border	0.244	–0.030	–0.023	–0.939***	
	(0.154)	(0.121)	(0.120)	(0.277)	
Year dummies	Yes	Yes	Yes	Yes	Yes
N obs.	19,289	42,620	42,620	42,620	42,620
R^2	0.532	0.255	0.254	0.049	0.045
RESET test p-value				0.010	0.001
RSE (*N* obs. = 19,289)	$2.84\times10e^{14}$			$2.70\times10e^{12}$	
RSE (*N* obs. = 42,620)		$1.18\times10e^{13}$	$2.78\times10e^{13}$	$2.53\times10e^{12}$	$2.57\times10e^{12}$

Note: OLS — ordinary least squares, Panel RE — panel random effects, PPML — Poisson pseudo-maximum likelihood; *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.
Source: Authors' calculation in STATA.

The results presented in Table 2 show that the sign and significance of the explaining variables are stable, and the regressors have expected signs. The GDP of both home and host countries have positive effects, while the distance between them has negative effects on bilateral FDI flows. GDP per capita of the origin economy positively influences FDI outflows, indicating the important role of technological development of companies on the ability of exporting abroad. Higher GDP per capita in the destination country stimulates FDI inflows due to potential technological spillovers for foreign investors. Results also indicate that trade promotes FDI: higher share of trade flows in GDP of both home and host country increases bilateral FDI flows. Common language dummy positively affects FDI flows because higher similarity and easier communication decreases the costs of doing business abroad. The negative and statistically significant effect of common border variable may seem counterintuitive, but it is probably due to past conflicts between bordering countries (Hattari and Rajan, 2011; Nguyen et al., 2020; Ly et al., 2018).

To check the relevance of the model used to calculate FDI potentials, we compare the predictive power of estimated models. To evaluate it, we use the sum of predicted squared errors (PSEs) for Models 1–5 in Table 2 (Pindyck and Rubinfeld, 1991; Savin and Winker, 2013). First, we estimate regression coefficients of these models for the period, then generate predicted values for each model. By compar-

ing predicted values with actual ones, we can assess the predictive power of each model. The results clearly indicate that Model 4 including common border indicator derived with PPML estimation must be preferred to other models in Table 2.

We use the "in-sample" approach to calculate OFDI potentials for two reasons. First, for research objectives we are less interested in the potential of Russian outward FDI to the efficiency frontier but are interested in calculating potentials for the present level of Russia's technological development. Second, the GDP per capita variable included in the econometric model helps control the technological development of the country when estimating its ability to invest abroad.

6. Calculating potentials

Calculated potentials of Russia's outward FDI across country groups are presented in Table 3. The analysis of the main country partners is provided in Appendix Table A3, along with the average actual outward FDI. The results indicate that overall Russian investments are significantly lower than their potential level.

The only country group where actual FDI fully realizes its potential is Northern and Western Europe, where the actual-to-potential ratio equals 100.3% over the considered period. Interestingly, Russia overinvests in the countries with low taxes (such as Ireland) and countries offering special tax regimes for holding companies (such as Great Britain, the Netherlands, and Luxembourg). Relatively small amounts of Russia's OFDI are directed towards Asia (22.9% of its potential) and North America (35.8% of potential). Russian investments are five times lower than their potential level even in the historically friendly CIS countries. Russia's outward FDI to Eastern Europe and the Middle East is very small compared to its potential level (6.4% and 5.2% respectively), and it is close to zero for Latin America and Africa (less than 1% of its potential).

The question to be answered is how the sanctions imposed against the Russian Federation in 2014 affected the country's OFDI. Table 3 presents the actual-to-potential OFDI ratio for the period before (2010–2014) and after the sanctions (2015–2019). Russia's FDI to North America declined sharply from 65.5% to 10.5% of its potential level. In particular, investments in the USA dropped from an average of $3020.1 million per year during 2010–2014 to $420.8 million per year during 2015–2019. A slight decline is observed in FDI to Eastern Europe (from 7.7% to 5.2%), while investments in Northern and Western Europe

Table 3
Actual to potential ratio of Russia's OFDI before and after sanctions across regions of the world (%).

Region	2010–2014	2015–2019	2010–2019
Northern and Western Europe	103.1	98.5	100.3
Eastern Europe	7.7	5.2	6.4
CIS	4.1	42.4	21.2
Middle East	3.2	8.8	5.2
Asia	11.0	34.5	22.9
Latin America	0.1	0.2	0.2
North America	65.5	10.5	35.8
Africa	0.1	0.1	0.1
All countries	42.4	46.1	43.4

Source: Authors' calculations.

remained relatively stable and close to their potential (103.1% and 98.5% of potential respectively). All other country groups with non-zero levels of OFDI demonstrated an increase in the actual-to-potential ratio during the post-sanctions period. Investments in the Middle East more than doubled, while investments in Asia tripled during 2015–2019 compared to 2010–2014. OFDI to Africa and Latin America did not show a significant increase and remained close to zero both before and after the sanctions.

Based on the analysis, we can conclude that along with the overall increase in OFDI from Russia during the period 2015–2019, a clear shift in investment flows from North America to the CIS and Asia is observed. The absence of OFDI from Russia to Africa and Latin America can be attributed to the low level of trade among these countries (see Appendix Table A4). As mentioned in the previous section, foreign trade plays a significant role in establishing necessary business ties for investing abroad. In order to stimulate Russian outward FDI to Africa and Latin America, it is crucial to enhance trade relations with these regions.

7. Robustness checks

This section discusses some alternative models to ensure the relevance of the model used in Section 4. When considering FDI determinants, risk and profitability are two key characteristics that define whether an investment project will be implemented. The level of risk in an investment project abroad can be assessed by the level of institutional development in the host economy. For this purpose, we utilize the Worldwide Governance Indicators (WGIs) provided by the World Bank.[7] Additionally, since fast-growing markets are more attractive for operating companies, we proxy the profitability of the host country by its annual GDP growth rate.

The level of institutional development in the home country is likely to influence the level of outward FDI. Developed institutions imply a stable economic environment and provide companies with the opportunity to consider long-term horizons and use a low discount rate when evaluating investment projects abroad. Table 4 presents the estimates for the model incorporating institutional variables and growth rate (Model 1). The GDP per capita variable is excluded from the model due to its high correlation with the level of institutional development.

Another potential modification to the model is the use of logged levels of trade instead of trade shares in countries' GDP. The results presented in Table 4 (Models 2 and 3) show that import and export variables have a positive but statistically insignificant influence on OFDI. This may be explained by the fact that international trade can either substitute or complement FDI (Anderson et al., 2019; Mitze et al., 2010). For example, vertical (resource-seeking) FDI complements trade by increasing imports, while horizontal (market-seeking) FDI substitutes trade by decreasing exports. When estimating the relationship

[7] The Worldwide Governance indicators capture six key dimensions of governance (Voice & Accountability, Political Stability and Lack of Violence, Government Effectiveness, Regulatory Quality, Rule of Law, and Control of Corruption).

Table 4
Alternative models of bilateral FDI determinants (PPML estimates).

Variable	Model 1	Model 2	Model 3	Model 4
Dependent variable	FDI_{ijt}	FDI_{ijt}	FDI_{ijt}	FDI_{ijt}
GDP (home, log)	0.424***	0.315***	0.303**	0.454**
	(0.080)	(0.113)	(0.131)	(0.096)
GDP (host, log)	0.452***	0.372***	0.357***	0.670***
	(0.062)	(0.123)	(0.118)	(0.080)
Distance between capitals (log)	– 0.381***	– 0.276***	– 0.259**	– 0.411**
	(0.078)	(0.106)	(0.125)	(0.114)
GDP per capita (home, log)		0.537***	0.542***	
		(0.156)	(0.157)	
GDP per capita (host, log)		0.376***	0.370***	
		(0.109)	(0.115)	
Economic complexity (home)				0.048
				(0.092)
Economic complexity (host)				0.438***
				(0.107)
Institutions (home)	0.526***			
	(0.102)			
Institutions (host)	0.617***			
	(0.151)			
GDP growth (host)	2.590**			
	(1.320)			
Trade/GDP (home)	3.964***			11.666***
	(0.662)			(2.509)
Trade/GDP (host)	4.592***			2.765
	(0.420)			(3.610)
Import (home, log)		0.084		
		(0.104)		
Export (home, log)			0.098	
			(0.123)	
Common language	0.474**	0.701***	0.686***	0.859***
	(0.212)	(0.202)	(0.175)	(0.256)
Common border	– 0.984***	– 0.228	– 0.237	– 1.220***
	(0.287)	(0.377)	(0.345)	(0.308)
Year dummies	Yes	Yes	Yes	Yes
N obs.	38,402	42,869	42,119	30,028
R^2	0.045	0.021	0.023	0.038
RESET test *p*-value	0.410	0.027	0.027	0.000
HPC test *p*-value (baseline model against alternative)	0.181	0.314	0.515	0.342
HPC test *p*-value (alternative model against baseline)	0.002	0.000	0.000	0.029

Note: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.
Source: Authors' calculation in STATA.

between outward FDI and exports/imports using bilateral trade data, it becomes challenging to separate FDI driven by different motives and distinguish between FDI that complements or substitutes trade. Conversely, when using the trade-to-GDP ratio (as done in Section 5), this indicator better reflects the level of trade openness in both countries and provides insights into how favorable the economic environment is for foreign companies.

Finally, we test an alternative proxy for technological development. Model 4 in Table 4 considers the indicators of economic complexity for both origin and destination countries as determinants of outward FDI.[8] Contrary to the expectations, the economic complexity of the home country is found to be insignificant in the model. However, the level of economic complexity in the host economy positively correlates with FDI inflows, revealing potential technology-seeking motives for FDI.

To further demonstrate the relevance of the baseline model estimated in Section 5, we provide the results of the HPC test proposed by Santos Silva et al. (2015) to assess the quality of the models. This test is designed to choose between two alternative models when the data contains many zeros and includes non-negative observations only. The test examines whether the prediction of the dependent variable generated by a model can be improved by using the predictions from an alternative model. If this is the case, it provides evidence against the original model. We apply the HPC test to compare the baseline model estimated by PPML (Table 2, Model 4) with each model in Table 4.

The HPC test rejects alternative models 1–4 against the baseline model. It allows us to conclude that it is preferable comparing to its alternatives.

Another important thing to be mentioned is that the model with all statistically significant explaining variables should be preferred to models containing insignificant variables. Because predicted values do not change, no matter if insignificant variables are included in the model or not, the OFDI potentials may be biased in the former case. This is one more reason to prefer the baseline model to Models 2, 3, and 4 in Table 4.

Following Santos Silva and Tenreyro (2006), we present the results of the RESET test for PPML estimation. The RESET test is used to check the appropriateness of the functional form of the estimated model. Technically the significance of the additional regressor constructed as a square of the dependent variable is checked. The *p*-value larger than 0.1 means that there is no evidence for misspecification of the estimated model. Notably, both the baseline model and 3 out of 4 alternative models discussed in this section do not pass the RESET-test. On the one hand, this implies that some important explaining variables are missing in the model. On the other hand, since the considered model has theoretical justification (in terms of gravity variables) and other control variables are commonly used in the related literature, we can rely on the derived estimates.

Finally, we present the alternative way to check the negative effect of sanctions on the Russian outward FDI flows. For this purpose, we apply the baseline model only to FDI flows when Russia is an origin country and construct two dummy variables: *year_dum* equals to 1 for the year 2014 and later and *country_dum* equals to 1 if a destination country imposed sanctions against Russia. We also apply the interaction term *year_dum* × *country_dum* (see Model 8 in Table 5). Estimation results presented in Table 5 clearly outline the negative effect of sanctions on the Russian OFDI both at a country and year levels.

[8] The economic complexity index (ECI) designed by Harvard Growth Lab's Country Rankings assess the current state of a county's productive knowledge. Countries improve their ECI by increasing the number and complexity of the products they successfully export.

Table 5
The effect of sanctions on OFDI from Russia (PPML estimates).

Variable	Model 5	Model 6	Model 7	Model 8
Dependent variable	FDI_{ijt}	FDI_{ijt}	FDI_{ijt}	FDI_{ijt}
GDP (home, log)	0.321	0.528*	0.540*	0.430
	(0.272)	(0.311)	(0.316)	(0.265)
GDP (host, log)	135.994*	–42.700*	135.750*	–23.857
	(74.126)	(27.450)	(75.068)	(33.730)
GDP per capita (home, log)	1.222***	1.421***	1.424***	1.337***
	(0.322)	(0.341)	(0.346)	(0.328)
GDP per capita (host, log)	–140.007*	40.685	–139.939*	21.722
	(74.727)	(27.038)	(75.721)	(33.311)
Distance between capitals (log)	–0.596	–0.113	–0.119	–0.320
	(0.398)	(0.298)	(0.302)	(0.331)
Trade/GDP (home)	35.315	15.155	12.252	8.654
	(64.223)	(58.352)	(59.130)	(5.820)
Trade/GDP (host)	3.105	11.711*	11.236*	27.295
	(7.525)	(6.544)	(6.593)	(56.936)
Common language	1.789***	1.920***	1.934***	1.856***
	(0.644)	(0.644)	(0.681)	(0.623)
Common border	–0.744	–0.560	–0.553	–0.648
	(0.662)	(0.680)	(0.694)	(0.646)
Year_sanc (dummy)	–2.344**		–2.380**	
	(0.963)		(0.982)	
Country_sanc (dummy)		–1.806**	–1.828**	
		(0.787)	(0.796)	
Year_sanc × Country_sanc (dummy)				–2.591***
				(0.584)
N obs.	857	857	857	857
R^2	0.129	0.139	0.146	0.135

Note: *** $p < 0.01$, ** $p < 0.05$, * $p < 0.1$.
Source: Authors' calculation in STATA.

8. Conclusion and discussion

This paper contributes to the literature by discussing Russia's OFDI potentials and paying special attention to the role of Western sanctions. In contrast to the majority of FDI studies which use gravity approach to estimate determinants of OFDI, this paper shows its application to the economic policy needs and elaboration of policy implications. Panel data is used on the sample of 74 origin and 102 destination countries for the period 2010–2019 estimated with OLS, panel RE and PPML methods.

We formulated and tested two hypotheses. We demonstrated that Russian outward foreign direct investment significantly differs in its geographical structure from its potentials — Russian companies have significantly underinvested in the countries of Asian, African, Middle Eastern, and Latin American regions. This allows us to confirm Hypothesis 1. Additionally, we showed that anti-Russian sanctions have had a significant negative impact on outward foreign direct investment, thus confirming Hypothesis 2.

Based on these findings, we discuss the prospects for Russia's OFDI after the sanctions of 2022. First, we find that OFDI into the markets of the CIS countries, which have been a traditional destination, already aligns with their potential. This is in line with recent papers (see, for instance, Kazantsev et al., 2021; Lee, 2016) which mention that although Russia's trade with the Central

Asia countries partially compensates for the negative effect of Western sanctions, the prospects of cooperation are limited. The reasons include different geopolitical priorities within the Eurasian Economic Union and The Collective Security Treaty Organization and the spreading economic and political influence of China with the Belt and Road Initiative which implicitly competes with Russian initiatives in the Central Asia. Although there is no consensus about the competition between Russia and China in Central Asia, Karaganov (2017) concludes that the development of cooperation in this region is developing albeit slowly.

Second, our results demonstrate that after the sanctions of 2014 Russia's actual-to-potential OFDI has demonstrated a sharp fall in the West and has been increasing in Asia and in the Middle East. This is an additional evidence of the "pivot to Asia" in the Russian foreign policy resulting from sanction which some authors consider as political and intellectual disenchantment with Europe and the West (Lukin, 2016). Institutionally, Russia's OFDI reorientation from the West to Asia might be supported by the Greater Eurasia concept proposed by the Russian foreign policy and assuming joint development of member states of ASEAN, Shanghai Cooperation Organisation and the Eurasian Economic Union. Lewis (2022) provides an extensive discussion of the Greater Eurasia initiative and concludes that even its supporters note high barriers to its implementation, mentioning geopolitical and not economic reasons for it. As Borodachev (2015) concludes, Russia is strangling this great opportunity in bureaucratic agreements, inter-agency competition, and inertia.

Finally, our findings show that, despite the sanctions, Russia's actual-to-potential OFDI to Africa and Latin America as well as to the Middle East is still at a very low level and not growing. Jeifets et al. (2018), Oliver and Suchkov (2015) discuss Russia's foreign policy and conclude that after neglecting Latin America and Africa for over decades, Russia has recently displayed a pronounced interest in expanding its presence in both regions. Recent papers mention that the development of Russia's economic relations with Latin America and Africa has some progress, but existing economic and institutional barriers constrain the intensification of the cooperation, which is particularly mentioned for Brazil (Koval and Dantas, 2019), Paraguay (Ryzhkova and Koval, 2018), South Africa and Morocco (Fidan and Aras, 2010).

The policy implications from our analysis are the following. Western sanctions of 2014 have sharply affected Russia's OFDI. Although we see the pivot of Russia's OFDI from the West to the East, existing incentives are insufficient for the OFDI recovery and growth. This is especially important to discuss now in the context of the 2022 sanctions, when Russia's OFDI may shrink even more under Russian import substitution policies as soon as the latter can reduce not only Russian imports, but also exports, which is often seen as a complement to FDI. Thus, from the policy perspective, it is important to shift from geopolitical motives to creating wider and deeper economic incentives for the expansion of Russian enterprises in Asia, the Middle East, Latin America, and Africa. One possible solution could be the expansion of preferential trade agreements, since empirical evidence suggests (see, for instance, Kox and Rojas-Romagosa, 2020) that even if the main purpose of such agreements is to increase bilateral trade, they also have a positive effect on FDI. Taking into account low economic growth

rate of the world economy and economic constraints under sanction restrictions for Russia, it is important to consider deep trade agreements that also include preferences for investment, public procurement and protecting intellectual property rights. Russia needs exceptional liberalizing incentives in the sphere of foreign relations, which were not possible before, to force cross-border investment processes and support the expansion of international trade with the East.

This article is not without limitations. When discussing the impact of sanctions, it is important to note that they likely had a significant influence on companies' incentives and motives for internationalization. However, it cannot be definitively stated that sanctions sharply reduced these incentives. It is plausible to assume that sanctions may have only changed motives and, consequently, led to a shift in the geography of OFDI, not only due to the existence of sanction-related restrictions from certain countries but also because of a change in companies' motives for capital investments abroad. In the future, it would be valuable to examine how sanctions have affected companies' readiness and motives for internationalization. We leave this as a subject for further research.

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References

Aliber, R. Z. (1970). A theory of direct foreign investment. In C. P. Kindleberger (Ed.), *The international corporation* (pp. 17–34). Cambridge, MA: MIT Press.

Aliber, R. Z. (2013). The multinational enterprise in a multiple currency world. In J. Dunning (Ed.), *The multinational enterprise* (pp. 49–56). Abingdon: Routledge.

Amal, M., Raboch, H., & Tomio, B. T. (2009). Strategies and determinants of foreign direct investment (FDI) from developing countries: Case study of Latin America. *Latin American Business Review*, *10*(2–3), 73–94. https://doi.org/10.1080/10978520903212532

Anderson, J. E., Larch, M., & Yotov, Y. V. (2019). Trade and investment in the global economy: A multi-country dynamic analysis. *European Economic Review*, *120*, 103311. https://doi.org/10.1016/j.euroecorev.2019.103311

Andreff, W. (2016). Outward foreign direct investment from BRIC countries: Comparing strategies of Brazilian, Russian, Indian and Chinese multinational companies. *European Journal of Comparative Economics*, *12*(2), 79–131.

Anwar, A., & Iwasaki, I. (2022). Institutions and FDI from BRICS countries: A meta-analytic review. *Empirical Economics*, *63*(1), 417–468. https://doi.org/10.1007/s00181-021-02145-w

Barnard, H., & Luiz, J. M. (2018). Escape FDI and the dynamics of a cumulative process of institutional misalignment and contestation: Stress, strain and failure. *Journal of World Business*, *53*(5), 605–619. https://doi.org/10.1016/j.jwb.2018.03.010

Batschauer da Cruz, C. B., Eliete Floriani, D., & Amal, M. (2020). The OLI Paradigm as a comprehensive model of FDI determinants: A sub-national approach. *International Journal of Emerging Markets*, *17*(1), 145–176. https://doi.org/10.1108/IJOEM-07-2019-0517

Bénassy-Quéré, A., Coupet, M., & Mayer, T. (2007). Institutional determinants of foreign direct investment. *World Economy*, *30*(5), 764–782. https://doi.org/10.1111/j.1467-9701.2007.01022.x

Bhasin, N., & Kapoor, K. (2020). Impact of outward FDI on home country exports. *International Journal of Emerging Markets*, *16*(6), 1150–1175. https://doi.org/10.1108/IJOEM-05-2017-0160

Bhasin, N., & Paul, J. (2016). Exports and outward FDI: Are they complements or substitutes? Evidence from Asia. *Multinational Business Review*, *24*(1), 62–78. https://doi.org/10.1108/MBR-05-2015-0016

Blonigen, B. A., & Piger, J. (2014). Determinants of foreign direct investment. *Canadian Journal of Economics/Revue canadienne d'économique*, *47*(3), 775–812. https://doi.org/10.1111/caje.12091

Bordachev, T. (2015). New Eurasian momentum. *Russia in Global Affairs*, *4*. https://eng.globalaffairs.ru/articles/new-eurasian-momentum/

Brainard, S. L. (1997). An empirical assessment of the proximity concentration tradeoff between multinational sales and trade. *American Economic Review*, *87*(4), 520–544.

Brenton, P., & Di Mauro, F. (1999). The potential magnitude and impact of FDI flows to CEECs. *Journal of Economic Integration*, *14*, 59–74.

Buitrago, R. R. E., & Barbosa Camargo, M. I. (2020). Home country institutions and outward FDI: An exploratory analysis in emerging economies. *Sustainability*, *12*(23), 10010. https://doi.org/10.3390/su122310010

Bulatov, A. (2017). Offshore orientation of Russian Federation FDI. *Transnational Corporations, 24*(2), 71–89. https://doi.org/10.18356/ed298a0d-en

Cezar, R., & Escobar, O. R. (2015). Institutional distance and foreign direct investment. *Review of World Economics*, *151*(4), 713–733. https://doi.org/10.1007/s10290-015-0227-8

Cieślik, A., & Tran, G. H. (2019). Determinants of outward FDI from emerging economies. *Equilibrium*. *Quarterly Journal of Economics and Economic Policy*, *14*(2), 209–231. https://doi.org/10.24136/eq.2019.010

Cuervo-Cazurra, A., & Genc, M. (2008). Transforming disadvantages into advantages: Developing-country MNEs in the least developed countries. *Journal of International Business Studies*, *39*(6), 957–979. https://doi.org/10.1057/palgrave.jibs.8400390

Cuervo-Cazurra, A., & Ramamurti, R. (2017). Home country underdevelopment and internationalization: Innovation-based and escape-based internationalization. *Competitiveness Review*, *27*(3), 217–230. https://doi.org/10.1108/CR-04-2016-0021

Cui, L., & Xu, Y. (2019). Outward FDI and profitability of emerging economy firms: Diversifying from home resource dependence in early stage internationalization. *Journal of World Business*, *54*(4), 372–386. https://doi.org/10.1016/j.jwb.2019.04.002

Das, K. C. (2013). Home country determinants of outward FDI from developing countries. *Margin: The Journal of Applied Economic Research*, *7*(1), 93–116. https://doi.org/10.1177/0973801012466104

Daude, C., & Stein, E. (2007). The quality of institutions and foreign direct investment. *Economics & Politics*, *19*(3), 317–344. https://doi.org/10.1111/j.1468-0343.2007.00318.x

de Mello-Sampayo, F. (2009). Competing-destinations gravity model: An application to the geographic distribution of FDI. *Applied Economics*, *41*(17), 2237–2253. https://doi.org/10.1080/00036840701765346

Dikova, D., Panibratov, A., & Veselova, A. (2019). Investment motives, ownership advantages and institutional distance: An examination of Russian cross-border acquisitions. *International Business Review*, *28*(4), 625–637. https://doi.org/10.1016/j.ibusrev.2018.12.007

Dixit, A. K., & Stiglitz, J. E. (1977). Monopolistic competition and optimum product diversity. *American Economic Review*, *67*(3), 297–308.

Dunning, J. (1977). Trade, location of economic activity and the MNE: A search for an eclectic approach. In B. Ohlin, P. Hesselborn, & P. M. Wijkman (Eds.), *The international allocation of economic activity* (pp. 395–418). London: Palgrave Macmillan. https://doi.org/10.1007/978-1-349-03196-2_38

Egger, P. (2001). European exports and outward foreign direct investment: A dynamic panel data approach. *Review of World Economics*, *137*(3), 427–449. https://doi.org/10.1007/BF02707625

Egger, P. (2002). An econometric view on the estimation of gravity models and the calculation of trade potentials. *World Economy*, *25*(2), 297–312. https://doi.org/10.1111/1467-9701.00432

Egger, P., & Pfaffermayr, M. (2004). The impact of bilateral investment treaties on foreign direct investment. *Journal of Comparative Economics*, *32*(4), 788–804. https://doi.org/10.1016/j.jce.2004.07.001

Enderwick, P. (2017). Viewpoint escape FDI from emerging markets: Clarifying and extending the concept. *International Journal of Emerging Markets*, *12*, 418–426. https://doi.org/10.1108/IJoEM-11-2016-0325

Fidan, H., & Aras, B. (2010). The return of Russia–Africa relations. *Bilig/Türk Dünyası Sosyal Bilimler Dergisi*, (52), 47–68.

Filippov, S. (2010). Russian companies: The rise of new multinationals. *International Journal of Emerging Markets*, *5*(3/4), 307–332. https://doi.org/10.1108/17468801011058406

Gammeltoft, P., & Kokko, A. (2013). Introduction: Outward foreign direct investment from emerging economies and national development strategies: Three regimes. *International Journal of Technological Learning, Innovation and Development*, *6*(1–2), 1–20. https://doi.org/10.1504/IJTLID.2013.051695

Greaney, T. M., & Kiyota, K. (2020). Japan's outward FDI potential. *Journal of the Japanese and International Economies*, *57*, 101073. https://doi.org/10.1016/j.jjie.2020.101073

Hanson, P. (2010). Russia's inward and outward foreign direct investment: Insights into the economy. *Eurasian Geography and Economics*, *51*(5), 632–652. https://doi.org/10.2747/1539-7216.51.5.632

Hattari, R., & Rajan, R. (2011). How different are FDI and FPI flows?: Distance and capital market integration. *Journal of Economic Integration, 26*(3), 499–525. https://doi.org/10.11130/jei.2011.26.3.499

Helpman, E., Melitz, M., Yeaple, S. (2004). Export versus FDI with heterogeneous firms. *American Economic Review*, *94*(1), 300–316. https://doi.org/10.1257/000282804322970814

Hoff, K., & Stiglitz, J. E. (2004). After the big bang? Obstacles to the emergence of the rule of law in post-communist societies. *American Economic Review, 94*(3), 753–763. https://doi.org/10.1257/0002828041464533

Jain, N. K., Kothari, T., & Kumar, V. (2016). Location choice research: Proposing new agenda. *Management International Review*, *56*(3), 303–324. https://doi.org/10.1007/s11575-015-0271-6

Jeifets, V., Khadorich, L., & Leksyutina, Y. (2018). Russia and Latin America: Renewal versus continuity. *Portuguese Journal of Social Science*, *17*(2), 213–228. https://doi.org/10.1386/pjss.17.2.213_1

Kalotay, K., Sulstarova, A. (2010). Modelling Russian outward FDI. *Journal of International Management*, *16*(2), 131–142. https://doi.org/10.1016/j.intman.2010.03.004

Karaganov, S. A. (2017). From eastward pivot to the East to Greater Eurasia. *International Affairs*, *63*(4), 1–12. https://doi.org/10.21557/IAF.49309812

Kazantsev, A., Medvedeva, S., & Safranchuk, I. (2021). Between Russia and China: Central Asia in Greater Eurasia. *Journal of Eurasian Studies*, *12*(1), 57–71. https://doi.org/10.1177/1879366521998242

Kheyfets, B. A. (2018). Deoffshorization and anti-Russian sanctions. *Russian Foreign Economic Journal*, (8), 15–31 (in Russian).

Kim, J. U., & Aguilera, R. V. (2016). Foreign location choice: Review and extensions. *International Journal of Management Reviews*, *18*(2), 133–159. https://doi.org/10.1111/ijmr.12064

Kleinert, J., Toubal, F. (2010). Gravity for FDI. *Review of International Economics*, *18*(1), 1–13. https://doi.org/10.1111/j.1467-9396.2009.00869.x

Koval, A. G., & Dantas, A. (2019). Contemporary Russian–Brazilian trade relations. In S. Sutyrin, O. Y. Trofimenko, & A. Koval (Eds.), *Russian trade policy: Achievements, challenges and prospects* (pp. 221–242). London: Routledge. https://doi.org/10.4324/9780429464041-12

Kox, H. L., & Rojas-Romagosa, H. (2020). How trade and investment agreements affect bilateral foreign direct investment: Results from a structural gravity model. *World Economy*, *43*(12), 3203–3242. https://doi.org/10.1111/twec.13002

Krugman, P. R. (1979). Increasing returns, monopolistic competition, and international trade. *Journal of International Economics*, *9*(4), 469–479. https://doi.org/10.1016/0022-1996(79)90017-5

Krugman, P. R. (1981). Intraindustry specialization and the gains from trade. *Journal of Political Economy*, *89*(5), 959–973. https://doi.org/10.1086/261015

Kyrkilis, D., & Pantelidis, P. (2003). Macroeconomic determinants of outward foreign direct investment. *International Journal of Social Economics*, *30*(7), 827–836. https://doi.org/10.1108/03068290310478766

Laine, I., & Galkina, T. (2017). The interplay of effectuation and causation in decision making: Russian SMEs under institutional uncertainty. *International Entrepreneurship and Management Journal*, *13*(3), 905–941. https://doi.org/10.1007/s11365-016-0423-6

Lee, J. E. (2016). Competition between China and Russia and Central Asia's responses. *Information: An International Interdisciplinary Journal*, *19*(12), 5731–5737. https://doi.org/10.14257/astl.2016.129.28

Levina, I., Kisunko, G., Marques, I., & Yakovlev, A. A. (2016). Uncertainty as a factor in investment decisions: The case of the Russian Federation's regions. *World Bank Policy Research Working Paper*, No. 7806. https://doi.org/10.1596/1813-9450-7806

Lewis, D. G. (2022). Geopolitical imaginaries in Russian foreign policy: The evolution of "Greater Eurasia". In V. Akchurina, & V. Della Sala (Eds.), *The European Union, Russia and the post-Soviet space: Shared neighbourhood, battleground or transit zone on the New Silk Road?* (pp. 70–95). Routledge. https://doi.org/10.4324/9781003081722-5

Lukin, A. (2016). Russia's pivot to Asia: Myth or reality?. *Strategic Analysis*, *40*(6), 573–589. https://doi.org/10.1080/09700161.2016.1224065

Ly, A., Esperança, J., & Davcik, N. (2018). What drives foreign direct investment: The role of language, geographical distance, information flows and technological similarity. *Journal of Business Research, 88*, 111–122. https://doi.org/10.1016/j.jbusres.2018.03.007

Luo, Y., Xue, Q., & Han, B. (2010). How emerging market governments promote outward FDI: Experience from China. *Journal of World Business*, *45*(1), 68–79. https://doi.org/10.1016/j.jwb.2009.04.003

Lyzhkova, V. S., & Koval, A. G. (2018). The role of trade costs in the Russian–Paraguayan trade relations. *Latin American Journal of Trade Policy*, *1*(2), 5–29. https://doi.org/10.5354/0719-9368.2018.52139

Mariev, O., Drapkin, I., & Chukavina, K. (2016). Is Russia successful in attracting foreign direct investment? Evidence based on gravity model estimation. *Review of Economic Perspectives*, *16*(3), 245–267. https://doi.org/10.1515/revecp-2016-0015

Markusen, J. R. (1984). Multinationals, multi-plant economies, and the gains from trade. *Journal of International Economics*, *16*(3–4), 205–226. https://doi.org/10.1016/S0022-1996(84)80001-X

Markusen, J. R. (2002). *Multinational firms and the theory of international trade*. MIT Press.

Mishra, A., & Daly, K. (2007). Effect of quality of institutions on outward foreign direct investment. *Journal of International Trade & Economic Development*, *16*(2), 231–244. https://doi.org/10.1080/09638190701325573

Mitze, T., Alecke, B., & Untiedt, G. (2010). Trade–FDI linkages in a simultaneous equations system of gravity models for German regional data. *International Economics*, *122*(2), 121–162. https://doi.org/10.1016/S2110-7017(13)60032-3

Mudambi, R., & Navarra, P. (2002). Institutions and international business: A theoretical overview. *International Business Review*, *11*(6), 635–646. https://doi.org/10.1016/S0969-5931(02)00042-2

Navaretti, B. G., & Venables, A. J. (2004). Host country effects: Conceptual framework and the evidence. In *Multinational firms in the world economy* (pp. 151–182). Princeton: Princeton University Press. https://doi.org/10.1515/9780691214276-009

Nguyen, A., Haug, A., Owen, D., & Genç, M. (2020). What drives bilateral foreign direct investment among Asian economies? *Economic Modelling, 93*, 125–141. https://doi.org/10.1016/j.econmod.2020.08.003

Nielsen, B. B., Asmussen, C. G., & Weatherall, C. D. (2017). The location choice of foreign direct investments: Empirical evidence and methodological challenges. *Journal of World Business*, *52*(1), 62–82. https://doi.org/10.1016/j.jwb.2016.10.006

Olivier, G., & Suchkov, D. (2015). Russia is back in Africa. *Strategic Review for Southern Africa*, *37*(2), 146–168. https://doi.org/10.35293/srsa.v37i2.248

Paul, J., & Feliciano-Cestero, M. M. (2021). Five decades of research on foreign direct investment by MNEs: An overview and research agenda. *Journal of Business Research*, *124*, 800–812. https://doi.org/10.1016/j.jbusres.2020.04.017

Peng, M. W., Wang, D. Y., & Jiang, Y. (2008). An institution-based view of international business strategy: A focus on emerging economies. *Journal of International Business Studies*, *39*(5), 920–936. https://doi.org/10.1057/palgrave.jibs.8400377

Perea, J. R., & Stephenson, M. (2017). Outward FDI from developing countries. In *Global investment competitiveness report 2017/2018: Foreign investor perspectives and policy implications* (pp. 101–134). Washington, DC: World Bank. https://doi.org/10.1596/978-1-4648-1175-3_ch4

Pindyck, R., & Rubinfeld, D. (1991). Forecasting with time-series models. In *Econometric models & economic forecasts* (3rd ed.). New York: McGraw-Hill.

Rasiah, R., Gammeltoft, P., & Jiang, Y. (2010). Home government policies for outward FDI from emerging economies: Lessons from Asia. *International Journal of Emerging Markets*, *5*(3–4), 333–357. https://doi.org/10.1108/17468801011058415

Saguna, D. D., & Radu, D. I. (2015). Fighting harmful tax competition generated by offshore jurisdictions. *Academic Journal of Economic Studies*, *1*(1), 130–137.

Santos Silva, J. M. C., & Tenreyro, S. (2006). The log of gravity. *Review of Economics and Statistics*, *88*(4), 641–658. https://doi.org/10.1162/rest.88.4.641

Santos Silva, J. M. C., & Tenreyro, S. (2022). The log of gravity at 15. *Portuguese Economic Journal, 21*, 423–437. https://doi.org/10.1007/s10258-021-00203-w

Santos Silva, J. M. C., Tenreyro, S., & Windmeijer, F. (2015). Testing competing models for non-negative data with many zeros. *Journal of Econometric Methods*, *4*(1), 29–46. https://doi.org/10.1515/jem-2013-0005

Savin, I., & Winker P. (2013). Heuristic model selection for leading indicators in Russia and Germany. *Journal of Business Cycle Measurement and Analysis, 2012*(2), 67–89. https://doi.org/10.1787/jbcma-2012-5k49pkpbf76j

Shahriar, S., Kea, S., & Qian, L. (2019). Determinants of China's outward foreign direct investment in the Belt & Road economies: A gravity model approach. *International Journal of Emerging Markets*, *15*(3), 427–445. https://doi.org/10.1108/IJOEM-03-2019-0230

Smirnov, E. N. (2019). Deoffshorization of economy of the Russian Federation: Evolution of approaches and main priorities of the present stage. *RUDN Journal of Economics*, *27*(2), 353–365 (in Russian). https://doi.org/10.22363/2313-2329-2019-27-2-353-365

Spartak, A. (2023). Reshaping Russia's international economic cooperation amid sanctions and new challenges. *Russian Foreign Economic Journal, 4*, 9–35 (in Russian). https://doi.org/10.24412/2072-8042-2023-4-9-35

Stal, E., & Cuervo-Cazurra, A. (2011). The investment development path and FDI from developing countries: The role of pro-market reforms and institutional voids. *Latin American Business Review*, *12*(3), 209–231. https://doi.org/10.1080/10978526.2011.614174

Stoian, C. (2013). Extending Dunning's investment development path: The role of home country institutional determinants in explaining outward foreign direct investment. *International Business Review*, *22*(3), 615–637. https://doi.org/10.1016/j.ibusrev.2012.09.003

Stoian, C., & Mohr, A. (2016). Outward foreign direct investment from emerging economies: Escaping home country regulative voids. *International Business Review*, *25*(5), 1124–1135. https://doi.org/10.1016/j.ibusrev.2016.02.004

Ucal, M., Bilgin, M. H., Özcan, K. M., & Mungo, J. (2010). Relationship between financial crisis and foreign direct investment in developing countries using semiparametric regression approach. *Journal of Business Economics and Management*, *11*(1), 20–33. https://doi.org/10.3846/jbem.2010.02

Wang, C., Hong, J., Kafouros, M., & Wright, M. (2012). Exploring the role of government involvement in outward FDI from emerging economies. *Journal of International Business Studies*, *43*(7), 655–676. https://doi.org/10.1057/jibs.2012.18

Wilhelms, S. K., & Witter, M. S. D. (1998). *Foreign direct investment and its determinants in emerging economies*. Washington DC: United States Agency for International Development, Bureau for Africa, Office of Sustainable Development.

Yakovlev, A. (2015). State-business relations in Russia after 2011. In S. Oxenstierna (Ed.), *The challenges for Russia's politicized economic system* (pp. 59–76). New York: Routledge.

Yamakawa, Y., Peng, M. W., & Deeds, D. L. (2008). What drives new ventures to internationalize from emerging to developed economies?. *Entrepreneurship Theory and Practice*, *32*(1), 59–82. https://doi.org/10.1111/j.1540-6520.2007.00216.x

Appendix A

Table A1
List of countries.

Home countries	Host countries
Armenia (ARM), Australia (AUS), Austria (AUT), Azerbaijan (AZE), Belgium (BEL), Benin (BEN), Bangladesh (BGD), Bulgaria (BGR), Bosnia and Herzegovina (BIH), Belarus (BLR), Belize (BLZ), Bermuda (BMU), Bolivia (BOL), Brazil (BRA), Canada (CAN), Chile (CHL), China (CHN), Czechia (CZE), Germany (DEU), Denmark (DNK), Algeria (DZA), Spain (ESP), Estonia (EST), Finland (FIN), France (FRA), Great Britain (GBR), Ghana (GHA), Greece (GRC), Guatemala (GTM), Hong Kong (HKG), Croatia (HRV), Hungary (HUN), Indonesia (IDN), India (IND), Ireland (IRL), Iceland (ISL), Israel (ISR), Italy (ITA), Japan (JPN), Kazakhstan (KAZ), Cambodia (KHM), S. Korea (KOR), Lithuania (LTU), Latvia (LVA), Morocco (MAR), Moldova (MDA), Mexico (MEX), North Macedonia (MKD), Montenegro (MNE), Mongolia (MNG), Mozambique (MOZ), Malaysia (MYS), Nigeria (NGA), Netherlands (NLD), Norway (NOR), Nepal (NPL), New Zealand (NZL), Pakistan (PAK), Philippines (PHL), Poland (POL), Paraguay (PRY), Romania (ROU), Russia (RUS), Singapore (SGP), Serbia (SRB), Slovakia (SVK), Slovenia (SVN), Sweden (SWE), Thailand (THA), Turkey (TUR), Tanzania (TZA), Ukraine (UKR), United States of America (USA), South Africa (ZAR)	Afghanistan (AFG), Albania (ALB), United Arab Emirates (ARE), Argentina (ARG), Armenia (ARM), Australia (AUS), Austria (AUT), Azerbaijan (AZE), Belgium (BEL), Bangladesh (BGD), Bulgaria (BGR), Bosnia and Herzegovina (BIH), Belarus (BLR), Bolivia (BOL), Brazil (BRA), Botswana (BWA), Central African Republic (CAF), Canada (CAN), Switzerland (CHE), Chile (CHL), China (CHN), Cote d'Ivoire (CIV), Cameroon (CMR), Colombia (COL), Comoros (COM), Costa Rica (CRI), Czechia (CZE), Germany (DEU), Denmark (DNK), Dominican Republic (DOM), Algeria (DZA), Ecuador (ECU), Egypt (EGY), Spain (ESP), Estonia (EST), Ethiopia (ETH), Finland (FIN), France (FRA), Great Britain (GBR), Georgia (GEO), Ghana (GHA), Guinea (GIN), Greece (GRC), Guatemala (GTM), Hong Kong (HKG), Croatia (HRV), Hungary (HUN), Indonesia (IDN), India (IND), Ireland (IRL), Iran (IRN), Iraq (IRQ), Iceland (ISL), Israel (ISR), Italy (ITA), Japan (JPN), Kazakhstan (KAZ), Kenia (KEN), Cambodia (KHM), S. Korea (KOR), Kuwait (KWT), Liechtenstein (LIE), Sri Lanka (LKA), Lithuania (LTU), Luxembourg (LUX), Latvia (LVA), Morocco (MAR), Mexico (MEX), Myanmar (MMR), Malaysia (MYS), Niger (NER), Nigeria (NGA), Netherlands (NLD), Norway (NOR), Nepal (NPL), New Zealand (NZL), Pakistan (PAK), Peru (PER), Philippines (PHL), Poland (POL), Portugal (PRT), Romania (ROU), Russia (RUS), Sudan (SDN), Singapore (SGP), Serbia (SRB), Slovakia (SVK), Slovenia (SVN), Sweden (SWE), Thailand (THA), Tunisia (TUN), Turkey (TUR), Taiwan (TWN), Tanzania (TZA), Ukraine (UKR), Uruguay (URY), United States of America (USA), Uzbekistan (UZB), Venezuela (VEN), Viet Nam (VNM), South Africa (ZAR), Zambia (ZMB)

Source: Compiled by the authors.

Table A2
Descriptive statistics (N = 42,620).

Variable	Units	Mean	Std. dev.	Min	Max
FDI flow	thousand U.S. dollars	586.79	7928.43	0	514 186.80
GDP of the home country	thousand U.S. dollars (log)	19.31	1.72	13.16	23.79
GDP of the host country	thousand U.S. dollars (log)	19.29	1.83	15.58	23.79
GDP per capita of the home country	thousand U.S. dollars (log)	2.46	1.37	–1.10	4.78
GDP per capita of the host country	thousand U.S. dollars (log)	2.36	1.27	–0.96	4.61
Distance	km (log)	8.41	0.98	4.09	9.90
Openness (trade to GDP ratio) of the home country	%	0.01	0.02	$2.47e^{-12}$	0.92
Openness (trade to GDP ratio) of the host country	%	0.01	0.02	$1.11e^{-11}$	0.91
Common language	0 or 1	0.08	0.27	0	1
Contiguity	0 or 1	0.05	0.21	0	1

Source: Authors' calculations.

Table A3
Actual and potential levels of Russia's outward FDI with the largest country partners (year average).

Region	Country ISO code[a)]	2010–2014		2015–2019		2010–2019		
		Actual	Potential	Actual	Potential	Actual	Potential	Ratio, %
Northern and Western Europe	GBR	3346.0	2210.7	5849.8	2318.9	4597.9	2264.8	203.0
	NLD	5525.0	1517.8	2198.5	1391.1	3711.8	1454.5	255.2
	LUX	3181.5	401.6	2295.5	356.6	2738.6	379.1	722.4
	IRL	3734.7	431.3	871.3	690.0	2303.0	560.7	410.8
	FRA	1611.0	2132.0	2535.5	1810.0	2073.3	1971.0	105.2
	DEU	2121.0	3741.1	1820.0	3461.3	1970.8	3601.2	54.7
	CHE	1098.0	1359.0	1651.0	1211.0	1375.0	1285.0	107.0
	SWE	1351.5	1297.9	643.8	1182.9	997.7	1240.4	80.4
	FIN	246.1	1015.2	1484.9	886.2	865.5	950.7	91.0
	AUT	873.9	1184.0	411.0	1015.0	642.5	1099.0	58.5
	ITA	41.5	1937.1	911.5	1570.0	476.5	1753.6	27.2
	BEL	273.2	1025.0	90.3	932.0	181.8	978.5	18.6
Eastern Europe	HUN	105.4	538.4	64.9	648.9	85.2	593.7	14.3
	CZE	97.5	827.3	51.6	868.2	74.5	847.8	8.8
	POL	75.8	1273.8	39.9	1400.2	57.9	1337.0	4.3
	BGR	10.0	286.0	18.7	355.0	14.4	320.5	4.5
	SVN	5.8	324.2	20.6	327.5	13.2	325.9	4.0
	HRV	4.0	246.5	17.5	321.9	10.7	284.2	10.8
	SVK	3.5	261.9	5.2	286.5	4.3	274.2	3.9
CIS	UKR	38.9	1251.4	707.7	826.7	373.3	1039.1	35.9
	KAZ	57.1	2304.8	601.7	1882.9	329.4	2093.9	15.7
	BLR	62.3	887.0	201.3	782.0	131.8	834.5	15.8
	AZE	38.3	643.0	120.5	471.0	79.4	557.0	14.2
	ARM	36.1	475.8	122.3	440.7	79.2	458.3	24.1
	GEO	2.3	147.1	28.1	129.8	15.2	138.4	57.2
Middle East	TUR	73.9	1371.0	210.7	1123.6	142.3	1247.3	11.4
	ISR	62.5	725.2	79.7	822.3	71.1	773.8	9.2
	ARE	20.3	941.8	59.7	874.0	40.0	908.0	4.4
	IRN	31.3	783.7	–	–	31.3	783.7	4.0
Latin America	MEX	1.4	929.5	3.2	947.6	2.4	939.9	0.3
	DOM	2.9	232.8	0.2	280.8	2.0	248.8	0.8
	URY	1.3	185.7	0.3	173.7	0.9	180.6	0.5
	CRI	0.4	157.9	0.8	171.8	0.6	166.6	0.4
	PER	0.0	395.0	0.8	386.5	0.4	390.8	0.1
	ARG	0.4	585.0	0.2	483.0	0.3	541.0	0.1
North America	USA	3020.1	3448.0	420.8	4015.0	1720.5	3731.5	46.1
	CAN	36.1	1216.0	17.4	1087.0	26.7	1151.5	2.3
Asia	SGP	192.4	567.1	3319.7	550.2	1756.0	558.7	314.3
	CHN	778.9	3476.0	663.0	3705.0	721.3	3590.5	20.1
	KOR	332.2	1390.3	532.4	1307.5	432.3	1348.9	32.1
	HKG	72.0	572.2	551.7	595.9	311.8	584.1	53.4
	JPN	276.5	2479.9	300.8	2227.5	288.7	2353.7	12.3
	IND	10.9	1691.3	155.3	1737.7	83.1	1714.5	4.8
	VNM	40.7	497.5	31.6	819.5	36.8	658.5	5.6
	THA	27.6	782.2	0.9	886.6	18.7	817.1	2.3
Africa	ZAF	2.5	240.2	0.0	–	2.1	240.2	0.9
	DZA	0.0	519.7	0.0	424.6	0.0	472.2	0.0
	EGY	0.7	631.0	1.6	620.6	1.2	625.8	0.2
	MAR	0.0	335.1	–	–	0.0	335.1	0.0
	TUN	0.0	213.1	0.6	185.1	0.3	199.1	0.2
	BWA	0.0	65.0	0.0	57.8	0.0	59.1	0.0
Total		29178.2	68833.2	29542.6	64617.1	29263.3	67694.0	43.4

[a)] Countries' names are presented in Table A1.
Source: Authors' calculations.

Table A4
Russian trade with country groups, 2019 (billion U.S. dollars).

	Trade, total	Share, %
Europe	337.5	50.0
East Asia	177.8	26.4
Central and South Asia	74.9	11.1
North America	28.3	4.2
Africa	16.7	2.5
Latin America	14.2	2.1
Middle East	14.0	2.1
World	673.8	100.0

Source: Authors calculations based on WITS.