

Impacts of Risk Perceptions on Foreign Direct Investment in Energy Generation and Transmission Projects in Russia

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Abstract — This paper deals with an issue relevant for Russia's energy policy, namely, the need to attract private investment, including foreign direct investment, in renovation and upgrading of energy infrastructure. Based on the survey that involved private investors from several countries, the paper addresses the question of how investors perceive private investment risks existing in Russia. Further, the conclusions are made about how these perceptions might affect private investment in energy systems projects in Russia. The results demonstrate that improvements in policy and institutional frameworks are needed in order to attract private investment, especially, in such projects with medium and long-term planning horizon and return of investment as deployment and upgrading of energy generation and transmission infrastructure in Russia.

Index Terms — energy policy, foreign direct investment, Russia, risk perceptions, energy generation and transmission projects

I. INTRODUCTION

Energy is vital to cover mostly all kinds of basic needs, including food, water, communications, transportation and safety. Investment in energy generation and transmission projects is also a driver for well-being and the quality of life, and a source of employment opportunities as well as for multiplier effects on socio-economic development. Energy is a critical infrastructure, which is essential for functioning of all energy dependent

infrastructures and is vital for functioning of a modern society. Energy is also one of the most important economic sectors in Russia, which contributes a significant share of the country's domestic product, being an engine of economic growth and energy trade revenues holding a major part in the country's balance of trade.

The development of the energy sector in Russia nowadays is also affected by a number of problems. One of the problems is the aging of energy infrastructure and the need of new investment in its renovation, replacement and diversification. Considering high volumes of necessary investment, involvement of private capital seems to be essential. However, current level of private investment in renewable of energy infrastructure is not sufficient, which can be explained, among other factors, by how private investors perceive risks existing in the sector and profitability of investment.

For instance, during the last five years the volumes of investment in energy sector renovation and diversification were only around 60 percent of the necessary volumes identified by the Energy Strategy of the Russian Federation [1]. The Energy Strategy places an emphasis on the need to increase volumes of private investment in energy infrastructure renovation and the need to improve economic and regulatory environment for investment to secure reliable energy supply.

The volumes of foreign direct investment (FDI) in Russia, as a kind of private investment, were volatile during the last decade. In the year 2015 Russia experienced the low inflows in comparison to the year 2014 due to different reasons such as dynamics in the oil prices, devaluation of national currency, financial sanctions or single large-scale deals, which were concluded in the year 2014. In the year 2016 inflows surpassed the outflows but mainly due to a major single investment, when some shares of Rosneft were sold to a Singapore joint venture. The drop of FDI in the last decade might be also due to the perceived high political and policy risks. We are testing this assumption in our research.

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Another assumption is connected with the regional integration processes, namely, the formation of the Eurasian Economic Union (EAEU) and how this regional integration affects perceptions of political risks. EAEU was created on January 1, 2015 on the basis of the Customs Union (2010) and the Common Economic Space (2012). On February 2, 2012, the Eurasian Economic Commission (EEC) started its work. The member states of the Eurasian Economic Union are: Russia, Belarus, Kazakhstan, Armenia and Kyrgyzstan. The EAEU population is 182.7 million people. In 2016 the total volume of foreign trade in goods of the EAEU member states with third countries amounted to USD 509.7 bln, including exports – USD 308.4 bln, imports – USD 201.3 bln. Volume of mutual trade in goods of the EAEU member states amounted to USD 42.5 bln.

Since 2011 several common markets of the EAEU have been launched. Among them are: the common market for goods of the Customs Union (2011); the single services market of the EAEU and the common labor market of the EAEU (2015); the common medicines market of the EAEU and the common market for medical products (2017). In next few years the following common markets of the EAEU will be created: the common electricity market of the EAEU (2019); the common market of excisable goods (2020); the common oil and oil products market of the EAEU; the common gas market of the EAEU, as well as the common financial market of the EAEU and the common market of transport services of the EAEU (2025) [20].

This paper contributes to the discussion about energy policy measures to stimulate FDI in Russia. The results on subjective risks perceptions are relevant for FDI in projects with the medium and long-term planning horizon, such as energy generation and transmission projects. We contribute to the discussion about barriers to FDI in Russia by providing an insight into subjective risk perceptions and factors, which are perceived as a largest barrier to FDI in Russia, as well as into the impact of regional integration processes on risks perceptions.

II. BACKGROUND

A. Impacts of risks perceptions on foreign direct investment

The perception of risk is one of the most important factors, which influence the decision-making process of an investor. Risk is perceived as a consequence of an event and as a likelihood of this event to happen. When an investor perceives an investment to be too risky, he or she would require a higher risk premium, a government or a bank guarantee to compensate for the risk. In the event that neither of these three risk mitigation instruments are available, an investor will decline such investment. In

science, such a behavior is known as risk aversion [2]. Risk aversion is closely connected with “risk perception” which is a subjective evaluation of risk and can vary, depending on experience, world views and visions [3].

The majority of the existing studies on private investment suggest that the decision to take an investment or not depends on economic factors and favorable institutional environment [4]. However, most of these studies dealt with quantifiable impacts of these factors by using statistical methods of analysis. The works on qualitative factors, such as how existing cultural, institutional, political or economic factors influence risk perceptions of private investors, were minor [5].

Several scientific studies show that risk aversion is an essential part of the decision-making process and that several qualitative factors influence risk perceptions. For example, the authors of [6] identified several factors that influence risk aversion. Among them are quality and standards of bureaucracy, regulations and complexity of contracts. The scientific evidence [7] finds that quality and complexity of bureaucracy affect risk aversion as it is connected with uncertainty for investment. Another study [8] adds to this the generic host bureaucracy quality as well as tax complexity [9]. Cultural factors, such as perceptions of impacts of religion [10] or cultural differences in traditions [5] have also an impact on risk aversion.

By looking at the risk aversion and risk perceptions connected with investment in the Central European transition economies, we identified three types of risks. They were mostly connected with the governance issues and included instability of national regulations, absence of guarantees from national government on invested capital and revenues as well as political instability and the lack of support from local government [11].

There were a number of global studies on the impact of uncertainties connected with regulatory and political risks in Russia [12] [13] [14]. The majority of existing scientific studies on risks and impact on investment deal with different regions. However, only a minor share of these studies deals with the former Soviet Union countries. The majority of existing studies on transition economies focus on the investment risk in the Central and Eastern European countries, which recently joined the European Union [15].

The Ease of Doing Business developed by the World Bank is probably the most known evaluation of the factors of risk aversion in relation to private investors. The Ease of Doing Business includes time and costs which investors need to deal with logistics of trade. According to this index Russia is at the lower half of the ranking even despite a number of reforms, which have been conducted since the year 2012 to simplify documentation needed for transactions, to reduce the

associated costs and implement electronic documentation system. The costs of border regulations remain the most problematic factor. In the other areas, such as starting business or dealing with insolvency, Russia ranks above the average for transition economies. The same concerns the enforcement of contracts or registration of property.

This evaluation, in turn, has an impact on risks perceptions. For example, the Doing Business rank of a country influences perceptions of regulatory environment and influences investment decision [16].

The authors of [17] identified four factors, which influence risk perceptions of FDI in the projects in Russia. These factors include political, revenue, operational and regulatory risks. Interviews with investors, conducted by researchers, show that political risks are perceived as most serious and likely risks for foreign direct investment.

However, there were no studies on perceptions of probability and likelihood of risks. Moreover, the identified risk perceptions, which are relevant for private investors, were not discussed in regards to the private investment needed for renovation and replacement of energy infrastructure.

B. Energy policy in Russia

Fossil fuels play an essential role in the energy policy of Russia, given the abundant gas, coal and oil resources available in the country. Currently Russia holds 32 percent of global natural gas reserves as well as 10 percent of explored coal reserves and 12 percent of oil reserves [18]. Russia also has large oil shale reserves, and is a large nuclear energy producer generating over 5 percent of the global nuclear energy. Renewable energy sources are represented in Russia mainly by hydropower energy, which contributes to 21 percent of electricity generation, with the largest hydropower potentials in Siberia and the Far East. Despite available potentials for other kinds of renewable energy, currently renewable energy sources contribute a minor share in energy generation and these are mainly small-scale projects.

Today Russia is one of the largest energy exporters in the world. Energy trade also plays an important role for the Russian economy, by contributing to around 60 percent of the Russian export and providing around 30 percent of the Russian Gross Domestic Product. The European Union countries, such as Germany, Italy, France and Hungary, are the major trade partners of Russia supplying 25 percent of the EU gas consumption. Russia also exports electricity to Latvia, Lithuania, Poland and Finland. Plans also exist to increase energy exports to the Eastern energy markets, including China, Japan, Korea and other countries of the Asia-Pacific region.

The energy market of Russia is dominated by a number

of large-scale, mainly state corporations. For instance, the natural gas market is divided among four companies (Novatek, Itera, Northgas and Rospan), the oil market is divided among seven companies (Rosneft, Lukoil, TNK-BP, Surgutneftegaz, Gazprom and Tatneft), the nuclear market is dominated by Atomenergoprom, which is a holding of a couple of companies, and the electricity market is dominated by InterRAO and Gazprom Energoholding. If there is a minor tendency to liberalization on energy generation market, energy and electricity transmission and distribution markets are dominated by monopolies with the state control.

The energy policy and energy investments in Russia are regulated by the Energy Strategy, which was adopted in the year 2000 for the period up to 2020. The additional commitments from the year 2006 for the period up to 2030 indicate the need for new guidelines for development of energy sector in light of the increased role of innovation in the Russian economy as well as the special attention to energy development in the regions of East Siberia, the Far East, North-West, Yamal Peninsula, and the continental shelf of Russia. The current Energy Strategy of the Russian Federation up to 2030 was adopted on the 13th of November 2009.

Despite important role of energy in the economy of Russia and positive balance of trade, private investment, especially FDI in gas and electricity sector remains small. In the year 2016 Russia attracted EUR 439 billion of total FDI, from which EUR 9.7 billion went to electricity and gas sectors. The share of FDI which went to mining and quarrying was ten times higher, namely, EUR 98 billion [18].

One of the aims of the Russian energy strategy is to improve regulations for stimulating private investment in energy sector. The strategy also includes mechanisms to achieve this aim, namely, tariffs, taxes, customs, antimonopoly regulations and institutional reforms. The strategy also identifies strategic directions for development of the energy sector in Russia, including 1) transition to innovative and energy efficient development, 2) changes in structure and scale of energy production, 3) development of competitive market environment and integration into world energy system [1].

III. METHODOLOGY

The methodology of this research is based on qualitative data collected in frames of a dialogue between stakeholders and foreign investors from several European countries, including Austria, Germany, Lithuania, France and others. The data were mainly collected through questionnaire, which recommended itself as a method free from interviewer bias [19].

The stakeholders dialogue included a questionnaire with structured and semi-structured questions. The

structured questions included the multiple choice options where respondents could provide their evaluations of a given factor on the scale from “very bad” to “very good” or on the scale from “not significant” to “significant”. The risks were evaluated according to the seriousness of concern about them and perceptions about their likelihood.

The questionnaire was developed based on a review of existing literature on FDI risks and factors that influence the investors’ decision. These included institutional, economic, political and cultural factors. Russia was among five countries evaluated in this research. Other countries were Azerbaijan, Kazakhstan, Kyrgyzstan and Ukraine. The questions were developed according to the methodology of social research, namely, proceeded in logical sequence moving from easy ones to more difficult ones. All technical expressions were explained and demographic personal questions were placed at the end of the questionnaire [20].

The data collection was performed in the period from August to November 2017, and involved questionnaires and stakeholders dialogue. The respondents were from different economic sectors such as financial services (23 percent), production of consumer goods (17 percent), energy production and distribution (15 percent), agriculture (12 percent), automotive sector (10 percent), industrial equipment and machinery (8 percent), construction and real estate (7 percent), telecommunication (5 percent) and transport (3 percent). The questionnaire was distributed through online survey tool as well as in a printed version during the workshop with representatives of the Schneider group, which is a part of the Lisbon to Vladivostok group (L2V) and is an association of companies working in the European and EAEU regions. The stakeholders dialogue also took place during the workshop. The workshop was conducted at IIASA in October 2017. The printed version was also sent to stakeholders by mail. Altogether we distributed 207 questionnaires through online survey. This number also includes participants in the workshop. We received 26 completed questionnaires, from which 2 were disqualified due to missing answers to some questions. Thus, the response rate is 10 percent, which is typical of online surveys. Indeed, the number of questionnaires would be sufficient for an in-depth qualitative study, however, we argue that here the number is also sufficient for the goals of our research as we addressed a very targeted group of stakeholders. As evidenced by scientific research, the results could be considered to be robust from a smaller sampling when this sampling is well selected.

The questions were scored on the 0-5 point Likert scale (never, very low, low, moderate, high, very high) to avoid risky skewness [21]. The results were analyzed with the help of the statistic programs such as SPSS. The

Cronbach’s alpha coefficient was applied to investigate the questionnaire reliability.

IV. RESULTS

While speaking about economic and institutional factors as a framework for private investment in Russia the majority of respondents think that business environment in Russia for private investment is very good. Most of them perceive the economic factors to be also good. At the same time, a significant share of respondents evaluates institutional factors as poor (Figure 1).

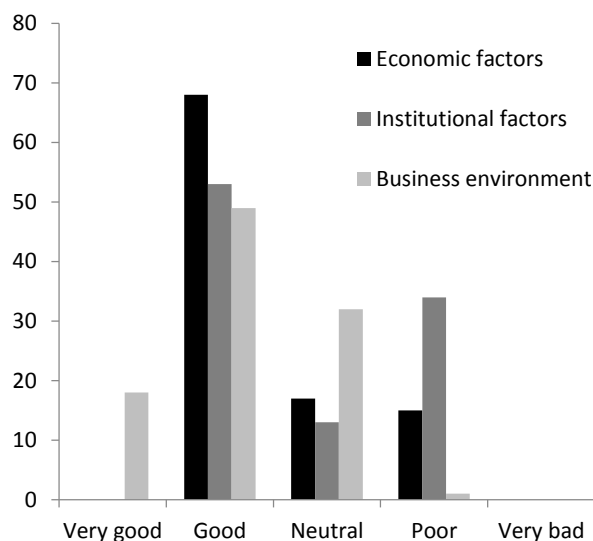


Figure 1. Economic, social and business environment factors.

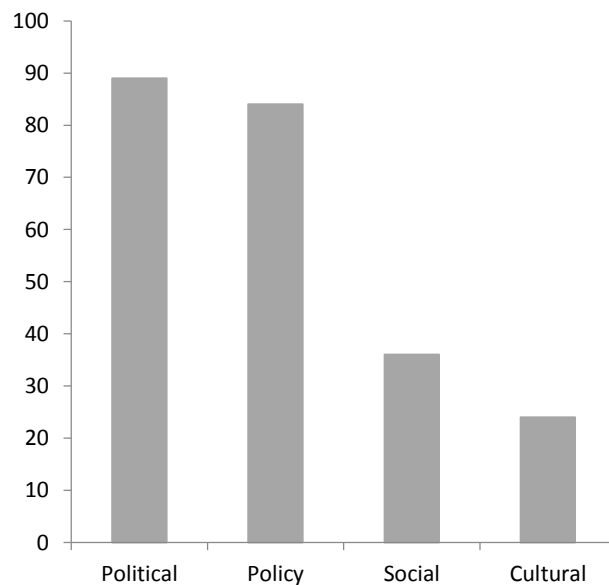


Figure 2. The perceived difference between political, policy, social and cultural factors in Europe and in Russia.

Further, respondents were asked to evaluate political, policy, social and cultural factors in Russia and compare them with these factors in the countries of the European Union. The aim was to understand how large is the perceived difference between these factors in Russia and in Europe and if respondents perceive this difference as a barrier to private investment in Russia. The results indicate that respondents think that political factors and policy have the major difference to the European countries. At the same time cultural and social factors were perceived to be more similar (Figure 2).

Our results demonstrate that private investors perceive financial and governance risks to be the most significant risks (Figure 3).

The financial risks included the competitive pricing, the time and cost of bidding, bank and financial services as well as the level of equity, external indebtedness, achieving financial closing, joint control with the banks, cost overruns, generation of cash flows and securing operational cash flow. From them the risk to generate not sufficiently attractive rate of return as well as the risk to keep the joint control with the banks over assets were perceived as the most serious in terms of their impact on FDI.

The likelihood of political risks was perceived to be very high in Russia. Namely, over 90 percent of all participating respondents think that the political risk in Russia is likely. The high likelihood of regulatory risks is perceived by the lower number of respondents (85 percent), followed by the revenue risks (75 percent) and the operational risks (60 percent).

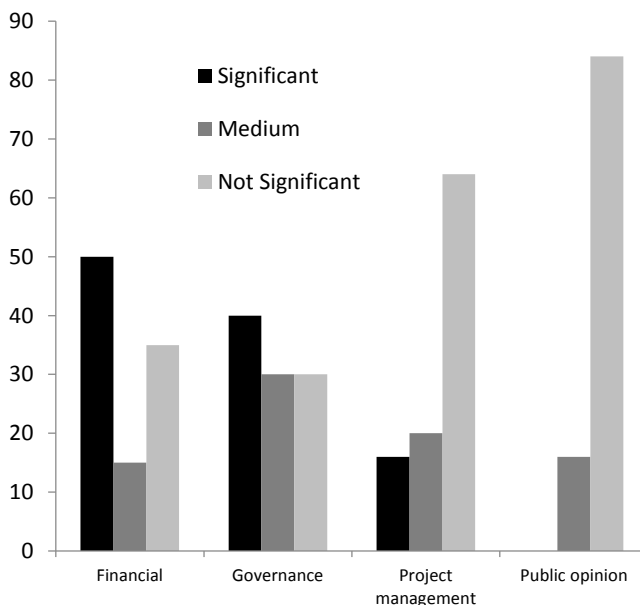


Figure 3. Seriousness of concern about the financial, governance, project and public opposition risks.

Therefore, the governance risks, including the political risks, were perceived as the most likely risks in Russia. However, the financial risks, including the generation of attractive rate of return, were perceived as the most significant.

V. DISCUSSION

Scientific literature shows that the willingness of foreign investors to participate in medium and long-term planning horizon projects in Russia, such as energy generation and transmission projects, depends on perceptions of risks for this investment. In the event that risks are perceived as serious or likely, investors expect higher risk premiums to compensate for the risk or refrain from the investment. Therefore, the investment decision depends on combination of two elements such as the occurrence of a negative event and the level of financial impact [22].

Our results demonstrate that the financial risk is the most significant in terms of impact on investment. At the same time the political risk is the most likely risk in Russia. The risk of public opinion, under which we mean possible public opposition due to concerns about the need for projects or their location, as well as concerns about distribution of risks, benefits, costs and the engagement possibilities, was not perceived to be significant. In this research, we have not identified why this is the case, due to the lack of concerns or due to available participation options and the loss of hope to be heard and to have an opportunity to contribute to the decision-making process.

The respondents perceive the difference between Russia’s political framework and policies and those in the European Union as one of the major obstacles to FDI. This also correlates with estimations of the institutional frameworks provided by our survey when the development and state of institutional framework was perceived as the most problematic area among three evaluated areas such as economic factors, institutional factors and business environment. The dominant role of state-owned, often monopoly companies is one of the reasons behind the large role given to political and policy risks.

Our results allow evaluating perceptions of European companies which deal with private investment in Russia. They indicate the areas where efforts are necessary to increase attractiveness of private investment in medium and long-term horizon planning projects such as energy generation and transmission. The efforts are mainly necessary to improve the institutional frameworks and to balance the difference in political and policy environment of Russia and the EU [23].

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REFERENCES

- [1] Conception of Long-Term Socio-Economic Development of the Russian Federation up to 2020 approved by Decree No 1662-r of the Government of the Russian Federation dated 17 November 2008 and Adopted by the Decree of the Ministry of Industry and Energy dated 21.12.2006, No 413
- [2] K. Arrow, "The economics of agency", in J. Pratt and R. Zeckhauser Eds., *Principals and agents: the structure of business*. Harvard Business School Press, Boston, 1985.
- [3] P. Slovic, "Perception of Risk", *Science*, 236, pp. 280-285, April 1987.
- [4] J. Dunning, "Globalisation and the new geography of foreign direct investment", *Oxford Development Studies*, Volume 26, Issue 1, 1998.
- [5] H. Lucke, S. Eichler, "Foreign direct investment: the role of institutional and cultural determinants", *Applied Economics*, Vol. 48, Issue 11, 2016.
- [6] R. Martinez-San, M. Bengoa, B. Sanchez-Robles, "Foreign direct investment, trade integration and the home bias: evidence from the European Union", *Empirical Economics*, Springer, 2015.
- [7] M. Busse, C. Hefeker, "Political risk, institutions and foreign direct investment", *European Journal of Political Economy*, Vol. 23, Issue 2, pp. 397-415, June 2007.
- [8] T.S. Eicher, C. Papageorgiou, A.E. Raftery, "Default Priors and Predictive Performance in Bayesian Model Averaging, with Application to Growth Determinants", *Journal of Applied Econometrics*, 26, 1, pp. 30-55, 2011.
- [9] M. Lawless, "Tax complexity and inward investment", Research Technical Papers 5/RT/09, Central Bank of Ireland, 2009.
- [10] E. Egger, H. Winner, "Evidence on Corruption as an incentive for Foreign Direct Investment", *European Journal of Political Economy*, Vol. 21, pp. 932-952, 2005.
- [11] *The Bleyzer Initiative: Completing the Economic Transition in FSU Countries*, Bleyzer Foundation, Kiev, 2002.
- [12] *Global Risks Report 2014*, World Economic Forum, Geneva, 2014.
- [13] *Doing Business 2014: Understanding Regulations for Small and Medium-Size Enterprises*, Washington, DC: World Bank Group, 2013.
- [14] *World Investment Report: 2014*. New York and Geneva: United Nations Conference on Trade and Development, New York and Geneva (UNCTAD), 2015.
- [15] I. Iwasaki, M. Tokunaga, "Macroeconomic Impacts of FDI in Transition Economies: A Meta-Analysis", *World Development*, 61, pp. 53-69, 2014.
- [16] A. Corcoran, R. Gillanders, "Foreign direct investment and the ease of doing business", *Review World Economics*, 151, pp. 103-126, 2015.
- [17] N. Komendantova, L. Iilmola, A. Stepanova, "Foreign direct investment in Russia: stakeholders' perceptions of risks and barriers", *Journal of Economics and Behavioral Studies*, 8 (5), pp. 184-193, 2016.
- [18] *Foreign direct investment in the European Union and the Eurasian Countries (2005-2016)*, IIASA (to be published).
- [19] C. Kotharu, *Research Methodology: Methods and Techniques*. Second Revised Edition. New Age, 2002.
- [20] L. Suskie, *Questionnaire Survey Research: What Works*. Resources for Institutional Research, Florida State University, 1992.
- [21] C. Fornell, "A national customer satisfaction barometer: The swedish experience", *Journal of Marketing*, 6-21, 1992.
- [22] T.S. Schmidt, "Low-carbon investment risks and de-risking. Commentary", *Nature Climate Change*, 4, pp. 237-239, 2014.
- [23] *Eurasian Economic Integration: Facts and Figures*. Available online: www.eurasiancommission.org



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