

Modelling Russian outward FDI
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Abstract

The Russian Federation is the second largest outward investing emerging economy, surpassed only by Hong Kong (China) but ahead of Brazil, China and India. This paper analyses the main patterns of Russian outward FDI, including its dynamics and geographical destinations. It also highlights the changing strategies of outward investing Russian firms: in the early 1990s, they were mostly privately owned TNCs, seeking for ‘safety nests’ abroad to protect themselves from domestic uncertainty; these days, State-owned or -influenced TNCs dominate Russian capital exports, motivated by a desire to control the value chain of their products. There are however common characteristics between the two periods, such as the prevalence of natural-resource-based firms among the largest Russian TNCs. Based on those characteristics, the paper attempts to model formally Russian outward FDI. It tests the extent to which the mainstream theory (ownership and location advantages) is applicable to the Russian context, as well as the role played by specific factors such as State ownership. Home-country factors seem to play a particularly important role in shaping Russian outward FDI. As for the motivations of that FDI, Russian TNCs seem aim to control upstream natural resources in the CIS and developing countries, while in high-income countries they aim at controlling downstream markets.

Keywords: Russian Federation, Outward FDI, TNC, Natural resources, downstream activities

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1. Introduction

In March 2008 the (majority) State-owned Russian natural gas producer Gazprom was reported to become the world's 4th largest company by market valuation (US\$ 300 billion), shattering the hierarchy of large transnational corporations (TNCs) known so far, based on the dominance of developed-country firms. Gazprom and other Russian corporations are important outward investors, making their country one of the most dynamic sources of foreign direct investment (FDI) worldwide. Indeed, the outward FDI stock of the Russian Federation, as reported by the Bank of Russia, reached in 2007 US\$370 billion, almost 20 times more than in 2000.

As TNCs from economies in transition seem to possess less experience in competing in global markets, the emergence of the Russian Federation as a major source of outward FDI puts on test the existing paradigms on international investment. The understanding of Russian outward foreign direct investment (OFDI) remains relatively incomplete. The main reason is the lack of sufficiently disaggregated data to permit formal analysis of the forces shaping Russian OFDI due to the reluctance of Russian firms to reveal detailed information about their foreign activities. As a result, research so far has focussed on a descriptive analysis of FDI trends⁴ (Kalotay, 2007; Liuhto and Vahtra, 2007), coupled with in-depth case studies on a specific industries (e.g., Lisitsyn et al., 2007; Ehrstedt and Vahtra, 2008).

This article describes first the dynamics of the outward investment position of the Russian Federation, using balance-of-payments data, as well as the main target regions/countries and sectors of foreign acquisitions of Russian TNCs, based on cross-border merger and acquisition (M&A) data. It is followed by analysis of the Russian TNC universe and their motivations to invest abroad, including a brief review of the applicability of the general theory of FDI, and a discussion on its possible extension to an emerging economy such as the Russian Federation. The second part of the paper contains a modelling of the OFDI dynamics of the Russian Federation and a testing of the locational determinants of such OFDI using the country breakdown of cross-border M&A purchases as a proxy for that geography. This article concludes that the outward FDI of the Russian Federation is driven partly by its country-specific advantages, such as its gross domestic product (GDP) per capita. As for the locational advantages of target economies, their market size and natural-resource-endowments are both important considerations for Russian TNCs to invest there. However because of the limitations of data, these results have to be interpreted with some caution. The paper concludes with a summary of the main findings of this study.

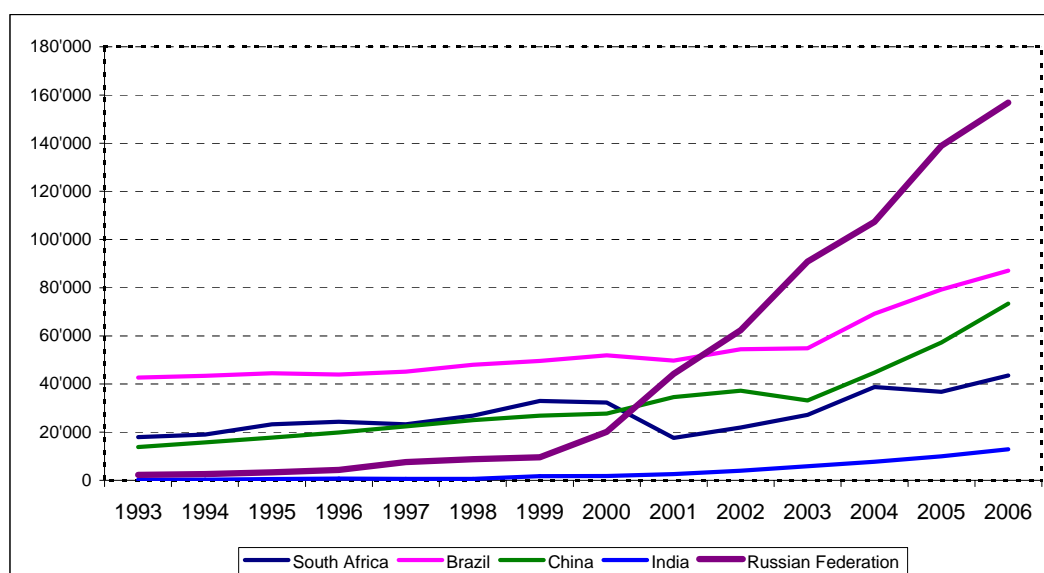
2. Dynamics of outward foreign direct investment from the Russian Federation

During the 1990s, the Russian Federation was a major capital exporting country, with its FDI outflows often exceeding inflows. At the beginning of transition, most of FDI outflows were of an informal nature; until 1999 the officially registered outward FDI stock hardly surpassed US\$10 billion (figure 1). Since 1999 Russian

⁴ See Kalotay, 2005 for a review of literature till 2005.

outward FDI stock has expanded rapidly, with its growth rate surpassing those of other emerging markets such as Brazil, India, China and South Africa (figure 1). However, it may well be that before 1999 the outward investment position of the country was largely underreported (Bulatov, 1998; Kalotay, 2005). After 1999 the Bank of Russia started to receive increasingly accurate information but was not fully in a position to revise its previous reporting (Kalotay, 2008).

Figure 1. Outward FDI stock of the BRICS countries, 1993–2006
(Billions of US dollars)



Source: UNCTAD, *World Investment Report 2007: Transnational Corporations, Extractive Industries and Development*.

Note: 'BRICS' denotes Brazil, the Russian Federation, India, China and South Africa.

The dynamics of outward FDI from the Russian Federation raises the questions a lower-middle income country can become a net capital exporter? Can macroeconomic factors explain this situation, or is it mostly due to the emergence of large Russian TNCs which increasingly expand abroad to enhance their competitiveness? In other words, should we focus on home-country macro effects or firm specific effects? This article explores this issue in the section on modelling the relationship between the outward FDI stock and the GDP per capita.

Russian outward investment is boosted by rising volumes of cross-border M&As. While M&A purchases by Russian TNCs tripled between 1992–1996 and 1997–2000, and between 1997–2000 and 2001–2004, they soared more than 10 times in the last four years. This pattern confirms the evolution of Russian TNCs which started consolidating their competitiveness through oligopolistic or monopolistic advantages, first at home and later on abroad. Cross-border M&A data are also important sources of information on the patterns of outward FDI from the Russian Federation because they permit to analyse the geographical and industry patterns of the foreign expansion of Russian firms; these details are not available from the FDI data.⁵

⁵ An inconvenience of using cross-border M&A data is that they do not cover the foreign greenfield projects initiated by Russian firms.

As for the geographical distribution of acquisitions abroad, data show that Russian firms targeted mostly developed country firms, despite the fact that the expansion of Russian TNCs often started in other member countries of the Commonwealth of Independent States (CIS) (Table 1). Nevertheless, the highest share of the CIS in M&As (28%) was recorded in 2001–2004. Moreover, only in the last four years were there notable acquisitions by Russian firms in developing countries, mainly in Asia but also in Africa. At the country level, the United Kingdom is the country with the largest M&A purchases from the Russian Federation. In 2001–2004, 41% of purchases took place in the United Kingdom. In 2005–2008, the United Kingdom accounted for 33%. Canada has been another important target country, reflecting the acquisition of LionOre by Norilsk Nickel in 2007.

**Table 1. Cross-border M&A purchases by Russian TNCs,
by host country/region, 1992–June 2008**
(Millions of US dollars)

Country / region	1992–1996	1997–2000	2001–2004	2005–2008
World	511	2 211	5 498	56 794
Developed economies	511	2 151	3 962	44 287
Europe	311	1 749	2 766	30 575
European Union	311	1 749	2 566	30 160
Austria	-	-	4	1 662
Belgium	-	90	-	-
Bulgaria	-	816	37	-
Cyprus	-	-	-	511
Finland	45	45	-	276
Greece	-	-	-	806
Hungary	6	6	-	177
Italy	-	-	-	1 280
Luxembourg	-	-	-	1 660
Netherlands	245	245	-	-
Romania	-	300	121	-
Slovakia	-	-	72	-
Slovenia	-	-	-	50
Sweden	-	-	-	4 652
United Kingdom	-	211	2 273	19 016
North America	-	170	1 195	13 247
Canada	-	-	68	7 937
United States	-	170	1 127	5 310
Other developed countries	200	232	-	465
Australia	-	2	-	461
Japan	200	200	-	-
Developing economies	-	-	-	3 210
Africa	-	-	-	250
Nigeria	-	-	-	250
Asia and Oceania	-	-	-	2 945
Turkey	-	-	-	2 006
China	-	-	-	786
Malaysia	-	-	-	92
South-East Europe and the CIS	-	61	1 536	9 297
Southeast Europe	-	-	303	257
Bosnia and Herzegovina	-	-	-	157
Croatia	-	-	76	-
Serbia and Montenegro	-	-	225	59
CIS	-	61	1 233	9 039
Armenia	-	-	27	423
Kyrgyzstan	-	-	-	150
Russian Federation	-	47	990	5 614
Ukraine	-	13	199	2 769

Source: UNCTAD, cross-border M&A database.

As for the sectoral composition of M&A purchases, most of the acquisitions of Russian firms were made in the primary sector (Table 2). It accounted on average for 60% of investments in the last three sub-periods.

**Table 2. Cross-border M&A purchases by Russian TNCs,
by host sector/industry, 1992–June 2008**
(Millions of US dollars)

Sector/industry	1992–1996	1997–2000	2001–2004	2005–2008
Total industry	511	1 700	5 498	56 794
Primary	45	1 098	2 980	33 485
Agriculture, forestry, and fishing	-	-	5	-
Mining, quarrying and petroleum	45	1 098	2 976	33 485
Mining and quarrying	-	-	1 546	15 742
Petroleum	45	1 098	1 430	17 743
Secondary	451	146	661	13 430
Food, beverages and tobacco	-	90	9	2
Wood and wood products	3	-	-	34
Oil and gas; petroleum refining	-	7	161	589
Chemicals and chemical products	-	-	164	113
Metal and metal products	-	31	306	2 914
Machinery	6	-	17	7 575
Electrical and electronic equipment	-	2	-	453
Electronic and electrical equipment	-	2	-	217
Communications Equipment	-	-	-	143
Motor vehicles and other transport equipmen	442	15	-	1 537
Transportation equipment	200	15	-	1 537
Services	15	456	1 857	8 935
Electricity, gas, and water	-	177	60	1 042
Construction firms	-	-	100	1 637
Hotels and casinos	-	-	2	468
Trade	-	235	536	350
Transport, storage and communications	15	13	1 106	3 880
Telecommunications	-	10	1 021	3 637
Finance	-	23	30	1 773
Business activities	-	2	23	116
Business Services	-	2	19	250
Community, social and personal services	-	7	-	888

Source: UNCTAD, cross-border M&A database.

The share of the primary sector was low in 1992–1996 (9%) but it increased very quickly since then, especially that of petroleum and gas, but also that of other mining. Manufacturing was the main sector where purchases took place in early 1990s; however, by 1997–2001, its share fell to 8%, although it picked up again later on, reaching 24% in 2005–2008. A different pattern was followed by investments of Russian firms in the services sector. Their share in M&A purchases was very low in 1992–1996, but then it increased to 34% in 2001–2004. In the last four years, its share was 16%. Within services, telecommunications was by far the most important industry.

3. The universe of Russian TNCs and their motivations to expand abroad

a. The universe of Russian TNCs

In the Russian Federation, capital exports are driven by large industrial conglomerates, especially in natural-resource-based industries. According to the Fortune Global 500 of 2005, out of 63 firms headquartered in emerging markets, Gazprom was the largest firm, Lukoil was 8th and Surgutneftegas 9th ranked all by

market capitalization. However, large market capitalization does not mean that they are necessarily transnational. On the list of the 20 largest Russian firms (Table 3) there are four (Magnitogorsk Iron & Steel, Novolipetsk Iron & Steel, Sberbank and Surgutneftegas) that have seemingly no affiliates or branches abroad and hence have to be considered uninational. Furthermore some of TNCs are not really independent (for example Sibneft has become the affiliate of Gazprom and was renamed Gazpromneft and Sistema holding owns the majority of Mobile TeleSystems) while some others are owned by foreign investors such as BP-TNK of which 50% is controlled by BP, VimpelCom in which more than one quarter is controlled by Telenor controls and Lukoil where ConocoPhillips has 20% participation. However, since their ownership is short of majority (but in BP-TNK), and the relationship with the foreign owner is closer to an equity-based strategic alliance than control/hierarchy, these firms, they still can be considered as TNCs in a broader sense.

Table 3. The 20 largest Russian firms, ranked by market capitalization, end 2007

Firm	Industry	State ownership	Major foreign shareholder	Report on outward investment	Market value (\$ million)	EBITDA, 2006 (%)	Sales, 2006 (\$ million)	Growth of sales, 2007 (%)
Gazprom	Oil & gas	50.01%	E.ON (6.5%)	Yes	334'726	44.4	79'122	10.0
Rosneft	Oil & gas	50.01%	Petronas (5%), BP (4%), CNPC (2%)	Yes	98'139	21.9	33'099	48.7
Sberbank	Banks	60.25%	-	Not	95'132	67.8 ^a	9'863	44.1
Lukoil	Oil & gas	-	ConocoPhillips (20%)	Yes	73'302	18.1	68'109	20.4
UES	Electricity	52.70%	-	Yes	56'064	16.1	32'780	13.6
Norilsk Nickel	Mining	-	-	Yes	50'554	65.9	11'550	39.0
Surgutneftegas	Oil & gas	-	-	Not	49'860	38.9	18'401	14.1
VimpelCom	Telecom	-	Telenor (26.6%)	Yes	40'389	50.4	4'868	47.3
Mobile TeleSystems ^b	Telecom	-	-	Yes	38'192	53.3	6'384	29.3
VTB Bank	Banks	50.01%	EADS (5%)	Yes	34'629	40.1 ^a	3'252	30.9
TNK-BP	Oil & gas	-	BP (50%)	Yes	34'371	33.5	22'166	9.0
Gazpromneft ^c	Oil & gas	50.01%	-	Yes	30'382	25.6	20'172	2.0
Evrast	Iron & steel	-	-	Yes	27'684	31.6	8'292	54.5
Novolipetsk Iron & Steel	Iron & steel	-	-	Not	22'894	43.0	6'046	27.6
Severstal	Iron & steel	-	-	Yes	22'673	24.0	12'423	22.7
Novatek	Oil & gas	-	-	Yes	22'226	46.7	1'782	34.7
Sistema ^b	Holding	-	-	Yes	19'059	37.0	10'863	22.9
Magnitogorsk Iron & Steel	Iron & steel	-	-	Not	14'423	31.2	6'424	27.6
Tatneft	Oil & gas	-	-	Yes	13'152	15.7	11'702	8.5
Mechel	Iron & steel	-	-	Yes	12'963	21.0	4'398	43.7

Source: Author's calculations, based on company reports.

^a Net interest income.

^b Sistema owns 52.8% of Mobile TeleSystems. It also owns other telecom companies (e.g. Comstar), a microelectronics firm (Sitronics), an insurance company (Rosno) etc.

^c Formerly called Sibneft; acquired by Gazprom in September 2005, and renamed Gazpromneft.

The giant companies that carry out the bulk of Russian outward FDI) have been characterized by a monopolistic/oligopolistic position in the domestic market, a building up of significant export revenues used to finance overseas business operations (Vahtra and Liuhto, 2005), a strong competitive positions achieved among the leaders of their respective industries, as well as a recognition of the need to build up foreign presence to maintain or strengthen their position in global markets. The largest, and probably most important, ones are in the oil and gas industry, with

Gazprom, and Lukoil as examples of full-fledged international players, while Novatek, Rosneft, Tatneft and TNK-BP have more limited foreign activities. A second group is in metal processing, including Severstal, UC Rusal, Norilsk Nickel and Evraz. The third group is in telecommunications, with Sistema (including its affiliate Mobile TeleSystems) and VimpelCom being both important TNCs.

Lukoil is the largest Russian TNCs by foreign assets, ranked second among the world's privately-owned oil companies by proved hydrocarbon reserves (Skolkovo and CPIO, 2007). 84% of its sales take place abroad. The company has been active in around 25 foreign oil and gas exploration and production in the neighbouring CIS countries, Middle East, Africa and Latin America. It has also increased processing and marketing assets in the United States and the European Union (EU) through cross-border M&As. In the downstream market, the company owns refineries in various countries, while it has acquired strategic retail assets in the United States, the Scandinavian countries, as well as in Central Europe. *Gazprom*, a company with majority state ownership, is not just the largest Russian firm but also the 2nd largest outward investors in terms of assets controlled abroad. Different from Lukoil, the company at the beginning focused its activities on the domestic market. Only recently has it decided to go global on a large scale, in order to ensure the control of supplies to consumers and diversification of business activities. In that respect Gazprom is actively trying to increase its share in the European transportation and storage system and gas distribution network. Recently it has entered the European and North African markets through assets swap agreements. The company is also engaged in the development of hydrocarbon resources in foreign countries, beginning with the CIS, followed by Latin America, India and Viet Nam. In order to diversify its own activities Gazprom, following the acquisition of Sibneft (re-named Gazpromneft), gained control over Serbia's largest oil company, NIS.

In metallurgy, *Severstal* is the largest steel producer of the Russian Federation and the 3rd largest Russian TNCs by foreign assets. The company has become a vertically integrated industrial group, with significant capacities in the iron and steel production chain from iron ore to smelting, rolling and wiring. It became supplier to leading American auto manufacturers thanks to the acquisitions of the fifth largest steel maker of the United States Rouge Industries, as well as the construction of the greenfield plant SeverCorr in 2007. The acquisition of Lucchini, a leading European steelmaker, enabled Severstal to secure a solid position in the EU market. The company has also acquired metal hardware and wire production assets in the United Kingdom and Ukraine. *UC Rusal*, which was created through the merger of two Russian aluminium producers, Rusal and Sual, and the alumina assets of the Swiss-based metal trader Glencore, aims to become the world's leading aluminium company. Before the merger Rusal had already controlled foreign assets in Ukraine, Guinea and Guyana, Australia and China. With the acquisition of Glencore, UC Rusal tapped into the bauxite resources of Jamaica, and gained control over an Italian company in Sardinia and a Swedish aluminium company. Most recently with an acquisition in Nigeria in 2007 the company built a full production chain in West Africa.

Norilsk Nickel is a world leader in the production of several strategic metals, in particular, palladium, platinum, nickel, cobalt and copper. The company's international network includes production enterprises and trading firms spanning from

nine countries on five continents. With a strong domestic resource base, the company had limited interests in foreign acquisitions in the 1990s. However later on, the company undertook several strategic acquisitions abroad, including a mining company (Stillwater), an exploration, production, processing and distribution company (PGM) and the nickel assets of a specialty chemicals producer (OM Group), all in the United States. The acquisition of the Canadian LionOre Mining, the largest ever by a Russian TNC, gave a significant advantage over its global nickel competitors since it increased its nickel reserves in Australia and South Africa.

Evrax Group – another iron and steel TNCs with large foreign assets – is a vertically integrated metallurgical major. Its first European acquisitions in 2005 in Italy and Czech Republic allowed the company to follow a profit seeking strategy in these important markets. The next purchases, namely the acquisition of Oregon Steel enabled the company to capture production facilities with an established customer base and a significant market share. With the acquisition of a controlling share on China's leading iron metallurgy player Delong in 2008 Evrax secured direct presence in the largest and fastest growing steel market of the world. *Mechel* opted for a different kind of internationalization, based on low-cost specialty steels and alloys. It owns coal operations in Kazakhstan, two steel mills in Romania and a steel product manufacturer in Lithuania.

In telecommunications, *Sistema*, a holding company owning electronics, insurance, banking, real estate, retail, and media companies, too, derives most of its revenues from its telecommunications branch, which itself controls more than 50 operators in fixed and mobile telephone and other communication services. Most of the Sistema Telecom firms are uninationa, while the holding's largest company, *Mobile TeleSystems*, is the market leader in wireless communication in various CIS countries. *VimpelCom*, the 2nd largest operator of the Russian Federation and the CIS (founded in 1992 and co-owned by the Russian Federation's Alfa Group and Norway's Telenor) focuses on Kazakhstan, Tajikistan and Ukraine. In addition, Alfa holds shares in a Ukrainian and a Kyrgyz operator, and purchased in 2005 a 13% minority share in Turkish Turkcell, itself a major competitor in various CIS markets

b. How FDI theorems can explain Russian outward FDI

When new TNCs are emerging from developing and transition economies, it is legitimate to ask if the FDI theorems developed for traditional source countries and firms can be applied to them, or a new theory has to emerge. Alternatively, it has to be asked if there is a need for parallel theories: while keeping the old theories for the older home economies, researchers need to develop an alternative one for the new source countries. The experience of Russian TNCs challenges some of the premises of traditional FDI theorems (e.g., the IDP and the explanations based on the standard theory of factor movements). The eclectic paradigm seems to be more 'resilient' to the specificities of Russian TNCs, although the Russian case may indicate the need for certain adjustments already indicated in the case of developing-country TNCs.

The eclectic paradigm (OLI theorem) describes outward FDI in terms of ownership and internalization advantages of TNCs and locational advantages of host

economies (Dunning and Lundan, 2008). While the internalization aspect of TNCs strategies can be used as a point of reference to explain the behaviour of Russian firms, the ownership advantages are less straightforward. However with the distinction that has been introduced between 'Oa' advantages, consisting of property rights and intangible assets and advantages of common governance, learning experiences and organizational competence (Ot), which can be gained also in relatively less advanced firms that do not seemingly have technological advantages, or even have disadvantages in that area (Dunning and Lundan, 2008). Large Russian TNCs base their international expansion on those newly described ownership advantages, which are less technology and more organization and management based (Ot). They possess remarkable Ot advantage in the iron and steel industry in turning around ailing facilities. In addition, the fact that the outward investing firms are significantly more profitable than firms with no foreign expansion (Table 4) can be taken as an additional indirect proof of organizational and common governance-type ownership advantages being used for international expansion. An additional element in the equation of Russian FDI abroad is of excess capital. As highlighted, the bulk of Russian outward investing firms are in energy, metallurgy and mining, and these are industries that generated large cash flows. For this excess capital, it was natural to seek investment opportunities abroad, in addition to the domestic ones. One way of interpreting this excess capital is to see it as a special case of Ot advantages. In the former Soviet Union, in the former members of the defunct Comecon, as well as in some countries that used to have traditional close links with the U.S.S.R., Russian firms had inherited yet another Ot advantage: their familiarity with the local business and regulatory environments. They can sometimes rely on personal links inherited from the times of the former Soviet Union. The ease of entry is particularly high in the CIS, partly because of the common regulatory heritage, and partly because the language barrier is small. Russian is often used in other CIS countries as business language.

In sum, an effort to apply the eclectic paradigm to Russian outward FDI these days provides promising results, with one major exception. Probably more than in any other country, the home-country environment and other home-country factors mentioned above are playing a key role in determining outward FDI. And here, surprisingly, the OLI paradigm is missing a fourth, 'home-country' leg. It would seem that the successive expansions and modifications of that paradigm have tried to incorporate the home-country environment implicitly under extensions of the ownership advantages, which are now becoming quite long and increasingly difficult to tackle. Naturally this article does not contend that if the OLI paradigm were extended into an 'OLIH' (with H denoting the home-country) that would be applicable to the Russian Federation only.

As for the applicability of the Uppsala school, the assumption that internationalization of firms takes place through stages (Johansson and Vahlne, 1977) holds to Russian firms to some degree, although they started establishing sales and distribution affiliates much quicker than the Uppsala theorem would predict. It is true though that some of the foreign assets of outward investing Russian firms are still in the area of trading, confirming the assumption that the nature of such affiliates is closer to that of exports than to production affiliates. However, Russian firms also possess important production assets abroad, too, although very often in socially and culturally similar countries (which is again in line with the predictions of the Uppsala school).

4. The determinants of Russian outward FDI: hypotheses

This section sets out our hypotheses on the determinants of Russian outward FDI and its geographical structure, based on theory and previous research. It starts with the main (home country) determinants of outward FDI flows, followed by the determinants of host-country selection.

Home-country GDP

As mention above, the home-country environment, including GDP growth, as a special extension of ownership advantages plays an important role in determining outward FDI. In the case of Russian TNCs a high correlation between the growth of the domestic market and investment abroad is expected to hold. For example in the period 2004–2006 a high growth of the foreign assets of the top 25 Russian TNCs was accompanied by a simultaneous increase of their assets and sales in the Russian Federation (by 60%) and of employment at home (by approximately 20%) (Skolkovo and CPII, 2007).

Hypothesis:

- Russian outward FDI is associated positively with Russian GDP growth.

Home-country exports

Total exports are a general proxy for the international competitiveness and revenues of Russian firms. On the basis of the traditional suggested by the product cycle theory (Vernon, 1966), we would need to expect a complementary relationship between trade and investment, with exports dominating early stages of foreign market penetration, and investment the later stages. However, this sequencing has become increasingly truncated (UNCTAD, 1996), and therefore TNCs of all countries increasingly serve foreign markets through exports and FDI simultaneously, and in a manner that trade immediately reinforces outward FDI. We have to expect this relationship particularly strong in the case of emerging-country TNCs, which often leapfrog to a global status in very short time. In the case of the Russian Federation, we also expect export earnings to be a source of financing OFDI projects.

Hypothesis:

- Russian outward FDI is associated positively with Russian exports.

Home-country policy change

The role of the state is crucial in explaining the evolution of outward FDI from the Russian Federation. During the presidency of Boris Yeltsin (1991–1999), the Russian State actively contributed to the creation of large private monopolies which gave birth to future TNCs. However, it did not have any particular policy promoting outward FDI actively at that time. This situation changed under the presidency of Vladimir Putin (1999–2008). The participation of the state in some of TNCs (especially Gazprom and Rosneft) increased; and the internationalization strategies of these state-owned TNCs became influenced by the course of the Russian foreign policy (Pravda.ru, 2005). In other firms, private ownership prevailed, although the influence of the State was increasing, too. In May 2008, when a former chairman of the board of Gazprom (2000–2001, 2002–2003), Dmitry Medvedev, became President of the Russian Federation, and a former chairman of the board of Rosneft (2004–2008), Igor Sechin, became Deputy Prime Minister supervising natural resources, the relationship between the Government and its state-owned TNCs became even closer, under which the distinction between Government and business is the most blurred since the fall of the U.S.S.R. in 1991 (UniCredit Aton Research, 2008).⁶

Hypothesis:

- Russian outward FDI is associated positively with increasing state participation in some large TNCs (proxied by the change of presidency between Boris Yeltsin and Vladimir Putin).

Market size of host countries

Host market characteristics, such as market size, are generally recognized as a significant determinant of FDI flows: as market size increases, so do opportunities for the efficient utilisation of resources and the exploitation of economies of scale and scope via FDI (UNCTAD, 1998). Market size of host countries is expected to be among the main motivations of Russian outward FDI as Russian TNCs aim to be present in large and growing markets by establishing production and/or distribution units directly in such markets. This motivation can explain the continued acquisitions of processing entities, distribution networks and storage and transportation facilities across Europe and United States by large Russian oil and gas companies. In metallurgy, acquisitions in Europe by Russian firms, such as Evraz, ensure market access coupled by a competitive advantage due to low productions costs.⁷

⁶ In a speech delivered in June 2007, President Vladimir Putin stated that “We are interested in further expanding Russian investment abroad in exchanging assets with international partners on mutually beneficial terms”.

⁷ In metallurgy, acquisitions of North American and European assets also break the trade barriers (tariff and non-tariff restrictions, and in particular antidumping barriers). This is important as the Russian Federation is not yet member of the World Trade Organization and is not able to secure non-discriminative treatment of its export. For example in the case of the acquisition of Evraz in Europe,

Hypothesis:

- Russian ODI is associated positively with absolute host market size.

Natural resources of host countries

Internalization theory asserts the importance of equity-based control in the exploitation of scarce natural resources; therefore a positive relationship between the natural resources endowment of countries and Russian OFDI is expected (Buckley and Casson, 1976). Resource-seeking motives are strong in Russian capital exports, especially in mining and metallurgical companies and in non-ferrous metal producers which have already faced the growing cost of mining in the Russian Federation (Norilsk Nickel, Alrosa), or the physical insufficiency of extraction volumes in the domestic market for loading their processing capacity (UC Rusal). International diversification of the resource base has also become vital for large Russian oil and gas companies that need to replenish their hydrocarbon reserves permanently (Deloitte, 2008).

Hypothesis:

- Russian outward FDI is associated positively with host country endowments of natural resources.

Technological assets of host countries

Technology-seeking drivers stem from a desire to gain quick access to technological innovations and advanced marketing and management know-how through FDI. Russian TNCs usually operate in so-called traditional industries characterized by mature technologies; therefore the search for technology is not expected to be of primary importance for them. However, in recent years, some Russian TNCs have shown some interest in accessing advanced proprietary technology, immobile strategic assets (e.g., brands, local distribution networks) or other capabilities abroad through both greenfield entry and acquisitions. For example Lukoil aims to acquire advanced technology, including exploration and enhanced oil and recovery technology as well as modern oil processing technology.⁸ It is expected that Russian TNCs would direct such asset-seeking OFDI towards economies with significant levels of human and intellectual capital, and in particular the developed countries (Dunning et al., 1998; Dunning, 2006). Such proprietary ownership advantages can be proxied by the rate of patenting in the host country.

the Russian investor has avoided the EU's antidumping duties on the imports of finished rolled products (Deloitte, 2008).

⁸ TMK representatives emphasized that "the deal will allow us not only to obtain the second largest pipe market but also to tap into modern technologies which may be used at other production entities of the company" when commenting on a recent acquisition (jointly with Evraz) of pipe assets in the United States (Deloitte, 2008).

Hypothesis:

- Russian outward FDI is associated positively with host country endowments of ownership advantages.

Geographical distance

Internalization theory predicts that market-seeking firms are more likely to serve geographically proximate countries through exports and more distant markets via FDI (Buckley and Casson, 1981). This would suggest a substitution of FDI for other modes of serving markets as distance increases. However, it can be also predicted that the flow of FDI is the largest to nearby countries, and this effect is stronger than the substitution effect (Loungani et al., 2002).

Hypothesis:

- Russian ODI is associated negatively with geographic distance from the Russian Federation.

Cultural proximity

Strong cultural connections among the CIS countries may influence the decision of Russian TNCs to invest in those countries. Indeed the expansion of Russian corporations started predominantly in the member countries of the CIS establishing a prominent position close to their home market due to linkages already in place in the Soviet Union as well as a lack of foreign investors from elsewhere.⁹

Hypothesis:

- Russian outward FDI is associated positively with the CIS membership of host countries.

The summary of our hypotheses, with a brief reminder of their theoretical justification, is presented in Table 4.

⁹ Armenia, Belarus and Uzbekistan have accounted for the bulk of the Russian FDI flows to the CIS (DB Research, 2007).

Table 4. Hypotheses about the determinants of Russian outward FDI

Hypothesis	Variable	Expected sign	Theoretical justification
Home country GDP	LGDPcap	+	Home factor
Home country exports	LEXP	+	Ownership advantages
Policy change	POL	+	State ownership
Host country	LGDP	+	Market seeking
Natural sources	LNR: the ratio of ore and metal exports to merchandise export of host country	+	Resource seeking
Downstream market	LSER: the ratio of services to total GDP	+	Market seeking
Geographical distance	LDIS: geographical distance between countries	-	Spatial costs
CIS region	CIS country	+	Cultural affinity
Exchange rate	LFX	+	Wealth effect
Patent	LPAT: number of patents in each country	+	Asset seeking

Source: the authors.

5. The models and their results

In order to test the determinants of outward FDI from the Russian Federation this study estimates two models: one of them tests the dynamics of the total outward FDI stock, while the other one tests the locational determinants of cross-border M&A acquisitions by Russian TNCs.

a. *The dynamics of outward FDI from the Russia Federation*

First we estimated the effects of home-country GDP per capita, as well as total exports, on outward FDI, using panel data for 72 countries. Using the hypotheses of section 4, our model's equation was:

$$LOFDI_{it} = \alpha + \beta_1 LGDPcap_{it} + \beta_2 LEXP_{it} + \delta_i + \gamma_t + \varepsilon_{it}$$

where the dependent variable $LOFDI_{it}$ was the logarithm of the outward FDI stock of country i in year t , the regressors $LGDPcap_{it}$ and $LEXP_{it}$ were the logarithms of GDP per capita and exports, respectively, α was the overall constant term of the equation, while δ_i and γ_t represented the cross-sectional and period-specific effects (random or fixed). After checking with the Hausmann test, we employed a fixed effect estimation. Our results are presented in Table 5.

Table 5. Global determinants of outward FDI

<i>GDP per capita</i>	0.650489 (0.08)***
<i>Exports</i>	0.963744 (0.05)***
<i>Constant</i>	-2.250541 (0.46)***
<i>No. of Obs.</i>	1030
<i>Adj. R2</i>	0.59

Note: Standard errors are in parenthesis, 72 countries are included in the estimation.

***, ** and * indicate that the coefficient is significant at 1, 5 and 10%, respectively.

Our findings suggested that globally for the 72 countries of the panel, both GDP per capita exports play an important role in determining the level of outward FDI, and the effects of the latter are stronger than of those of the former. A 1% growth in exports will result in a 0.96% increase in the FDI outward stock, while a 1% rise in GDP per capita will cause a 0.65% increase of outward FDI stock. In general, these findings mean that both the macroeconomic growth of home countries (represented by GDP per capita) and the entry of national firms to international markets through arm's-length transactions (represented by exports) are important determinants of outward FDI globally, but the latter enterprise-related factor is more important.

Since FDI data for the Russian Federation were limited (only from 1993), for that country we used the same panel estimation to capture the effects of GDP per capita, exports, but, as a new variable, we added policy change (reflecting the change of president in 1999/2000).¹⁰ Because of these changes in the period of analysis and independent variables, we modified the model, and estimate the first two variables as being cross-country specific. Again relying on a Hausmann test, we estimated this model with fixed effects. The results for the Russian Federation are in Table 6.

Table 6. Determinants of outward FDI from the Russian Federation

<i>GDP per capita</i>	0.959499 (0.18)***
<i>Exports</i>	0.179202 (0.06)***
<i>Policy changes</i>	1.792514 (0.18)***
<i>No. of Obs.</i>	1030
<i>Adj. R2</i>	0.59

Note: Standard errors are in parenthesis.

***, ** and * indicate that the coefficient is significant at 1, 5 and 10%, respectively.

¹⁰ Policy change is a dummy variable whose value is 0 for the period of Boris Yeltsin (until 1999), and 1 for the presidency of Vladimir Putin 2000 and onwards.

In the case of the Russia Federation, GDP per capita seems to affect the outward FDI stock more than exports. An increase of 1% in the GDP per capita will result in an almost 1% growth in the outward FDI stock; in comparison a 1% surge on exports will augment the outward FDI stock by 0.17% only. It means that in the Russian Federation, macroeconomic factors play a more important role in determining outward FDI, while the role of national company's international market success is more limited. These findings implicitly support the argument for an 'OLIH' extension of the eclectic paradigm for the Russian case.

In the case of the Russian Federation, the variable of policy change between the presidencies of Boris Yeltsin (until 1999) and Vladimir Putin (2000 on) in terms of State intervention and State support seems to be an important factor in determining outward FDI. Its coefficient and level of significance suggest a crucial role for the Russian State in explaining the evolution of outward FDI.¹¹

b. The locational determinants of cross-border M&A acquisitions by Russian TNCs

Following the above mentioned hypotheses, for the modelling of the locational determinants of cross-border M&A acquisitions by Russian TNCs, we used the following log-linear model:

$$LFDI_{Russia,jt} = \beta_o + \beta_1 LGDP_{jt} + \beta_2 LGDP_{Russia,t} + \beta_3 LNR_{jt} + \beta_5 LSER_{jt} + \beta_6 DIST_{ij} + \beta_7 Lang_j + \beta_8 LFX_{ij} + \beta_9 CIS + \beta_{10} LPAT_{jt} + \gamma_j + \lambda_t + \varepsilon_{jt}$$

where the dependent variable $LFDI_{Russia,jt}$ was the logarithm¹² of cross-border M&A purchases by Russian TNCs in country j in year t , $LGDP_{jt}$, LNR_{jt} , $LSER_{jt}$, $LPAT_{jt}$ were the host-country characteristics (GDP, share of natural resources in total exports, share of services in GDP, and the annual patent registration in host country, all in logarithm), CIS was a dummy variable for CIS membership, $LDIST$ was the distance of host country capitals from Moscow, and $LGDP_{Russia,t}$ was the GDP of the Russia Federation in year t . While γ_j, λ_t are cross-section or period specific effects (random or fixed), ε_{jt} is the error term. Based on a Lagrangian multiplier (LM) test, we selected the random effects generalized least squares method, instead of pooled ordinary least squares (OLS). To test the differences in locational determinants, the estimation was applied to the subset of developed countries as well.

The results of the all-country estimation confirmed most of our preliminary hypotheses (Table 7). As for the variable of the model capturing the market size of the home country (Russian GDP pre capita), it was significant, with the highest coefficients from among all variables (a 1% percent increase in the Russian GDP

¹¹ This may be a further argument for the introduction of a separate home-country factor into the OLI paradigm, instead of keeping the home-country influences under the Ot.

¹² In order to capture existing non-linearities the variables are transformed into logarithm.

brings an increase of 0.9% in cross-border M&A purchases) (Table 7). This may again support the hypothesis that the OLI paradigm needs an “H” lag in the case of emerging markets, and confirms the results of the estimation made for total outward FDI.

Table 7. Results of the determinants of Russian outward FDI

	All countries	Developed countries
<i>Russian GDP</i>	1.533358 (0.42)***	0.656674 (0.21)***
<i>Host-country GDP</i>	0.408555 (0.23)*	0.26606 (0.11)*
<i>Host-country natural resources</i>	0.427708 (0.20)**	0.227579 (0.1)**
<i>Host-country services</i>	1.354602 (1.26)*	-0.843995 (0.94)
<i>Patents</i>	-0.074213 (0.17)	-0.10446 (0.09)
<i>Distance from the Russian Federation</i>	-0.492531 (0.21)	0.022105 -0.22
<i>CIS membership</i>	1.588377 (0.88)*	
<i>Exchange rate</i>	0.129656 (0.11)	-0.023753 (0.06)
<i>Constant</i>	-33.62384 (8.28)***	-7.762546 (4.7)*
<i>No. Of Obs.</i>	594	391
<i>Adj. R2</i>	0.22	0.19

Note: Standard errors are in parenthesis.

***, ** and * indicate that the coefficient is significant at 1, 5 and 10%, respectively.

The model also produced robust results for the three main host-country variables (absolute size of the economy, natural resources endowments and services). They were all significant and, as expected, had a positive sign (Table Y). Market size of the host economy has a positive influence on the decision of Russian M&A purchases: a 1% rise in host-country GDP increases Russian purchases by 0.4%. This is an indication that a large part of Russian outward FDI is *market seeking*. As far as the natural-resource endowments of host countries are concerned, the estimation confirmed that *resource-seeking motives*, too, were strong in Russian capital exports. Russian M&A purchases rise by almost half a percentage point if the share of natural resources in host-country exports increase by 1%. It is interesting that the coefficients of the share of services in GDP were larger than the ones related to natural resources. These results could indicate the importance for Russian firms of investments in the downstream value chain (again a market seeking motive). However, it has to be

mentioned that the level of significance of the variable related to services was lower than that of the other significant variables.

By contrast to variables related to market- and natural-resource-seeking FDI, the number of patents, our proxy for asset-seeking FDI, as well as exchange rate and distance were not significant. In turn, the significance of the CIS dummy (although at a 10% level only) confirmed to some extent that the strong cultural affinities with the CIS countries influence the decision of Russian TNCs to invest in the region. These results, especially the ones related to the lack of asset-seeking motives in Russian OFDI are not surprising.

The results were very similar when the estimation was made on a separate group of developed countries only. The only surprise came from the fact that unexpectedly the services variable was not significant for the developed host countries. One explanation for this paradox could be the fact that only recently have Russian TNCs started investing in the downstream markets in developed countries, while in the CIS, they explored some services markets earlier, especially in telecommunications.

c. Limitations of the modelling

The results of these estimations, while providing confirmation to some of the hypotheses based on previous descriptive studies, have to be treated with caution. The model we used has certainly various limitations. In the first model we included only a small number of key “macroeconomic” variables; a larger model could include more. Moreover, given the shortness of the time series available for analysis – the Russian Federation became independent in 1991 only and started reporting detailed, reliable and comparable data only after that date – this country-specific analysis has to be treated with caution. Moreover, the estimation results would have been more interesting if instead of exports, we would have had reliable and comparable time series data on the profitability of the largest Russian TNCs. Due to the lack of such data, we have to deduct from the export data that corporate success has played some role in motivating Russian firms to invest abroad.

In the second model, it would have been better to use the time series of bilateral FDI, instead of cross-border M&As, which not just follow different data collection methods (e.g. they are not necessarily recorder net of divestments), but also miss out greenfield FDI. This is an important caveat because greenfield FDI may have been an important or even dominant form of Russian market entry in some host countries, especially in the CIS. However, data on the geographical breakdown of Russian OFDI are not available.¹³ Another difficulty stems from the very low values of cross-border acquisitions before 2000 (as mentioned, acquisitions took off only in the last five years), making the estimates for earlier periods less reliable.

¹³ Even data on the geography of total outward foreign investment, including portfolio and direct investment and bank loans, are not available.

Finally, this estimation is among the first ones applied to Russian OFDI. For that matter, its methodology and results can not yet be compared to, and eventually corrected against, a large body of literature. Hopefully, as interest in studying OFDI from emerging economies remains high, that limitation can be corrected soon.

Conclusions

This paper is among the first attempts to model formally Russian outward FDI. We tested the extent to which the mainstream theory that explains outward FDI is applicable to a transition economy, and have asked the question whether special explanations nested within the general theory are needed. Our findings tentatively point at such a need, although its limitations do not make it possible to provide a definitive or final answer to that major question.

After a descriptive analysis of Russian TNCs investing abroad, as well as the geographical and sectoral breakdown of their investments, we focused the analysis on the modelling of such OFDI, based on hypotheses derived from FDI theory. In terms of main variables explaining Russian OFDI, home-country market size has been found as a particularly important factor, confirming the need for focusing future paradigms of emerging-market TNCs on separate home-country related factors. Market size of the host countries and equally importantly, host-country natural resources have also been found to be important drivers of Russian OFDI, in contrast to a lack of asset-seeking investments.

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Annex: Sources of data used in the modelling

Variable	Period	Source
Outward FDI stock	1993–2006	UNCTAD, FDI/TNC database
Cross-border M&A purchases	1992–2008	UNCTAD, cross-border M&A database
GDP	1992–2007	World Bank Development Indicator (2007)
GDP per capita	1992–2007	World Bank Development Indicator (2007)
Exports of the Russian Federation	1992–2007	UNCTAD handbook of Statistics, 2008
Natural resources' share in exports	1992–2007	UN Comtrade
Share of services in GDP	1992–2007	UN Statistics
Annual patent registration in the host country	1992–2007	World Intellectual Property Organisation (WIPO)
Distance from the Russian Federation	1992–2007	Centre d'études prospectives et d'informations internationales (CEPII)