



NATIONAL RESEARCH UNIVERSITY
HIGHER SCHOOL OF ECONOMICS

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MARKET-SEEKING FDI IN RUSSIA?
AN EMPIRICAL STUDY OF
LOCATIONAL FACTORS AFFECTING
THE REGIONAL DISTRIBUTION
OF FDI ENTRIES**

BASIC RESEARCH PROGRAM

WORKING PAPERS

SERIES: ECONOMICS
WP BRP 26/EC/2013

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This paper conducts an empirical study of the factors that affect the spatial distribution of foreign direct investment (FDI) across regions in Russia; in particular, this paper is concerned with those regions that are endowed with natural resources and market-related benefits. Our analysis employs data on Russian firms with a foreign investor during the 2000-2009 period and linked regional statistics in the conditional logit model. The main findings are threefold. First, we conclude that one theory alone is not able to explain the geographical pattern of foreign investments in Russia. A combination of determinants is at work; market-related factors and the availability of natural resources are important factors in attracting FDI. The relative importance of natural resources seems to grow over time, despite shocks associated with events such as the Yukos trial. Second, existing agglomeration economies encourage foreign investors by means of forces generated simultaneously by sector-specific and inter-sectoral externalities. Third, the findings imply that service-oriented FDI co-locates with extraction industries in resource-endowed regions. The results are robust when Moscow is excluded and for subsamples including only Greenfield investments or both Greenfield investments and mergers and acquisitions (M&A).

Keywords: foreign direct investment, location, regional development.
JEL Classification: F23, R11, Q34.

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³ This Working paper is an output of the joint research project implemented by the National Research University Higher School of Economics (Moscow) and Halle Institute for Economic Research (IWH). Simultaneously this is part of the project within the Basic research program of the National Research University Higher School of Economics. We thank the Basic research program at HSE and the German Research Foundation for financial support. We also thank Victoria Golikova, Boris Kuznetsov, Andrey Yakovlev, Jutta Guenter, Andrea Gauselman, Biorn Jindra, Walter Hyll, Gunnar Pippl and the participants of the EACES conference in Glasgow for helpful comments and suggestions. We are grateful to Olga Uvarova for helping us with the Ruslana data set and regional statistics.

1. Introduction

This paper studies the spatial distribution of foreign direct investment (FDI) across regions in Russia and compares the roles played by the two most significant advantages of regions in Russia—natural resources and market-related benefits.

The Russian experience with FDI provides a compelling empirical setting for academic research for several reasons. Russia has only recently emerged as a large recipient and investor of FDI, which has contributed to significant changes in the global distribution of FDI. According to [UNCTAD, 2011], the portion of Russian inward FDI stock in relation to GDP grew from 1.4% to 24.8% during the period between 1996 and 2011. These figures show that Russia is gradually accelerating its integration into the world economy, and FDI is among the primary modes of integration. The Russian share of global inward FDI flow is higher than the country's share of global exports or imports—3.5% of FDI compared to 2.9% of world merchandise exports and 1.8% of imports⁴.

Russia leads the European transition economies as host and home country for recent FDI inflow; in 2010, Russia accounted for 75.6% of the total inflow to 17 European transition economies [UNCTAD, 2012]. However, despite receiving the lion's share of accumulated FDI in transition economies, FDI's role in developing Russia remains minimal. According to a study by [UNCTAD,2011] that analyzed the global effect of FDI on economic development during 2011, Russia ranks 66th of 79 economies.

Another striking feature of FDI in Russia is its great spatial diversity inside the country, which is higher than the spatial diversity of general economic indicators (see Figures 1 and A1 in the Annex). The geographic distribution of FDI in Russia shows that only a few locations have managed to become integrated into the world economy through trade and investment. Chief among these locations are regions with natural resources and large urban agglomerations in the Western part of the country, which are sufficiently supplied with gateway infrastructure, human capital and local markets of significant size. In total, 77.6% of FDI inflow in pre-crisis 2007 was concentrated in three locations—the city of Moscow, the island of Sakhalin and the Moscow region [Finansi Rossii, 2010, p.370]. Remote and thinly populated regions without natural resources face challenges in attracting investments and remain cut off from globalization opportunities. However, it is far from obvious what determines the location decisions of foreign investors inside Russia. Do these factors consist of the large and growing local consumer market, access to natural resources or new business opportunities arising from privatization of remaining state property—including improved access to certain business sectors—ahead of accession to the WTO in 2012?

⁴ See WTO (2012) and UNCTAD (2012).

At first glance, the aggregate statistics of inward FDI across sectors show that primary resources were the leading attraction for FDI, despite existing regulations; in 2007, before the crisis, more than half of FDI inflow went to the mining and quarrying sectors, although this share was later passed by manufacturing, wholesale trade, and real estate. The dramatic increase of Russian FDI inflow in the 2000s was mostly driven by the oil and gas industries and the corresponding price dynamics in these sectors, which have remained at the top position of the accumulated stock of FDI in Russia (see Table A1 in the Annex). However, when the number of entrants and market share is considered, the automotive industry has recently moved to the top. According to [Ernst & Young, 2011, 2012], approximately 12% of FDI transactions between 2007 and 2011 were conducted in the automotive industry, an industry in which the FDI market share reached 14% in 2011; non-metallic mineral production attracted 8% of the projects, garnering a market share of 7%.

The high concentration of FDI inflow related to natural resources does not necessarily translate into locational advantages for resource-rich regions. Several factors seem to indicate that caution is warranted in making this assumption. First, access to foreign capital is seriously regulated in the resource sectors, and there is much reason to talk about an unwelcoming environment—as opposed to an unattractive environment—for FDI in the resource sector.

Second, caution is advised because a substantial part of FDI in the extraction industries is financed from redirected Russian capital. The estimated share of redirected investments in total accumulated FDI stock ranges from 30% [UNCTAD, 2012] to 70% [Ivanov, 2011]. For example, no new major acquisitions or large investments by foreign firms in the Russian oil industry were reported to have taken place in 2008, the year that FDI inflow to Russia reached its peak. According to [UNCTAD, 2009], the large amount of FDI inflow was mainly caused by Gazprom's financial services affiliate in the Netherlands, which was channeling money back into the Russian energy industry. The outbreak of the financial crisis in 2008 might have led to an increase in the importance of market-related factors, because regions with oil and gas deposits were subject to losing their advantages with declining oil prices, whereas non-resource industries are typically less vulnerable to such cyclical fluctuations.

While FDI from tax-haven economies leads to an overestimation of the total stock of “real” FDI, indirect foreign investment, which are channeled through Russian affiliates and therefore through local accounts, tends to reduce the estimated level of inward investment and the number of FDI firms in Russia.

In this paper, we address the following research questions:

- Are foreign investors attracted by high returns from natural resources, particularly fuel and energy resources, or is the large and growing demand in Russia a more important

determinant for investment decisions? How has the combination of these attractions changed over time, particularly if we control for price dynamics and deviations in the institutional context? Do these determinants differ between industrial and service FDI?

- How important is the regional market structure? If existing agglomerations generate cost savings and productivity gains for local firms, do they attract new foreign entrants? Are Marshall-Arrow-Romer (MAR) externalities of specialization or Jacobs' externalities of diversification at work?
- Does resource-seeking FDI crowd out or stimulate FDI in other sectors when the location decision of foreign investors is explained? Is resource endowment a curse or blessing for regions trying to attract FDI?

The paper is organized as follows. In section 2, we survey existing theories and the empirical literature that seek to explain FDI location decisions. In section 3, we describe our data and present descriptive statistics for the key variables included in the analysis. Section 4 provides a discussion of the econometric strategy. The findings are presented in section 5, and section 6 follows with the conclusion.

2. Theory and literature

The forces that drive firms to invest abroad have historically been complicated; the theories that explain these forces are equally complicated. In a survey of the literature, [Faeth, 2009] notes that there is no single theory of FDI but a variety of theoretical models (9, according to her) attempting to explain the location decisions of multi-national enterprises (MNEs); many factors have been the subject of empirical studies. [Hayter, 1997] identified the following three groups of theories as guiding the analysis of location decisions: (1) neoclassical theories that focus on the profit-maximizing and cost-minimizing goals of MNEs and their corresponding cost determinants, such as the agglomeration economy, proximity, and human capital; (2) institutional theories that assume profit and cost factors are affected by different economic agents; and (3) behavioral theories that focus on the individual preferences of foreign owners, including previous experiences. For our paper, which focuses on the effects of resource- and market-seeking FDI in Russian regions, the following two theoretical constructs are particularly relevant: classic trade theory that explains FDI location by the importance of lower wages and sites rich in natural resources (Heckscher-Ohlin model), on one hand, and the “new” trade theory that highlights economies of scale and agglomeration externalities, on the other.

In our analysis, we have benefited from the so-called eclectic paradigm—the OLI (ownership-location-internalization) framework suggested by [Dunning, 1977, 1993]. This

model offers a combination of explanations for FDI decisions related to country, region, industry and firm-specific qualities. A territory would have locational advantages to host FDI if it offers cost advantages for production factors, natural resources, access to protected markets and acceptable market size and structure. In this context, locations endowed with natural resources are attractive because they allow MNEs to exploit and export primary materials by making use of their abilities to outperform local companies technologically and by coordinating their complementary assets and other competencies. In total, [Dunning, 1993] recognizes the following four families of reasons explaining FDI location: resource-seeking (including natural resources, but also labor and infrastructure resources), market-seeking (particularly in markets with trade barriers), efficiency-seeking (low-cost advantages) and strategic-asset seeking (highly developed technological and R&D competencies).

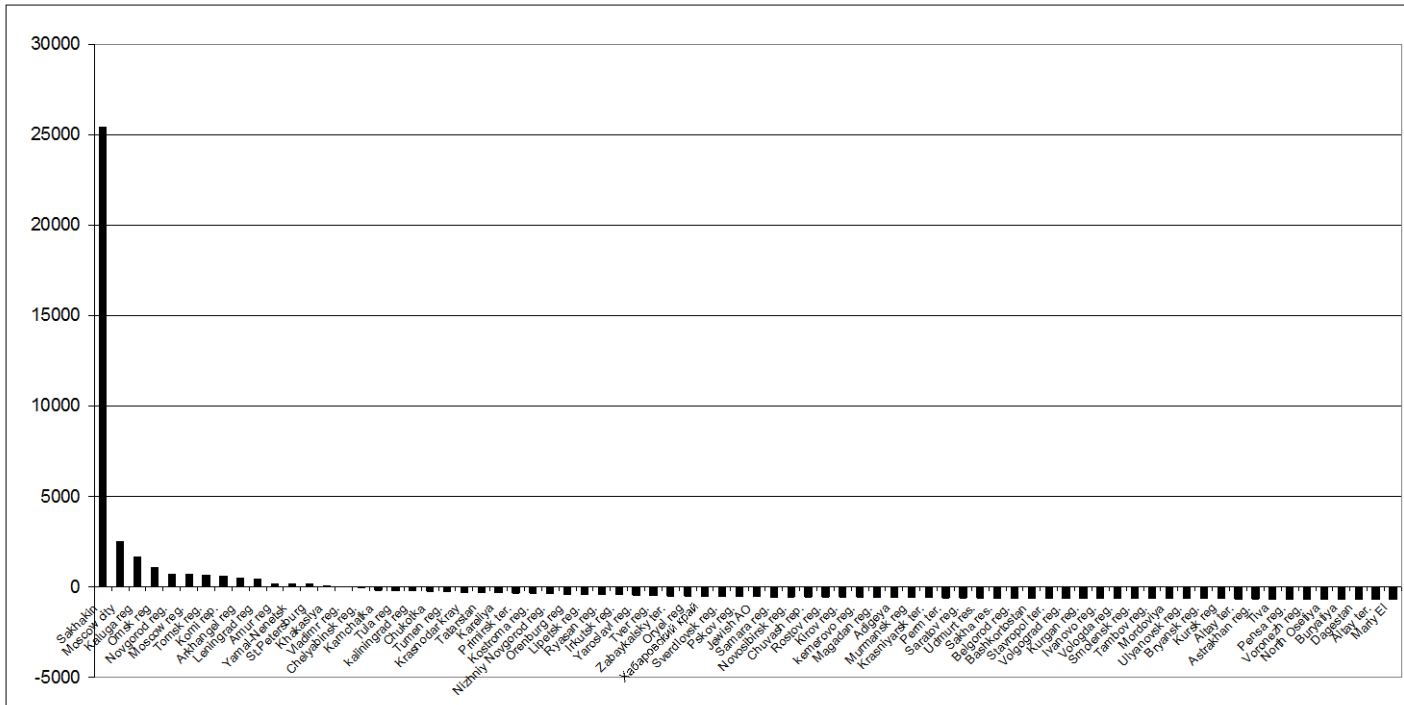
In the following, we will examine the factors in detail used by the existing literature to explain FDI location, which we will test empirically in this paper.

Market size as a determinant of FDI location

The connection between market size and FDI is well established in the literature; large countries attract more FDI than their smaller counterparts, or as [Harris, 1954] put it, producers tend to choose sites with good access to markets. [Bergstrand and Egger, 2007] developed a theoretical model for FDI decision making; they show that a gravity explanation captures horizontal determinants for FDI firms looking for local demand as a motivation, while cost advantages (vertical FDI) may be captured by additional controls. Many empirical studies have found significant and positive effects associated with market size (see e.g. [Head et al. 1999]). Moreover, market size determines the tendencies of specialized firms to locate complementary assets and establish linkages to other firms in the site.

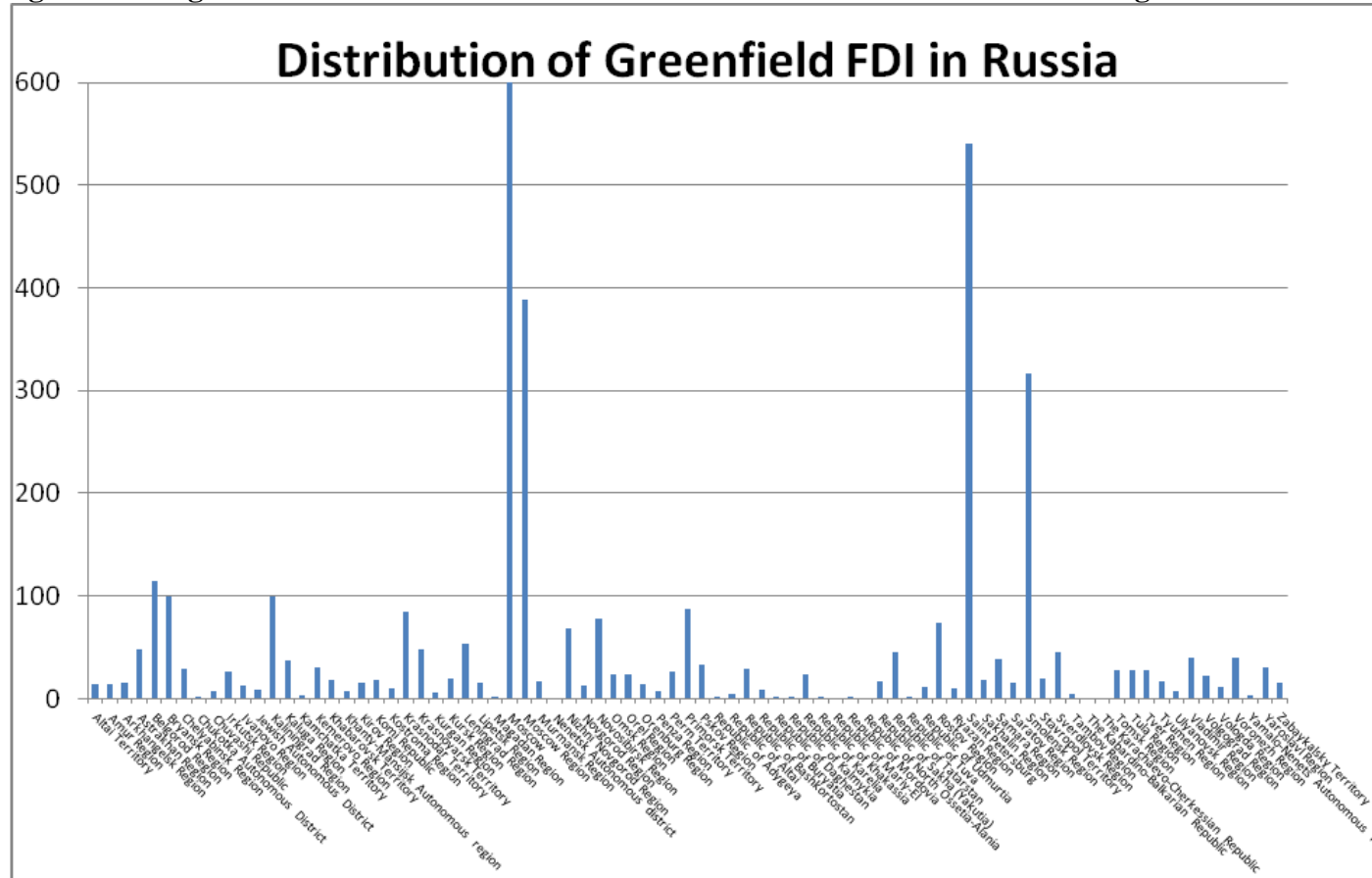
The assumption that market size attracts FDI has almost been taken for granted in recent papers. However, when our unit of analysis is a region rather than a country, the results expected are not obvious because many MNEs, as a rule, would be interested in a national rather than a regional market when making the decision to invest, and regional size may not matter. The resource-seeking focus could also make export-oriented multinationals pay less attention to local markets. For example, [Dinda, 2010] reported that FDI inflow to Nigeria is resource-seeking FDI and that market size has no role. In addition, we may expect that size effects may not “work” because of the increased mobility of production factors and demand between regions when compared to countries. Conversely, with respect to Chinese FDI inflows, [Amiti and Javorcik, 2008] show that access to regional markets and suppliers is more important for the entry decision than access to the rest of the country particularly when

Figure A1. Regional disparity: per capita FDI stock accumulated between 2000 and 2010, relative to national average, US \$ per person



Note: Only regions with non-zero FDI stock are exhibited. The average FDI per capita stock during 2000-2010 in Russia was \$ US 714 .

Figure A2. Regional distribution of the number of Greenfield FDI across Russian regions



Source: Sample data

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