IMPACT OF FOREIGN DIRECT INVESTMENTS ON EXPORT OF RUSSIAN FEDERATION

MASTER THESIS

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Tez Başlığı: IMPACT OF FOREIGN DIRECT INVESTMENTS ON EXPORT OF RUSSIAN FEDERATION

Yukarıda başlığı belirtilen tez çalışmamın toplam 94 sayfalık kısmına ilişkin *Sakarya Üniversitesi Lisansüstü Yönetmeliği Madde 28* uyarınca aşağıda belirtilen filtrelemeler uygulanarak alınmış olan ve 11/09/2017 tarihinde Sosyal Bilimler Enstitüsü tarafından şahsıma iletilen *Turnitin* intihal tespit programı raporuna göre tezimin benzerlik oranı % 20 'dir.

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Bu bilgiler doğrultusunda tez çalışmamın herhangi bir intihal içermediğini; aksinin tespit edileceği muhtemel durumda doğabilecek her türlü hukuki sorumluluğu kabul ettiğimi ve yukarıda vermiş olduğum bilgilerin doğru olduğunu beyan ederim.

Gereğini saygılarımla arz ederim.

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ABBREVIATIONS

ADF   : Augmented Dickey-Fuller

APR   : Asia-Pacific Region

ARDL   : Auto Regressive Distributed Lag

BMS   : Branch Market Structures

BoP   : Balance of Payment

BP   : British Petroleum

BVI   : British Virgin Islands

CEE   : Central and Eastern Europe

CIS   : Commonwealth of Independent States

EBRD   : European Bank for Reconstruction and Development

ECHA   : European Chemical Agency

EU   : European Union

EXP   : Export

FDI   : Foreign Direct Investments

GDP   : Gross Domestic Product

IMF   : International Monetary Fund

LDC   : Less Developed Countries

NIS   : National Innovation System

OECD   : Organization for Economic Co-operation and Development

R&D   : Research and Development

RF   : Russian Federation

TNC   : Transnational Corporations

UN   : United Nations

UNCTAD : United Nations Conference on Trade and : Development

UNESCO : United Nations Educational, Scientific and Cultural :

             Organization

VAR   : Vector Autoregressive Mode

VECM   Vector Error Correction Model

WIPO   World Intellectual Property Organization

WTO   World Trade Organization

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Sakarya Üniversitesi, Sosyal Bilimler Enstitüsü	**Yüksek Lisans Tezi**
Tezin Başlığı: Avrupa Birliği'nin Demokrasi Teşviki Politikası: Türkiye'nin Demokratikleşmesindeki Rolü ve İkilemi	
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Bu çalışmada Rusya federasyonu özelinde kabul edilen doğrudan yabancı yatırımlar ile ihracat arasındaki ilişki incelenmektedir. Çalışmamıza teorik girdi oluşturması bakımından konu ile ilgili olarak daha once yapılan çalışmalar kapsamlı olarak taranmış ve konu ile ilgili olan önemli çalışmalar Literatür taraması başlığı altında verilmiştir.

Bu çalışma için 1996 – 2016 yılları arasında çeyrek dönemler bazında doğrudan yabancı yatırım ve ihracat istatistikleri kullanılmış, söz konusu istatistikler Rusya İstatistik Kurumu ve Merkez Banka verilerinden derlenmiştir. Araştırılan ilişkinin analizi için E-Views ekonometri paket programı ile Granger Nedesellik testi gerçekleştirilmiştir. Granger nedensellik testi sonuçları Ampirik bulgular başlığı altında tartışılmış ve sonuç kısmında yorumlanmıştır.

Anahtar kelimeler: Rusya Federasyonu, Doğrudan Yabancı Yatırımlar, İhracat, Granger Nedensellik

This study aims to analyze the relationship between inward foreign direct investments (FDI) and export in Russian Federation. Previous researches related to our topic have been examined broadly in terms of the theoretical input to our work and the most important were provided under the Literature Review.

For the analysis quarterly data from 1996 till 2016 for FDI, export and Gross Domestic Product (GDP), provided by National Committee of Statistics of Russian Federation and Central Bank has been used. E-Views Econometric Modeling and Analysis Package and Granger Casualty Test have been used for the research of relationship. The results of Granger Casualty Test are provided in the Empirical Results section and explained in Conclusion.

INTRODUCTION

Since the time of mercantilist philosophers international trade relations became crucial subject in the field of economics. The trade between countries has direct effects, which influence on the relations between trade countries and local market in different ways. With the contribution of neo-classical philosophers, international trade theories, which were for a long time only limited to international goods movements, were expanded to include service and capital movements as well. International trade theories, which quickly evolved in the last 200 years, caused political and ideological transformations in every new turn. There are situations where this process took the opposite direction. The Russian Federation and People's Republic of China are two important examples of these conditions. These countries from performing planed economical systems turned to liberal economic policies due to changes in the field of politics. Important performers of planned economy evolved towards liberal economies by today. Nevertheless, since they missed the creation processes of liberal economy, they could not become the dominant developers of politics. These countries merely were constrained to follow policies of countries implementing present economic policies.

Globalization is the phenomenon created in the name of liberal economic structures. Even if globalization keeps maintaining its presence in the literature as a controversial subject, "internationalization" being its economical reflection creates an undeniable effect. Two important known types of internationalization are export and foreign direct investments. From the aspect of developing countries the important foundation of economic development being foreign direct investments are stimulators of domestic production and export.

The Aim of the Study

The aim of our study is to test the relationship between foreign direct investments and export of Russian Federation which does not have a long liberal economic history and to study the efficiency of applied liberal foreign trade policies.

Object of the Study

Russian Federation is chosen as the object of the study. Our thesis is conceptualized to search whether the export performed by Russian Federation is affected by received foreign direct investments and if yes, in what proportion it is affected.

Research Method of the Study

The thesis is optimistically based on an econometric study performed with the use of secondary data. Mentioned econometric study is performed with the functional trial known in literature as "Granger Causality Test". Since the mentioned causality test is examining a functional relationship on its own additional hypothesis is not set.

The important limitation of our study, which is performed with the time series method, is that statistical data on export and foreign direct investments of Russian Federation is not going before 1996. In order to compensate this limitation, export and FDI data is taken on a quarter term basis in the period from 1996 to 2016. Data amount is amplified this way and comprehensible results are reached. Our thesis is limited to the testing the existence of relationship between the export and FDI of Russian Federation and its direction. The relationship existence and direction between FDI and domestic production and export is not analyzed. It is assumed that the relationship between FDI and export is a measure of the efficiency of FDI.

Importance of the Study

Investments and foreign trade of any country play a central role in ensuring the effectiveness of the functioning of the economic system and the entire social reproduction since they directly affect the possibility of economic growth in the long term. It is important to study the relationship between such factors as investments, export, import, GDP and other factors in order to predict the steps in the investment and international trade policies.

This thesis is structured as follows: in the first chapter international trade and investments are theoretically elaborated. Theories explaining international trade are firstly elaborated and then classified considering the investments. Theories explaining government's role in investments and FDI are dealt with by elaborating investments. Also literature review about the relationship between export and FDI is elaborated in the first chapter.

In the second chapter export and FDI of Russian Federation are elaborated. Export and foreign direct investments in the Russian economy are taken separately for different sectors and explained with statistical data. It is intended that the foundation of the empirical study is set in present and the following chapter.

In the third chapter the relationship between export and received foreign direct investments of Russian Federation is econometrically analyzed. Used data set and method are elaborated and the tests used for econometrical analysis are defined in details. Unit root and Granger Causality Test results are also commented in this chapter.

CHAPTER 1: THEORETICAL FOUNDATIONS OF INTERNATIO-NAL TRADE AND INVESTMENTS

Investments play a central role in ensuring the effectiveness of the functioning of the economic system and the entire social reproduction since they directly affect the possibility of economic growth in the long term. Investment activity is one of the most important indicators of economic dynamics. Their intensity determines the economy of the state.

In the process of investment activity, major macroeconomic problems are being solved in the following ways: the restructuring of the national economy and technological progress, it is possible to overcome inflation; there is an expansion of the tax base and replenishment of the budget; an increase in the number of jobs. Investments also have a positive effect on international trade of the state as it influences the import and export of receiving country. The chapter outlines the theoretical foundation of both investments and international trade.

1.1. The Concept of International Trade

International trade in the broadest sense is the part of goods and services produced by national economies, which is the subject of various transactions in world markets. International trade also includes various segments of the movement of capital, labor, and intellectual property (Sheleg and Yunin, 2014:5).

Foreign trade of the country is a part of the produced goods and services that a country takes out of its territory for the purpose of realization, as well as that part of goods, services and other elements of material and immaterial properties that the country imports from abroad (Shkvarya, 2011:156).

Economic theory has regarded foreign trade as a factor acting against a natural tendency directed toward the "dampening" of the rate of profit toward its lowering. This trend was revealed by the classics as far back as the 18th-19th centuries, and it still retains its significance. Using cheaper labor, raw materials, markets abroad, corporations reduce production costs, achieve profitability of operations. Firms orient the production of goods not only to national and local but also to world markets, carry out mass, large-

scale production, reducing costs and constant capital. Foreign trade, cheapening in part the elements of constant capital, as well as the necessary means of living, into which variable capital turns, contributes to an increase in the rate of profit (since it raises the rate of surplus value) and lowers the cost of constant capital. Thus, a foreign trade makes it possible to expand the scale of production. As a result, exporting producers from developed countries receive additional profits from the sale of their goods in the markets of less developed countries (Hughes, 2008).

1.1.1. Theory of Mercantilism

The question "Why do countries trade with each other?" was posed by economists-theoreticians at the same time as the emergence of the first schools of economic thought in the late 17th - early 18th centuries, which began to pay great attention to the problems of foreign trade. These schools began to develop even in the early period of the Great Geographical Discoveries and Europe's accession to the path of the first industrial revolution, which required theoretical generalization, analysis, including the nascent world trade, because the whole world was connected by sea traffic (Sen, 2010; Lahaye, Access: 26.08.2017).

Earlier it was noted that at that time the value of gold was great. The precious metal was used directly as money, fulfilling the role of a monetary base in the implementation of the foreign and domestic policies of the colonial powers. Monopoly on gold in that era emerged to strengthen centralized European states. Monarchs supported traders and the nascent city in the struggle against the remnants of feudal fragmentation and assisted them in subordinating of new overseas colonies. By implementing these policies monarchs ensure the strengthening of positions in the metropolises (Hawtrey, 1919). Such conditions favored the formation of economic theories that justified the profitability of foreign trade, external expansion, and colonial conquests. At the same time, these new theories proceeded from the commodity nature of the emerging industrial production on which foreign trade was based. These questions were posed and tried to solve by the European thinkers - the theoreticians of mercantilism, who often occupied major public posts: Thomas Man, Jean Baptiste Colbert, William Petty, etc. The economic system, according to the views of mercantilism, consisted of three interrelated parts: the manufacturing sector, the agricultural sector, and colonies.

Traders were seen as the most important social group in the economic system, labor as the main factor of production. Gold and silver acted as a factor of the same riches for mercantilists, they served in their theory as direct measures of wealth and estimated monetary signs (WTO, World Trade Report, 2013: 47).

1.1.2. Principles of Foreign Trade of Mercantilists

According to Gomez del Prado (2004), the basic principles of foreign trade rested, according to which the state was supposed to:

- Ensure a monopoly on foreign trade;
- Grant rights (or refuse) certain companies and in certain regions of the world to implement foreign trade (for example, the companies of Hudson's Bay, the East India Company, etc.);
- Use tools such as the provision of export subsidies, customs duties on imports, etc .;
- Ensure a positive trade balance, since only then governments can maintain a steady flow of gold and silver into the country;
- Implement strict (state) regulation of foreign trade by introducing tariffs, quotas and other instruments of administrative influence (to ensure a positive trade balance);
- Prohibit the import of raw materials (if they are available in the country) and, conversely, provide duty-free export (if there is no corresponding raw material in the country), this approach should have accumulated gold reserves and simultaneously keep export prices for finished products at a low level;
- Prohibit any trade of their colonies with other countries.

Thus, hard protectionism dominated for a long period. It should be noted that mercantilists made a major contribution not only to the development of the initial foundations of economic theory as a whole but similarly to the development of world trade issues, enriched it with such categories as the balance of payments, positive and negative trade balance, and developed mechanisms for protectionist policies. For almost two centuries theories of mercantilists dominated the economic practice of the major maritime powers of the world. At the same time, their theoretical ideas entangled the whole world with a complex network of restrictive norms in world trade, which proved

to be so strong that the world could not free itself from them until the second half of the 20th century (Rolland, 2012).

As capitalism developed, many of the provisions of mercantilists simply hampered the development of the national economy and the establishment of foreign economic relations, primarily due to the excessive "mercantile" (excessively high level) state intervention in the economy and the activities of private industrial companies. Many representatives of the new generation of entrepreneurs advocated free trade and, more broadly, laissez faire principles, rejecting state intervention in the economy and foreign trade (Edquist, 2005).

The strengthening of the commercial and industrial bourgeoisie, the rapid development of foreign trade relations that covered all the continents and created a world market, required a theoretical and methodological justification. This role was brilliantly performed by outstanding economists of that era, among the first of which is the name of A. Smith, an English economist-scientist (The Great Enrichment, National Review, 2015).

In the 18th century and the first half of the 19th century, the European powers and the United States owned 80.8% of the territory of Africa, 27.5 - America, 51.5 - Asia, 56.7 - Oceania, 100% - Australia. The territory of the colonies of England was 22.5 million square km (75 times more than the metropolitan territory), and the population - 252 million people (6 times more than in the metropolis). The share of colonies accounted for 30% of England's exports. In 1850, of the total world trade turnover of 14.5 billion marks, England (with colonies) accounted for 5.24 billion, for France, Germany, and the United States, totaling 4.9 billion marks. In 1870, Britain's share was 14 billion marks out of 37.5 billion (whereas the total share of these three countries barely reached 12 billion marks). England at that time was, undoubtedly, the largest colonial power, over this empire "the sun never sets" (Raj, 1973: 1197).

The most important element of the world commercial and industrial hegemony of England was the rapid development of the loan. The dominant position in world industry and trade was provided to England by huge accumulations, which created the conditions for the development of credit. In the middle of the XIX century, London became a global financial center, where many foreign government loans were located.

English capitalism played the role of a world manufacturer, merchant, carrier of goods and a world banker. The country in the middle of the XIX century produced about half of the world industrial output, industrial revolutions followed one after another, while in other countries they lagged behind. The industrial policy of Britain was promoted by the economic policy of the British monarchy. Until the 1840s, high customs duties on foreign goods dominated in England. When English industry did not become afraid of foreign competition, the bourgeoisie proclaimed unrestricted freedom of trade - the so-called free trade. One of the main free trade acts was the abolition of the Corn Laws in 1846 (Lapavitsas, 2009).

1.1.3. Free Trade and The Theory of Adam Smith

The substantive side of the Smith's concept of free trade was the justification for the need to completely free the UK's foreign trade from the customs duties on almost all the items of goods imported into England and, accordingly, the calculation of counter-cancellation or a significant reduction in duties on the importation of English goods to other countries. On the basis of free trade, England in the 1860s concluded a number of bilateral trade agreements with France, Belgium, Italy, Austria, Sweden, and others. Free trade strengthened Britain's dominant position in world industry, trade, credit, and maritime transport (Springford and Tilford, 2014).

In his book Study of the Nature and Causes of the Wealth of Nations (1776), which in later editions was called The Wealth of Nations, A. Smith criticized the main postulates of mercantilists, including the idea that the wealth of a country depends on the possession of treasures. Such an approach, as Smith claimed, threatens the countries with a development gap, since true wealth is not in treasures but in developed factors of production, such as land, labor, and capital. Smith developed the theory of absolute advantage, which rests on the assertion that some countries can produce goods more efficiently than others, and on this basis have absolute advantages realized through free trade with other countries.

Proceeding from this traditional for free trade idea, Smith justified the idea of profitability for citizens of any country to buy foreign goods, if with other equal qualities they are sold at cheaper prices than domestic goods. The basis of economic growth, according to Smith, is the division of labor, which requires the free movement

of goods, money, and people. Hence his following conclusion: the need for free trade (trade liberalization to achieve free, or liberal, trade). With free trade, as Smith stated, country specialization will increase, therefore, labor productivity will increase, because a) the labor force, specializing in the production of certain types of commodity products, acquires high qualification and experience; b) efficiency will increase due to a long cycle of production of homogeneous products, which stimulates the emergence of more efficient methods of work, eliminates the time lost for switching enterprises from one production of commodity products to others, etc. As for the question of the "specialization" of the country, Smith relied on the omnipotence of the world market, which alone would provide the most optimal answer to this question. (International Economics, Rai Technology University, Access: 25.05.2017).

A country may have some "natural advantage" in the production of products, for example, thanks to climatic, natural, soil conditions, and this is nothing but conditions for a "natural" division of labor, Smith asserted. Highly valued in the previous centuries, oriental spices or tropical crops - these are very specific products and strongly associated with specific countries - their producers and exporters, these are their "natural" advantages. The presence in the bowels of the earth oil and gas, metal ores, gold, and diamonds, etc. - these are obvious "natural" advantages of the countries, in the depths of which there are these natural resources. Proximity to ports, especially in warm seas and oceans, convenient bays and harbors are also from the category of "natural" advantages, which create elements of absolute advantages in world trade. They are not just "advantages", but conditions and resources for development with their skillful use (Bridge and Watson, 2003).

The country can become the owner of the acquired advantage, according to Smith, if it successfully carried out the placement of production on its territory, using the advanced achievements of science and technology. As a modern example of the fidelity of this Smith's idea, one can cite the steel mills in Japan, supplied with imported raw materials and exporting to the world market high-grade types of steel products. Of course, such factors as the size of the country, the level of education and culture, the scale effect of production, transportation costs are of great importance in the country's foreign trade. All this Smith considered absolute advantages in foreign trade, which are provided with

complete freedom of trade, absence of interference from the state. Theoretical premises of A. Smith rested on the assumption that the factors of production, having absolute mobility in the country, move to those areas where they receive an absolute advantage. With "saturation" and alignment of areas, such movement does not bring income (World Bank, Building Knowledge Economies, 2007).

1.1.4. The Theory of Relative (Comparative) Advantages

The theory of absolute advantage in the mechanism of foreign trade, developed by A. Smith, was substantially developed and supplemented by D. Ricardo. In his main work Principles of Political Economy and Taxation (1817), Ricardo developed the theory of relative advantages in foreign trade. He used the notion of an alternative price, or a substitution cost, which is a simple comparison of the prices of units of two domestic goods in the domestic market, expressed in terms of the amount of working time spent on their production. The essence of this theory was that Ricardo proceeded from the factor of labor productivity as the only condition that makes the profitable trade all the goods that a country can produce regardless of Smith's "absolute advantages".

Developed by Ricardo, the theory of relative, or comparative, advantages of foreign trade rests on the theory of labor value. If a country, specializing in the production of certain goods, achieves high efficiency and higher productivity (lower costs compared to other countries per unit of output), it will benefit from the trade in these goods on the world market. Thus, the key moment in the Ricardo model is the productivity factor as the basis for the country's exit to the world market (labor costs per unit of output). Developing the provisions of his theory, Ricardo used as an example England and Portugal, and as goods for illustration - wine and cloth, but his formula is applicable to any product.

This theory later became known as Ricardo's one-factor model in the mechanism of foreign trade. Actually, Ricardo developed the key principle of the international division of labor, which was indirectly formulated by Smith. The theory of comparative advantages makes it possible to build foreign economic relations on a scientific basis and provides an opportunity to prove the inferiority of restrictive (protectionist) practices in foreign trade. Ricardo vigorously opposed the grain laws introduced in Britain after the defeat of Napoleon in 1815, which were beneficial to the landed

aristocracy, but inflicted damage on industrial capitalists. However, Ricardo expressed his views from the standpoint of economic theory proving the advantage of free trade for the interests of Great Britain. For the first time, economic theory was used as a policy tool (Meoqui, 2010).

1.1.5. Heckscher-Ohlin Theory

In the theories of Smith and Ricardo accepted thesis is that the functioning of the free market will itself lead producers to goods, which they can produce with the greatest efficiency and, therefore, force them to abandon unprofitable industries. Despite indicating how it is possible to increase production volumes (if countries specialize in manufacturing having an absolute or relative advantage) these scientists have not clarified what kinds of products will provide these benefits. However two Swedish economists Eli Heckscher and Bertil Ohlin did it 125 years after by conceiving a theory of the ratio of factors of production. The differences in the cost of production factors can be explained in accordance with individual countries differences in the proportion of labor relative to the share of land or capital. Thus, the different supply of countries with production factors also causes variances in relative prices. Heckscher and Ohlin proceeded from the assumption that if labor resources are abundant in relation to land and capital, the labor costs will be low, and the capital costs and the cost of land will be high in relation to the price of land and capital. The cost of these factors can induce countries to develop production and export by using excess and cheaper factors of production (Roth, 1994).

The theory of the ratio of factors of production is based on various assumptions in the ratio of production factors such as the nature of the market, goods, and production. Moreover, factors of production are the same as in the theories of absolute and comparative costs. The difference is that the theory of the ratio of factors of production proceeds from the assumption that there are only two countries and only two goods, one of which is labor-intensive, the other is capital-intensive. There used not one factor of production (labor is in Smith and Ricardo) but two - labor and capital. And each country is endowed to a certain extent with these factors of production. Consequently, the labor theory of value in this conception is not rejected but supplemented by the notion of considering different factors of production, not only labor.

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Heckscher-Ohlin's approach was subjected to numerous empirical tests on the capability to explain the nature of world trade. The most eminent test was carried out by Leontief in 1954 with the usage of his "input-output" methodology (model) in studying the structure of US foreign trade. Leontief studied the content of factors of production in the US exports and imports and came to a curious conclusion: US export is labor intensive, and the goods replacing imports are capital intensive. The results were called the Leontief paradox, which supposedly refuted the Heckscher-Ohlin Model.

1.1.6. Samuelson's Theorem on Equalization of Factor Prices

Many theorists have not noticed what Blaug, one of the observers in this field, testifies: the Heckscher-Ohlin model is more obliged to several articles published by Samuelson in the late 1940s and early 1950s than to the provisions of the basic article of Heckscher (1919), updated and expanded in the work "Interregional and international trade" by Ohlin (1933). Heckscher and Ohlin assumed that the extension of international trade would replace the movement of factors among countries and free trade would equalize the degree of rarity of factors and, consequently, the prices for them around the world. While Ohlin saw good reason to believe that this process will not end in absolute alignment, Samuelson proved a theorem on the leveling of factor prices where under certain conditions (as modern competition, zero transportation costs, incomplete specialization, the same homogeneous production functions, the absence of external savings, the constant relative intensity of use of factors at all their relative prices, the uniformity of factors in quality and the number of factors not exceeding the number of goods) free trade will lead to complete, and not partial, leveling of the prices of factors. This elegant formulation, Blaug (2004) wrote, was subsequently generalized to n countries, n factors and n goods, while the Heckscher-Ohlin theorem to this day remains to be applied to the case of two countries, two factors, and two commodities.

1.1.7. The Leontief Paradox

In fact, Leontief practically nullified the Heckscher-Ohlin theory back in the 1950s, when he published famous "table of costs" in his works related to the structure of US foreign trade. He found that the country exported relatively labor-intensive goods in direct contrast to what we might expect under the Heckscher-Ohlin theory. Scientist's conclusions were entitled to the "Leontief paradox", which is praised for its elegance of

the presentation of facts and the flawlessness of logic despite relative recognition among theoreticians.

In this regard, Charles Kindlerger wrote: "He (Leontief) proves not that the United States is poor in capital and rich in labor resources but the error of Heckscher-Olin theorem". Most of the trade theorists continued to refine the obviously refuted theory of factor proportions; in the meantime, puzzling with the flow of technical puzzles generated by the Leontief paradox. For example, what is the factor of production and how many individual factors are involved in the production processes? Can the inversion of the intensity of the factors be excluded in the Multifactor world? What conditions are necessary to comply with the theory of price equalization of factors as the number of factors increases?

As Blaug (2004) stated the Leontief paradox did not put an end to the research program of Ohlin-Samuelson. Moreover, most of the new discoveries made within the framework of the Ohlin-Samuelson approach were not facts but rather analytical generalizations of the phenomena of international and domestic trade. This approach contributed to the popularization of the simplified theory of marginal productivity, around which all postwar debates on distribution problems revolved. It is the international trade model, explaining it by factor proportions, stimulated the teaching of allegories with two countries, two commodities and two factors with aggregated production functions, with constant returns from scale. Thus, the analysis of domestic and international trade was unified with the assistance of a greatly simplified aggregate theory of general equilibrium. The theory promised more than it was able to provide. At the same time, according to Blaug (2004), the Ohlin-Samuelson approach should not be separated or contrasted with the broader Hicks-Samuelson general equilibrium model. Blaug mentioned irony of the fact that much of this work was stimulated and popularized by the efforts of Samuelson who was the main defender of operationalism at least in the early years of his research. As one of the commentators remarked: "The whole discussion (about the leveling of prices for factors) is - is it positive or negative - an example of non-operational theorizing". Samuelson sincerely admitted that in statistically competitive conditions the differences in the prices of factors in reality are strongly disagree with the idealized picture of the aligned price factors. Nevertheless, he

persistently continued his research on the theory of leveling factor prices being deeply convinced of its "real contribution to an understanding of the forces shaping the face of world trade". Mark Blaug made the following conclusion: "The discussion about equalizing factor prices was an intellectual fun, although at times it gave some useful results, clarifying the structure of the pure theory ... leading to the interesting conclusion that in certain circumstances trade may not cause even a tendency to equalize prices factors, the fact remains that no decision-making politician ever wanted to know whether free trade will provide any meaningful solutions to statistical or any other problems of the real world".

1.1.8. Specific Factors Model of Foreign Trade

This model was developed by Samuelson and Jones as a "concomitant result" to verify Ohlin model. The essence of this approach is as follows: on the basis of the Ricardian model, in which the economy conditionally produces two goods and, therefore, labor can be used in two industries. The model in question proceeds from the existence of other factors of production other than the labor factor (Eatwell, Milgrade and Newman, 1990).Labor is seen as a mobile factor capable of moving from one industry to another but other specific factors cannot move because they are used only in the production of goods in certain industries. To illustrate this proposition Krugman and Obbstfeld proposed to consider the economy of the country conferring to two types of products - manufactured goods and food. The given is the presence of three factors of production: labor (L), capital (K) and land (D). In the manufacture of manufactured goods, labor and capital are consumed (the land is consumed); in the production of food products, labor and land are used, but no capital. Here labor is a mobile factor that is applied in any of the sectors, and land and capital are specific factors that can be used only in the production of one type of goods. On this basis, the production function is revealed as the ratio between the quantities (volumes) of labor and capital employed. This presents how much output will be received with the given outlays of labor and capital (Caballero, Quieti and Maetz, Access: 26.08.2017).

Analysis of production functions for each of the sectors of the economy making it possible to identify the production capacities of each of the factors, i.e. volumes of the output of industrial goods (marginal product of labor). This is a kind of source base

which creates economic prerequisites for foreign trade. Another condition, which is necessary for this realization, is the existence of different relative prices for goods (in this case industrial products) between the exporting country and the importing country. This is the postulate underlies all foreign trade due to the absence of a difference in the relative prices of goods makes foreign trade fundamentally impossible (Dorfman, 1998).

1.1.9. Theory of The Product Life Cycle

Theory of the product life cycle based on the stages of the product's life cycle. The theory indicates four-stage cycle that certain types of goods (products) undergo: introduction, growth, maturity, and decline. Hence, the production of a good moves from country to country depending on the stage of the cycle. These stages are closely connected with each other representing a certain continuum (Borisova, 2007).

Stage 1 - introduction. This stage includes the development of innovation as a reaction to the established need; production and marketing of new goods within the country; export of new goods from the country.

Stage 2 - growth. When a product is introduced into production and its sale begins, then for competitors there is an incentive to act, which violates the position of the monopolist. As a rule, an insignificant change in the product is introduced and, thus, the patent protection of the new product is overcome. At the same time, demand grows constantly, including in other countries, and primarily in the markets of developed countries. This way the market expands - both through exports and through the creation of new enterprises in different countries.

Stage 3 - maturity. At the stage of maturity, the world demand for the product is equalized, although in some countries production and sales may increase, while in others it may decline. But, as a rule, at this stage, there is a replacement of primary producers, as product models become highly standardized, and their cost is an important tool for competition. A large-scale production of foreign manufacturers begins, which reduces the cost of a unit of production, and then a lower cost makes it possible to increase sales in developing countries. As markets expand and technology spreads, the country of innovation gradually loses its manufacturing advantages. There appears

considerations to transfer enterprises to developing countries where labor is relatively cheap and yet less qualified.

This allows establishing a profitable and efficient production of demanded goods.

Stage 4 - decline. At this stage, markets in developed countries gradually reject goods and begin to curtail; wealthy people favor new products. By this time, all production is concentrated in developing countries, and they supply the tapering markets of developed countries with products (Ecnomist, 2009).

1.1.10. Country Similarity Theory

Having developed a new product for sale in accordance with the needs of the domestic market the firm owner establishes "own" market. This allows the firm owner enters the markets with similar products from other countries. Most new products revolve in the giant markets of the developed countries themselves since they manufactured in developed countries and sold on domestic markets. High quality and, hence, high cost do not allow new product to invade intensively the markets of the second and third world. In the markets of the latter, goods are replaced by surrogates, which imitate markets of post-industrial countries in huge quantities; either, developed countries transfer outcast products in the markets of the second and third world. (Laukakou and Membe, 2012).

However, not only the factor of production and supply of goods are important but also the demand factor. Without addressing these factors, which were established spontaneously over centuries, there cannot be a full-fledged world trade. Conformity hither means equilibrium in world trade: a balance between supply and demand. Unlike the balance in one country at the world level, the factors of dependency and interdependence are very complicated. The production capacities of one (the first) country come into contact with the possibilities of consumption of the second country of a certain part of the commodity product (and services) produced by the first country, etc. Such an approach is the basis for the development of international trade problems, in particular, the concept of the maximum level of substitution. This concept plays a key role in the development of a standard model of world trade. Actually, this idea of balance of world trade in a modern sense was formulated by the English economist

Marshall, who is an author of the concept of marginal utility, as a theory of general equilibrium. Earlier it was explained by Mill, Edgeworth, a representative of a marginalist school, and by Mead, who investigated the movement of capital and world trade (Miller, Michalski and Stevens, 2002).

The key concept in this theory is mutual demand, i.e. an indicator that synthesizes demand and supply illustrating the necessary quantity of imported goods required by the country to provide the corresponding quantity of another product for export. Thus, the volume of world trade is the difference between domestic production of a product and its consumption. When production is more than consumption - the country exports, when it is less - the country imports (Krugman, 2006).

1.2. Classification of Investment

The predominant approach of investment is that traditionally investments are understood as the implementation of certain economic projects in the present with the expectation of earning revenue in the future (Krutik, 2000: 544).

In the Federal Law № 39 dated 25.02.1999. "On investment activity in the Russian Federation implementation in the form of capital investments" (as amended on 22.08.2004) investments are defined as: cash, securities, other property, including property rights, other rights that have a monetary value, invested in objects of entrepreneurships and other activities to obtain profit and (or) achieve a different socially significant positive effect.

Investments are broadly defined as funds, which have state, entity and individual intellectual valuables directed to establish new enterprises, expand, reconstruct, modernize existing enterprises, acquire real estate, securities and assets for profit and /or other positive effect (Asaul, 2008).

While investing state, entity or individual has to put in capital now in a certain amount to reap a benefit in the future. The factors as risk, inflation, payback period influence the investment.

Thus, the features of investments are:

1. Potential ability to generate income;

2. Capital transformation into alternative types of assets;
3. Presence of the investment period;
4. Presence of risks;
5. Goal-orientated.

Investing is the process of investing money and other capital to increase it.

Investment activity is the unity of the process of investing resources and the process of generating income in the future.

Investment Functions:

1. Investments ensure the process of permanent and extended reproduction of fixed assets (surpluses of capital are invested in production);
2. Investments ensure the turnover of capital, accelerate this process;
3. Investments ensure the transfusion of capital from one sphere to another, more efficient;

Investments in the macro level provide systematic renewal of capital funds used in production, acceleration of scientific and technological progress, improvement of the quality and competitiveness of domestic products. Investments ensure the balance of all branches of the national and regional economy; the creation of base of a full-fledged raw materials; the defense capability of the state; social development and the solution of unemployment needs; the provision of positive structural changes in the economy (Kurtishi-Kastrati, 2013: 33).

Investments at the micro level provide increase and expand of the scope of activity; reduction of physical and moral deterioration of production; reduction of the cost price; increase of the technical level of production through the introduction of new technologies, quality and safety improvement and competitiveness, etc. (Senko, 2012: 8).

All above mentioned values can be considered as private investment objectives, which achievement will ensure the achievement of profit.

1.2.1. Subjects and Objects of Investment Activities.

The main subjects of investment activity are investors and consumers. In investment activities, there are also such participants as applicants, contractors, and others. Investors are subjects of investment activity that invest their own, borrowed and attracted funds in the form of investments (Teplova, 2011).

Investors can be the Government of the Russian Federation and the government of the constituent entities of the Russian Federation in the person of bodies that are authorized to manage property; local governments, domestic enterprises, business associations and other organizations in the form of legal entities and individuals; foreign states represented by the relevant bodies; foreign enterprises and international organizations (UNESCO, UN, etc.).

Classification of investors:

1. On the form of legal entity`s incorporation investors are legal entities and individuals, associations of legal entities and individuals, state bodies and local self-government bodies;
2. On the form of main activity there are individual investors who pursue the goal and development of their core business and institutional investors, who are the financial intermediary, which collect funds of individual investors and carries out investment activities on their own behalf;
3. On the form of ownership there are private, municipal and state investors. A private investor is a legal entity, based on non-state ownership and individuals. State investors are state authorities and state enterprises. Municipal ones are municipal authorities and municipal enterprises;
4. On the mentality of behavior there are conservative, moderately aggressive and aggressive investors. Conservative ones apprehend security investments, which main task is to protect the funds from inflation. Moderately aggressive investors choose such objects of investment, which in aggregate ensure the growth of their capital. Aggressive ones choose investments which provide rapid growth of capital, objects that guarantee maximum profits;
5. On the investment objectives there are strategic and portfolio investment. The main goal for strategic investors is to ensure real participation in the

management of investment facilities. They are aimed at creating new enterprises and production in other regions, obtaining a controlling stock of shares of enterprises. The portfolio investors invest their funds in different facilities with different degrees of profitability and risk to obtain real income; they do not seek the opportunity to manage the objects of investment (Asaul, 2006: 606).

Zubchenko (2006) noticed that investment consumers are the same ones who may be investors, i.e. state and municipal authorities, foreign states, international associations, and states.

The subjects of investment activities can act as investors and consumers of resources.

Objects of investment activity:

1. Material values (buildings, structures, etc.).
2. Property and intellectual rights having monetary value.
3. Financial instruments (bank deposits).

1.2.2. Investment Classification

1. Investments as object are separated on real and financial. Real investments are a combination of investments in real economic assets (tangible and intangible resources). The most important component of real investments are investments in the form of capital ones. Financial investments are investments in various financial assets (securities, shares, etc.). They are divided into speculative and long-term investments. Speculative ones are calculated on reception of the desirable income in the specific period of time (as a rule, the short-term period). Long-term investments pursue strategic goals and involve participation in the management of investment facilities (Vitun, 2012: 145).

2. Physical investments are investments in means of production. They are divided into strategic, basic, current and innovative. Strategic investments are aimed at creating new enterprises. Basic investments are aimed at expanding existing enterprises, creating new enterprises and industries in the same field of activity or in the same region. Current investments are aimed at maintaining the reproduction process associated with investing in fixed assets, replenishment of stocks of tangible and negotiable assets. Innovative investments are divided into investments in the modernization of the enterprise, including its technical re-

equipment and investment in security (to create a structure that guarantees the enterprise the adjusted supply of raw materials, documentation, etc.) (Lipsic, 2004: 19). Risk level is typical for each highlighted types of investment. Current investments as they are financed from depreciation charges are impends to the least risk. Innovation if there is any accepts the greatest risk.

3. According to Zimin (2006), investments in the form of capital investments are divided into:

   a. Defensive investments aimed at risk reduction, price level retention, and for the conduct of defensive policies;

   b. Offensive investments are caused by a new search for technologies and developments to maintain a high scientific technological level;

   c. Social investments are aimed at improving the labor of personnel;

   d. Mandatory investments are aimed at meeting state requirements (in the field of ecology, product safety, etc.);

   e. Representative investments are aimed at creating, maintaining, improving the image of the enterprise.

4. Capital investments can be divided into the following types (for the investment object): investments aimed at replacing equipment; investments aimed at modernization, aimed at improvement of the quality of products and reduction costs; investments aimed at expanding production; investments aimed at diversification, that is, the development of new types of activities, markets; strategic investments aimed at achieving scientific and technical progress.

   According to Senko (2012), capital investments in the direction of action are divided into:

   a. Initial (net investments), which are carried out at the acquisition or establishment of the enterprise;

   b. Extensive investments, which are aimed at expanding production capacity;

   c. Reinvestment is the investment of freed funds;

   d. Gross investment is a set of investments, including reinvestment and net investment.

5. There are direct and indirect (portfolio) investments. Direct investments are in the authorized capital of the enterprise, which aimed at establishing direct

control and management of this enterprise. Portfolio is a means invested in economic assets to extract income and diversify risks (Tsibulnikova, 2015: 12).

6. There are short-term (up to one year), medium-term (from one to three years) and long-term (over three years) investments.

7. In relation to the object of investment there are internal and external investments. Internal investments are used in the assets of the investor. External investments are oriented in acquiring of assets of other economic entities.

8. There is private (non-state), state, foreign, joint (the merger of domestic and foreign investors) types of investment by ownership.

9. On a regional basis there are internal (within the region or country) and foreign (investment in foreign enterprises, or organizations).

10. On the basis of industry there are production, agriculture, building, transport, communications, trade, and food, etc.

11. There are different types of investments by risk: aggressive - they are characterized by a high degree of risk, high profit and low liquidity; moderate - have an average degree of risk with sufficient level of profit and liquidity; conservative - low risk, low profitability, but high profitability and liquidity (Blank, 2006: 41).

1.2.3. Legal Aspects of Investment Activity in RF

Investment activity depends on the totality and intricacy of the regulatory framework. A large number of normative acts have been adopted in the Russian Federation:

1. Federal Law "On Investment Activities in the Form of Capital Investments" No. 39-FL of 25.02.1999.
2. Federal Law "On Foreign Investments in the Russian Federation" No. 160-FL of 09.07.1999.
3. Federal Law "On Protection of Rights and Laws on the Securities Market" No. 46-FL of 05.03.1999.
4. Federal Law "On the security of market" No. 39-FL of 22.04.1996.
5. Federal Law "On Leasing" No. 164-FL of 29.10.1998.

6. Federal Law "On agreements and on the division of products" No. 225-FL of 30.12.1999.

Mentioning federal laws define the rights and responsibilities of investors, the relationship between actors and investment activities, the role of the state, etc. Investors have equal rights: to carry out investment activities; to determine independently volume and directions of investment activity; to conclude contracts with other entities; to owe, use and dispose of capital investment objects and results of investments; to combine own funds with the property of other investors.

Obligations of subjects of investment activity:

1. To carry out investment activity in accordance with regulatory legal acts;
2. To fulfill the requirements for authorized persons;
3. To use funds directed to capital investments for the intended purpose.

The relation between subjects and investment activity is carried out on the basis of a contract or state contract. The condition of the contract is maintained for the entire duration of the validity, and even in the event of the adoption of another legislative act.

1.2.4. The Role of The State

State guarantees to all entities: insurance of equal rights in the field of investment activity; publicity in the discussion of investment projects; the right to appeal any decisions in the court; stability of rights and protection of capital investments.

Capital investments can be nationalized but only in the condition of a preliminary and equivalent return of losses. They can be requisitioned by the decision of state bodies (in connection with the introduction of martial law in the country or a natural disaster). Similar rights and obligations are exercised by local self-government bodies.

The following feature of investments in the domestic economy of Russia can be outlined:

1. Radical economic reforms in the RF focus on achieving financial stabilization. At the beginning of the reforms, the financial sphere expanded "bleeding" industrial production, therefore, the share of capital investments decreased substantially, the financial sector became isolated from production (the basis of

any economy was production). There was an investment crisis. (www.istoriirossii.ru, Access: 28.05.2017)

2. Along with the huge reduction in the volume of capital investments, there have been significant disproportions in the investment process. The capital market focuses mainly on financial transactions.

Real investments are made from the extractive industry (oil and gas industry, construction industry, etc.). Sharply fell the share of real investment in engineering and high technology. Facing the process of "eating away" the main production assets; the indicator of the basic production assets of industry reached 70%. (Ministry of Economic Development of RF, National Report on Innovations in Russia, 2016)

1.2.5. Foreign Investment

Foreign investments invested by foreign investors in business or other activities to acquire profit take forms of all kinds of property and intellectuals holdings (OECD Overview, 2002).

In Federal Law of Russian Federation "On foreign investments" (1999) foreign investment is defined as foreign capital investment in business activities on the territory of Russian Federation.

According to legislation of Russian Federation (section 128 of Civil Right Code of Russian Federation), objects of civil rights, which can be considered as objects of investment, are the following:

- Entity;
- Other property (including property rights);
- Results of intellectual activity, including patents (intellectual property);
- Works and services;
- Intangible rights;
- Information.

Provided definitions and statements regarding foreign investments in Legislative Decrees of different countries usually do not contain comprehensive information on as investments cover all kinds of property holdings and which foreign investor can invest in the economy of receiving country.

The list of main foreign investments objects includes:

- Real estate and movable property (buildings, equipments and other tangible assets) and relevant property rights, funds and deposits;
- Securities (shares, obligations, deposits, and others);
- Rights for intellectual deliberates, usually defined as intellectual property rights;
- Right to perform business activities provided on the basis of law or agreements.

Foreign investments can be classified by different criteria, but the general classification is introduces in Table 1.1.

Table 1.1.

Types of Classification of Long Term Foreign Investments

Classification Criteria	Types of investments
According to countries	Inward investments are flow of foreign capital into the country. Outward investments are the flow of investments outside the country.
By source of origin and form of ownership	Private investments are investments of private economic objects. Government investments are the ones of state authority or enterprises.
By enterprise control level and other economic subjects	Direct investments, which offer a right to control. Portfolio investments, which do not offer a right to control.
By usage	Business investments, which are invested to acquire profit. Loan investments, provided in the form of deposits and credits, to acquire interest income.
By accounting type	Current investment flow is the flow within the year. Cumulative investment is the volume of all investments for the revised period.

It is important to provide a deeper explanation of the direct investments. Foreign direct investments provide the investor with effective right to control foreign enterprise. International Monetary Fund (IMF) presents the following definition of foreign direct investments: "*Direct investment is the category of international investment that reflects the objective of a resident entity in one economy obtaining a lasting interest in an enterprise resident in another country*" (IMF, Foreign Direct Investment Trends and Statistics 2003).

According to Zubchenko, the leading ways of implementation of direct investments are:

- Establishment of affiliate or enterprise abroad, completely owed (100%) by investor; or investment from scratch.
- Financing activity of foreign affiliates, which internal loans and credits are provided by parent company.
- Acquisition of right to use land (including rent), natural resources, and other property rights;
- Authorization to use special technologies, know-how, etc.;
- Acquisition of stock and shares in nominal capital of foreign company, which offer investor the right to manage company`s activity (sometimes such participations are called majority participation).
- Reinvestment of profit obtained by investor in the affiliate or joint company.

Shares giving the right to control investments are defined differently in every country. IMF defines direct investments as equity participation not less than 25% of authorized capital in Canada, Australia and New Zealand – not less than 50%, in European countries – 20-25%, in USA – 10% (Zubchenko, 2006: 10).

According to Federal Law of Russian Federation "On Foreign Investments" (1999), direct investments include:

- Acquisition by foreign investor not less than 10% share in authorized capital of commercial organization established on the territory of Russian Federation;
- Capital deposit into the capital funds of foreign company affiliate;
- Implementation of financial leasing of equipment, overall cost of which is not less than 1 mln rubles by foreign investor as a renter on the territory of Russian Federation;
- Reinvestment of profit obtained on the territory of Russian Federation.

Reinvestment is a capital investment into the business activity objects, financed by incomes or profit of foreign investor, which are collected on the host country`s territory. The defining role of foreign direct investment in host country is that together with capital (tangible and intangible) flow, there is a flow of new technology and experience, innovative methods of enterprise, labor and management organization. Portfolio

investments are investments of foreign investors into authorized capital by means of purchasing stock and shares, but without control right.

Direct investments differ from portfolio investments by following features:

    a. Direct investments usually have more longer and stable character;

    b. Investor has higher level of risks;

    c. Total amount of investment is usually higher;

    d. They enable investor with the right to control or participate in investment object management.

In international (IMF, World Bank etc) and national statistics there is also other investment section, which includes:

- Trade credits (advance import/export payment or credits for import/export payment);
- Any types of credits, besides trade, received from investors;
- Credits, received from international organizations such as World bank, IMF, EBRD etc ;
- Bank deposits such as foreign currency account of foreign investors in local banks;
- Mutual investment credits. (Federal State Statistic Service Report on Balance of Payment, Issue 1)

For the developing countries and for the countries with transitional economies such types of investments pay an important role.

According to Zubchenko (2006), the main methods of foreign investing are the following:

- Establishment of affiliate branch or commercial organizations, owned by foreign investor;
- Share ownership in joint ventures;
- Acquisition or takeover of foreign enterprise;
- Acquisition of securities (stocks, obligations, etc);
- Provision of loans and credits;

- Acquisition of proper rights, including the right to use land and natural resources;
- Profit reinvestment;
- Provision of rights to use new technology, know-how and others.

After the cancellation of the Federal Law on enterprises from the beginning of 1995, Legislation of Russian Federation uses definition commercial enterprise with foreign investments, which is a union of investors as entity, owned by two or more individuals, one of which is a foreigner (non-resident). In accordance with Legislation of Russian Federation commercial organizations with foreign investments in Russia can be organized in following forms:

- Unlimited partnership;
- Limited partnership (partnership based on trust);
- Limited liability company;
- Additional liability company;
- Public company (open and closed types).

If company consists of Russian and foreign investors, it is joint venture; if commercial enterprise is introduced by one and more foreign partner, then it belongs to foreign investors and considered as company with 100% foreign investments (Ernst&Young, 2011).

As investment to joint company, foreign investor, besides investing in fixed or other funds, can also provide intellectual rights such as patents, licenses and other documents and it will be also be considered as foreign investment.

Investor`s contribution defined as intellectual proper rights can take the following forms:

1. Documentary evidence of intellectual rights (patents, licenses, etc.)
2. Evaluation of investor`s intellectual potential;
3. Evaluation of creative ability of investor;
4. Evaluation of license fee.

Federal Law "On foreign investments" (1999) defines as a foreign investor (subject of investments) in the Russian Federation can be:

- A foreign legal entity whose civil capacity is determined in accordance with the law of the state in which it was established and which is entitled to invest in the territory of the Russian Federation;

- A foreign organization (this definition was absent in the FL "On foreign investments" (1999)) that is not a legal entity whose civil capacity is determined in accordance with the law of the state in which it was established and which is entitled to invest in the territory of the Russian Federation;

- A foreign citizen whose civil capacity is determined in accordance with the law of the state in which it was established and which is entitled to invest in the territory of the Russian Federation;

- A person without citizenship who resides outside the Russian Federation whose civil capacity is determined in accordance with the law of the state in which it was established and which is entitled to invest in the territory of the Russian Federation;

- An international organization, not just any organization that has such a status, but only one that has an international treaty with the Russian Federation, in accordance with which it is entitled to exercise investment in the territory of the Russian Federation;

- A foreign state, which is entitled to exercise investments in the territory of the Russian Federation.

As any other complicated economic phenomenon, foreign capital investments can influence both positive and negative on the economy of receiving country. In accordance with world practice, the positive consequences of foreign investments can be:

- An increase in the volume of real investment, accelerating the pace of economic development and improving condition of the country's balance of payment;

- Receipt of advanced foreign technology, organizational and managerial experience, the results of R&D, embodied in new technology, patents, licenses, know-how, etc.

- Use of local savings for the implementation of profitable projects

- Attracting local capital and strengthening the local financial market through the use of its resources for productive purposes;
- More complete use of local natural resources;
- Increase in the level of employment, qualification, production of local workforce;
- Expansion of export and inflow of foreign currency;
- Increase in the volume of tax revenues, allowing to expand state financing of social and other programs;
- Increase of living standards and purchasing power of the population;
- Use of higher environmental quality standards, increased access to cleaner technology, lower overall pollution levels;
- Development of infrastructure and services;
- Increasing trust in the country, which will attract new foreign investors;
- Increasing competition in the national economy and reducing the level of its monopolization;
- Improving the socio-cultural situation in the country, the dissemination of international standards, not only in production but also in consumption. (Blömstrom and Kokko, 1997)

The negative consequences of foreign investment include the following:

- Repatriation of capital and transfer of profit in various forms (dividends, interest, royalties, etc.), which worsens the balance of payments of the host country;
- Increase in imports of equipment, materials and components, requiring additional foreign exchange costs;
- Suppression of local producers and restriction of competition;
- Strengthening the dependence of the national economy, threatening its economic and political security;
- Ignoring of local conditions and peculiarities by foreign investors;
- Possible deformation of the structure of the national economy;
- The decline of traditional sectors of the national economy;
- Strengthening of social tension and differentiation (in particular, due to higher wages at foreign enterprises);

- Weakening incentives for conducting national R & D due to imports of foreign technology, which ultimately can lead to increased technological dependence;
- The deterioration of the environment as a result of the transfer of "dirty" productions to the country and the predatory exploitation of local resources;
- Negative impact on socio-cultural conditions associated with the ignoring of national traditions, features, etc., with the imposition of standards, values and forms of organization of production, consumption, way of life, alien to the national culture, etc. (Schoors, 2002; Zubchenko, 2006:16).

Positive and negative consequences of attracting and infiltrating foreign capital into the economy of the host countries are not to be automatically realized but exist only in potency. Therefore, the host countries and their economic entities intent on developing joint business with foreign partners, should carefully evaluate the pros and cons of such projects and pursue a prudent policy of regulating foreign investments allowing them to make full use of their positive effects and eliminate or minimize negative investments.

1.3. Foreign Direct Investments Theories

Currently, foreign direct investment (FDI) is developing faster than domestic investment and foreign trade. They have become a major factor in the globalization of world trade. The phenomenon of FDI encourages the governments of all leading economies, Russia is no exception, take into account their general trends, mechanisms and behavior of participants in this market. The expansion of the FDI market is accompanied by new motivations for the export of capital, its organizational forms and sectoral directions. Today, a characteristic phenomenon of the world economy has been the formation of special programs and incentives that facilitate the attraction of FDI, taking into account their beneficial impact on the national economy. (Kurtishi-Kastrati, 2013)

The development of the program for Russia is called upon to make a competent inclusion in world flows of FDI, thereby maximizing the national benefits. This objective can be facilitated by studying present theories that have revealed the motives of the FDI donors and their host countries, and also generalized the directions of FDI flows. Understanding these processes will allow us to predict the alterations that Russia may face as it develops, integrating into the world market. Consequently, the study of

FDI is an important prerequisite for the formation of the concept of attracting FDI, which should determine the Russian FDI strategy.

Theories and concepts of FDI are constantly being replenished and improved, but somehow they are not yet able to provide national governments with accurate analytical tools that allow them to anticipate the behavior of a particular company and effectively influence the international flows of capital, technology and know-how. Some paradigms, however, contain curious provisions that can greatly assist in the creation and implementation of FDI policies aimed at economic growth and industrial development. A number of scientific studies attempt to explain changes in FDI models and motivations of foreign investors in response to various economic strategies and motivations in the recipient countries (Laungani and Razin, 2001).

1.3.1. The Paradigm of The Cycle of International Production of Goods

The paradigm of the cycle of international production of goods developed in 1966 by R. Vernon is based on the product life cycle curve borrowed from the marketing concepts and describes the dynamic interaction between international trade and foreign investment, explains the exchange of goods between countries, and the reasons for moving entire industries. In theory, an attempt was made to explain the decisions taken by American corporations to locate production abroad. Along with the motivation for opening a new production abroad, foreign companies often invest in existing production, which allows the use of existing sales channels (Vernon, 1966).

One of the main theses of this theory is that the export of goods is not beneficial, for instance, if the exporting firm has problems with access to the local market and / or if the production in this country is more profitable (due to the low cost of production factors: raw materials and etc.). In this case, such a scheme would be beneficial both for the recipient country and for the investor company, although these options are not considered in the traditional analysis of international trade. The exporting company has the opportunity to solve such problems as trade barriers, import quotas, etc.; the recipient country can receive a positive technological experience and increase the share of the added value created on its territory (WTO, Understanding the WTO, 2015). However, we should not forget about two considerations. The first is the life cycle of products. When a new type of product is created, there may be many problems

associated with production technology, the elasticity of demand, etc. In this situation, the manufacturer prefers to control production in its traditional domestic market and export finished products to other countries. However, when the product reaches the growth and maturity phases, considerations for minimizing transportation costs and adapting products to local market characteristics come first. The latter aspect is largely determined by competition: sometimes re-export is prohibited for protection from competitors, sometimes it is allowed, and recipient countries export such products to third markets.

The second is consideration of the situation in the field of protection of intellectual property rights: in some cases, exporting companies fear that their technology will be copied and they themselves will create unscrupulous competitors in the recipient country. Nevertheless, this argument is applicable only to sectors where large initial investments are not required. For instance, it's hard to imagine that this problem is serious in the automotive industry. The problem of protecting intellectual property rights is related to the life cycle of the product (Maskus, 2000). If the intellectual property rights in a given country are poorly protected, the exporting firm will not invest for a long time in the recipient country and will agree to replace the export to the production site only when the technology becomes well known; so, at the final stages of the life cycle of the product when the demand for it falls and success in competition is determined exclusively by price policy. In some cases, there is indeed a situation where investors export mostly obsolete technologies and do not make tangible investments in research and development in the host country (WIPO, 2012).

In accordance with the theory, the natural life cycle of the goods and the corresponding change in costs suggest to the leaders of corporations three types of solutions: to produce goods at home, to export them or to transfer their production to foreign markets. The product life cycle consists of three main phases: innovation, maturity, and standardization. Innovative companies can enjoy a temporary monopoly in home markets during the introduction of a new product that allows them to cover part of the costs of investing in Research & Development and marketing. When the product enters the second and third phases of its life cycle, to compete successfully with its competitors the company is forced to apply the strategy of internationalization. When a

product loses its market novelty reaching a phase of maturity, the company usually looks for opportunities for its export. At this stage, competition becomes more rigid, which leads to higher costs per unit of output and lower profits. Finally, at the standardization stage, companies must find the most profitable production locations in other countries, especially large ones. At the standardization stage, companies are investing abroad in an attempt to retain their leadership and with the prospect of later re-exporting the same goods to the home market where it first appeared (Ferrell, Access: 17.04.2017).

When it was formulated, the theory gave a clear explanation of the decisions taken by American corporations to move production abroad. Since then, the international situation has changed tremendously. Since corporations and their competitors currently have networks of foreign affiliates, competition has spread from home markets to global ones. With the annexation of new markets, corporate leaders form strategic alliances and absorb foreign companies. This is necessary to maintain and strengthen their leadership by providing access to new markets and technologies. Their decisions were determined by strategic goals rather than by certain stages of the maturity of the goods. The government's role in the economy and incentives (for example, the UK's stimulating FDI strategy aimed at attracting Japanese investors undertaken in the late 1980s) which also strongly influence investor decisions. Today, typical TNCs conduct trading and investment strategies simultaneously in several countries creating a single system of intra-corporate transactions and inter-e-transactions (WTO Report, 1996).

This theory encourages some FDI-oriented governments to investigate life cycles at the global level, if not for a specific product (this is too difficult), then at least to broad product categories, industries, and technologies. This theory can be of great advantage in conducting research and monitoring of the life cycle stages of the current industries (for example, machine building, pharmaceuticals, high-tech chemical production, cargo transportation, aerospace complex), and high technologies (for instance, microelectronics, new materials, biotechnologies).

1.3.2. Monopolistic Competition and Market Imperfections

In the theory of oligopolistic behavior, Hymer investigated the company's special advantages by combining the study of foreign direct investment with classical models of

imperfect competition in specific commodity markets. According to Hymer (1976), an investor who makes FDI is a monopolist or, frequently, an oligopolist in a particular commodity market. He invests in foreign enterprises to contain competition and protect his competitiveness.

The purpose of acquiring a majority ownership in enterprises is to protect the company from competition from other branches and also to preserve the company's trade secrets. Thus, Hymer's approach explains the widespread model of the so-called "protective investments". For instance, the Kodak Company organizes foreign branches for fear that if it does not, its organization will be engaged, for example, by Fuji. On the other hand, Ford and General Motors often create automotive companies in developing countries to force each other out of them. Although such defensive investments may seem normal competition, Hymer convincingly considers their behavior as oligopolistic, which is a characteristic of "non-price competition among the minority" in search of market power. Leading companies often create enterprises abroad that only appear to be nonprofit, though their main goal is to eliminate their main competitors in the same national markets. A vivid example from the recent history of FDI is the purchase of a controlling stock in the marginally unprofitable Moscow enterprise KTS ("Combine of hard alloys") in the era of voucher privatization by the Swedish firm Sandvik. Thus, Sandvik eliminated a competitor supplying hard metal alloys to the international market at a very competitive price and redesigned the KTS for the production of a relatively cheaper hand tool with a sales orientation in the domestic market.

Hymer concludes that the oligopolist or monopolist, who seek to protect their market positions, can potentially (though not necessarily) really oppose national interests. In this regard, the host government should be prepared to establish regulator over them. For instance, an American subsidiary in Singapore may be banned from its parent company for trade in Thailand or India, whose markets are characterized by high prices for the products of its subsidiaries located in these countries. The host government, in this case, Singapore, may force such a foreign parent company not to impede the increase in competition or cede positions in the Singapore market to another investor who will be more intensively exporting goods to neighboring countries.

In practice, such a model of protective investments is often a concern because it implies that the oligopolist has the opportunity to influence the host government to obtain special market protection, such as import barriers that benefit the company but not the host country.

According to the membership theory, the company's key advantages that lead to the emergence of FDI do not pose a significant threat to competition in commodity markets. TNCs must invest heavily in improving management, obtaining basic information about customers, new technologies and best products. The problem for the company is to earn the appropriate return on these investments and share the fruits of the investment to continuously improve its special advantages. The profits that it can earn are limited to competition from other companies operating in the commodity market as all companies are trying to create and use their own special advantages.

Special advantages lead to the fact that the company starts investing direct investments in foreign countries due to the same reasons that make it create its own equipment instead of buying it from other companies in its home country. The company's use of FDI depends on the decision to expand internationally the company's borders (buy, acquire or lease, etc.). Profit from the benefits will belong wholly to the company if the latter concludes that the best decision for it is to retain control and ownership of the assets. If it does not maintain strict control and if it has decided to share its foreign enterprise with other owners, its special advantages may be lost. For example, if a company that knows how to organize and control workers divide control with other firms, the efficiency of production and the quality of the products may suffer. Thus, Japanese car manufacturers feared for their subsidiaries located in the US, although later it turned out that Toyota successfully operated in partnership with General Motors (Kurtishi-Kostrati, 2013).

1.3.3. The Theory of Branch Market Structures (BMS)

This theory is close to the theory of the market. Kindlberger (1969) highlighted the main advantages of BMS: vertical integration and economies of scale. Such economic processes have flow characteristics. Their effectiveness can be realized through the coordination of branches of one company in different countries. Thus, international oil companies coordinate the production, transport, distribution of oil at a lower cost than

individual firms performing one stage of the process. Due to vertical integration, there is an economy in transaction costs, search costs, and maintenance costs.

He expanded the concept of Hymer and identified four main reasons for the benefits that TNCs can have:

- the company's advantage associated with product policy: marketing techniques, image, product differentiation;
- the company's advantage associated with the factors of production: direct control over production, the availability of its own technologies, the level of personnel qualification, access to financial resources;
- the company's advantage in the field of economies of scale;
- non-interference of the state in the company's activities.

These advantages also developed in subsequent theories. However, the reality has revealed that these advantages are not a decisive factor for the organization of production abroad. The company can also conduct expansion on the world market by exporting finished products or selling a license for its production, without resorting to additional costs. The main incentive was the size of the company (which was determined by the number of employees, the annual turnover or the volume of the company's profits) (Teece, 1985).

Subsequent theories, which were based on clearer and more specific empirical examples, led to the conclusion that in most cases, specific advantages were necessary but insufficient conditions for firms to invest and produce abroad. The company can well use its specific advantages at home and export finished products or sell a license for its production avoiding high costs for relocation.

For countries with transition economies, such as Russia, several conclusions can be drawn from this theory:

1. Foreign investors should be carefully studied, in particular: a) their corporate assets and possible ways of encouraging the transfer of high technology and know-how, b) the company's specific advantages that determine its willingness to invest and its possible forms (joint ventures, subsidiaries);

2. The greater the success of attracting the investing company in certain sectors and regions, the more information collected by the state authorities (for example, careful evaluation of annual financial statements, study of press releases and company history, etc.);

3. It is necessary to compare the key success factors of a foreign company with the development strategy of the recipient country.

The theories based on the advantages of companies and market imperfections described above were later supplemented by Dunning and Porter, whose integrated concepts were supplemented with additional elements used to select potential investors.

1.3.4. The Theory of Internalization

In fact, the concept of internalization (from the English internalization - the unification of all technologies and know-how within the company) is a historical continuation of the theory of sectoral market structures. It establishes the link between FDI of large corporations and their internal organization, reflecting the hierarchical integration of business functions.

It presupposes market imperfections and was formulated in the second half of the 1970s by two economists from Reading University (Great Britain) L. Buckley and M. Casson.

According to the theory, large firms can expand their activities in the presence of an integral internal structure excluding competitors on their know-how. They reproached the previous theories (in particular, the theory of Hymer, Kindlerberger) for overemphasizing the production function and neglecting other unique advantages (leadership, international organization of activities, marketing and supply resources, human resource development and sound financial management). These advantages enable companies go into the leaders and spread their operations to other markets and industries. Real international operators do not obtain their competitive advantage by using only one specific factor in one particular functional area, but because of their ability to internalize their know-how instead of transferring it to other (external) organizations.

Practically there is internalization in all industrial sectors where R & D costs are high and there is a capital-intensive production (chemical industry, automotive industry) and

a large number of intermediate goods in the form of components and semi-finished products (consumer electronics, pharmaceuticals). Progressive FDI-agencies (for example, the Taiwan and Singapore investment development departments) link together the high R & D and transnational (FDI) potential: if there is an alternative, they prefer those TNCs that spend the most part of their turnover on R & D. This attitude is also used to attract new TNCs to the development of specific industrial sectors. The theory enables the understanding of the internationalization strategies of companies in the extractive and agrarian sector, as well as in the service sector (Economy Watch, 2010).

Alan Rugman (2004) considers the theory of internationalization as a base for other theories and considers it as a union of earlier theories (including the cycle of international commodity production, sectoral market structures and the theory of market imperfections). The internal structure of TNCs can be viewed as an alternative market (for example, transactions between branches of TNCs), where transaction costs can be reduced through economies of scale. The company can maintain the competitive advantage gained in the domestic market by combining its foreign affiliates into a network of some kind of "domestic" markets.

FDI and the competitive advantage of nations. In the "Competitive Advantage of Nations" (1990), Michael Porter presented the results of his large-scale study in the ten leading industrialized countries. He studied the competitiveness of more than one hundred industries, which account for a significant part of the exports of the respective countries. In his analysis he tried to answer the following questions:

1. Why corporations related to certain industries were more successful in penetrating foreign markets than others;
2. Why some countries were able to attract FDI in industries with high added value, and in other industries there;
3. Why the investments of TNCs into individual countries and sectors substantially increased the technological and organizational effectiveness of local companies and why in other cases industrial modernization did not occur.

In his work, Porter illustrated the dynamic interaction between TNC strategies and the competitive advantages of recipient countries. Other scientists, counting J. Dunning, found this Porter's ideas contributive to a better understanding of the transnational

activities of companies. In his works, Porter explained "a diamond of competitive advantage", which had the greatest influence.

These advantages he grouped in 4 directions:

1. The advantages of corporate governance (corporate strategy, structural competition: management and leadership, the company's goals, the organization of new business areas and entrepreneurship, the provision of risk capital, etc.);
2. Superiority of the factors of production used (state of factors, in particular, human, physical, knowledge, capital, infrastructure);
3. The components of demand, such as the volume of demand in the country, the rate of its growth, the segmentation of consumers, the characteristics of consumers (needs, extravagance, level of purchasing power, international mobility, etc.);
4. The advantages that are initiated by the accompanying and supporting industries.

He called additional factors the competent policy of the state and a favorable combination of circumstances. Porter indicated that the country exporting capital achieves sustainable success if this capital has the potential to cooperate with the neighboring production of the recipient country. Local supplies make it possible to reduce the cost of purchases, avoid losses from customs duties, and, therefore, reduce production costs. The strategy of cooperation with local production presupposes the need to study the capabilities of supplying industries.

Porter's theory calls on FDI donor countries to rely on analytical data from sectoral clusters, that is, the list of interconnected productions of countries that accept foreign capital. For recipient countries a strategy for attracting FDI can be successful if their governments make efforts in the development of interconnected industrial production. Then the positive effect of FDI can be strengthened because it includes the multiplicative component. National advantages in attracting FDI can be strengthened through sound government policies to promote a favorable investment climate.

On the basis of Porter's conclusions and the theory of internalization, the eclectic paradigm of the English scientist Dunning (1981) appeared, considering the motives of FDI as a conglomerate of the advantages of the company and the recipient country in the context of the integration of economic ties. The advantages are grouped into three

large blocks. The first one is named "O-benefits", connected with the use of the internal potencies of companies-investors. The second combines "I-advantages" caused by the use of own networks in the process of internalization. The third block is the "L-advantages" provided by the recipient country.

A country which accepts FDI can open more widely the gate for them if it does not rely solely on its benefits of cheapness of its resources. For enabling advantages a country needs to focus its efforts on sound economic management, a reliable legislative framework and a favorable investment climate.

The study of FDI based on the traditions of growth theory occupied special place. The research presented by Dunning together with the Dutch scientist Narula (1994) and was named "the path of investment development" (PID). The path of investment development assumes that the country's imports and exports of FDI are directly dependent on the level of its economic development.

There are five stages of growth:

- Importer of FDI (this is typical for countries with labor-intensive and low-tech industries, as well as with the prevalence of the extractive industry);
- Active importer of FDI (when the state uses new technologies to its advantage);
- Beginning exporter (in this case it is planned not only inflow but also outflow of FDI);
- Active exporter (when FDI exports exceed imports);
- Importer and exporter (in this case, exports and imports are balanced).

Thus, the theory of development demonstrates that the path to the export of capital lies through its initial import. Thanks to direct foreign investments, the country receives the missing technical and intellectual resources, which enables it to start its own financial expansion in the near future.

1.3.5. FDI and Oligopolistic Protection

In industries with great competition market structures and leader behavior can determine the process and speed of the trans-nationalization of competitors. On the basis of an empirical study of the international activities of 187 American corporations

conducted during the years 1948-1967, Nikkerbokker (1973) discovered that in the oligopolistic industries and domestic competitors automatically follow market leaders investing abroad. In 45% of cases this strategy of "following the leader" was observed within three years from the moment of primary investment, and in 75% within seven years.

In industries with an extremely high level of concentration (energy, metallurgy) such FDI strategies are more rare since leading a direct competitive struggle that can lead to a general reduction in prices and losses for all oligopolists, leaders prefer a simple market segment. This was practiced by individual European investors in the US and Japanese companies in Europe and the US (for instance, in the automotive and consumer electronics sectors).

Graham (1978) somewhat improved this model, explaining, in particular, the investment behavior of European TNCs in the United States. Their goal was to more strongly resist the strategies of American companies in Europe than the "battle" with their European rivals in the United States. Reflecting the "American threat" in the home markets Europeans forced their efforts for internationalization. Thus, FDI is not determined by the apparent causes of economic gain - at least not at the initial stage - but can to a large extent be considered as countermeasures aimed at containing its main competitors at home and abroad. This modified version of the model remains acceptable today and is applicable mainly to financially powerful companies originating from countries with approximately the same level of economic development, in particular, from the Triad of the US, Europe, and Japan.

1.3.6. Paradigm of "Flying Geese"

For the first time, paradigm of "flying geese" was conceptualized as a theory of economic growth in the early 1930s. by Japanese scientist Kaname Akamatsu. The latter explained the origin and growth of this or that branch of the economy in the following sequence:

1. The products enter the economy through imports from foreign producers;
2. New local industries are being opened to meet the growing national demand;
3. Surplus products are exported to new foreign markets.

The analysis was based on a study of the development of Japan's textile industry in the 19th-20th centuries. If you represent the sequence of domestic production imports and exports in time graphically, then a set of curves outwardly resembling the shoals of flying wild geese emerges. Henceforth, the conditional name of the concept emerged in economic theories.

Akamatsu identified these trends in the development of industries producing consumer goods (cotton and fiber) but further studies presented that with the expiration of a certain time lag: the trend is repeated also in the example of goods for industrial purposes (products of textile engineering) reflecting the restructuring and changing competitiveness of the machine-building sector. The full cycle in some of the sectors was taken under consideration was 50 years or more.

The Akamatsu economic development model is a concept of the "catch-up" development of countries have not previously produced a particular product on a large scale and competitively. This contrasts with the conclusions of the widespread concept of the life cycle of a product or industry, which promoted the strategic behavior of specific firms in industrialized countries as a source of economic development. Therefore, the concept of Akamatsu is more suitable for analysis of developing (catching up) countries where the cycle begins through import after the introduction of pioneer goods already on the markets of developed countries to the domestic market (Kojima, 1978). Thus, the economic growth of developing countries is explained through the interaction of developing countries and industrialized countries based on the leadership of the latter. The paradigm assumes dynamic changes in the relations of industrialized countries (leading countries) and developing countries (catching up countries). If you follow the analogy, the leading bird in the pack sooner or later exhausted and turns into the rearguard of the shoal, giving way to stronger individuals from among the earlier laggards.

Akamatsu concentrates on the structural reorganization of the economic mechanisms of the overtaking countries as the main factor of change and not on the eventual degradation of the leading countries. The main idea of the paradigm is developing countries in the context of an open economy go step by step through the stages of industrial modernization capitalizing on innovative opportunities accessible through

broad external economic ties with more advanced countries. This approach was widely used in shaping the foreign trade and, more broadly, Japan's foreign economic strategy in the post-war period (Karhonen, 1994).

Later this model was expanded due to the analysis of the situation in NIS (R. Korea, Taiwan, Thailand, and Malaysia), where many capital-intensive industries developed through FDI transfers know-how and advanced technologies. According to K. Kojime (1973), the paradigm of the "catching cycle" Akamatsu explains the development of catching up economies. It involves interaction and dynamic changes in the economic relations between advanced and catching up countries. This theory is confirmed by the process of successful chasing of many developing countries (especially Asian ones) behind world leaders, especially in the production of consumer goods with low added value. A similar phenomenon can also be observed in the economies of Central and Eastern Europe, which face barriers to the export of certain goods to the EU countries, for instance, agricultural products, ferrous metallurgy, and aluminum.

The expediency and/or importance of the existence of government policy as a prerequisite for the country's success in such a "pursuit" Akamatsu was not considered. However, this paradigm greatly contributed to the fact that in the post-war period the Japanese government followed certain foreign trade strategies, on the one hand, defended its young industry on the other. This dual policy was conducted under the auspices of the Ministry of Commerce in many high-tech sectors, for instance, consumer electronics, cars, and motorcycles. The role of foreign FDI is also not covered in the original work of Akamatsu, perhaps, due to weakness of economic and financial integration between countries in those days.

The paradigm of "flying geese" provides politicians and analysts of Russia with three interesting facts that the latter should have in mind when developing plans for the country's economic development and FDI instruments (UNCTAD, 2016):

1. The paradigm demonstrates that international economic integration allows transition economies to catch up and even surpass advanced ones. The country should remain open to the outside world and, in particular, for FDI from foreign TNCs, which is an indispensable complement to public assistance;

2. The FDI factor introduced into the Kojima paradigm emphasizes the need for a reasonable FDI policy to accelerate the process of economic development;

3. It should be noted that the economic development caused by FDI in the lead country can have an impact on neighboring countries, especially if their actions are coordinated.

For example, positive changes in Russia can increase the economic potential of the CIS. Russia has a number of objective prerequisites for attracting foreign capital. Potentially capacious market, which is rich reserves of natural resources, sufficiently qualified and cheap labor, and considerable scientific and technical potential can play a positive role in attracting foreign investments to Russia. However, realizing the existing perspectives requires the development of an effective and consistent policy in attracting foreign investment. It requires taking the necessary measures to improve the investment climate in the country and developing public investment policies characterized by a clear formulation of the goals and objectives of socio-economic development which can be solved on the basis of attracting foreign investments.

Some assistance in fulfilling these tasks will be theories of foreign direct investment that enable understanding of the historical stages of economic trans-nationalization through FDI in developed and developing countries and the impact of FDI on national economies and world trade and serve as a basis for further analysis of internal and external FDI flows.

1.4. The Impact of FDI on Export and Import

A number of researchers realized that FDI by stimulating and actively supporting foreign trade flows of host countries contributes to the further integration of these states into the world economy. H. Janicki and P. Wunnava (2004) also emphasize foreign trade and FDI are mutually complementary.

World practice demonstrates that FDI can play an important positive role in the development of the export of the recipient country, as often the activities of foreign investors are focused on foreign markets. In most developing countries and countries with transition economies foreign investors are attracted to the possibility of reducing

costs through cheaper resources (material, labor, etc.) or by improving their performance (Ledyaeva, 2003).

As M. Blomström and A.Kokko (1997) note, in terms of export development FDI can contribute to the implementation of the following areas:

1. Processing of local raw materials and their subsequent export;
2. Import-substituting industries and their conversion for export;
3. Export of new goods;
4. Component specialization within the vertically integrated international industries.

Direct investments can not only increase the volume of exports of the host country but also expand foreign markets. This happens in two main ways. The first way is the organization of export-oriented production in the territory of the recipient country. The second way involves expanding the export opportunities of local suppliers and consumers at the expense of organizations with foreign investment. In particular, T.Belous (2003) emphasizes that a foreign exporter often goes on to create strategic alliances with local companies opening up access to world markets.

Positive direct effects and positive indirect effects may also exist for the development of the recipient country's exports. For instance, foreign companies promote the training of employees. These skills will be passed on to local firms if employees of enterprises with foreign investment are changing jobs. In S. Ledyaeva's (2003) opinion, at the present stage, in conditions of becoming post-industrial in the most developed countries, FDI can contribute to the development of exports of science-intensive products. In addition, FDI is often characterized by more intensive export operations than domestic investment, and, in addition, may lead to the local contractor being included in the international supply chain of the foreign investor. In general, it is stated that FDI contributes to accelerating the diversification of national exports and increasing the competitiveness of local products in world markets.

The ability of the recipient country to use FDI as a tool to increase export volumes in the short and medium term depends on the situation in the particular country. The most obvious example of FDI contributing to export growth is the situation where inward investments support a recipient country that has previously lacked financial resources to

take advantage of either its resource opportunities (for instance, foreign investment will go into mining) or its geographical location (for example, investments sent to some countries with transformational economies).

The positive role of FDI in the development of the exporting of the recipient country is not unconditional, as along with the benefits from their involvement, there can also be certain negative consequences. Thus, V. Newlyn (1977) notes that the activities of foreign investors, being exporters, can lead to deterioration of the foreign trade of the recipient country, which will significantly reduce its export benefits and negatively affect the economic development of the state. For instance, if the recipient country of FDI has significant reserves of raw materials, the expansion of exports of these resources as a result of the activities of foreign investors can lead to a drop in prices for them on the world market. That is, it is a matter of raw materials exploitation, where the benefit of the host country depends to a large extent on the conditions concerning the level of export prices dictated by the foreign company that is financing the investment (Ledyaeva, 2003). It should be noted that at the present stage this problem as a whole is not so relevant since the overwhelming share of world FDI is invested not in the extractive industry, but in services (WTO, World Investment Report, 2014).

Impact on imports and the development of import-substituting industries. Regarding the effect of FDI on imports, there can be two opposite effects. The first effect is an increase, especially at the initial stage of investing (ie, when an enterprise is created) importing equipment and spare parts to it; and in the case of setting up assembly production, the import of materials, raw materials, components, semi-finished products, etc. which are not produced in the receiving country or their quality does not meet the requirements of the foreign company.

The second effect is manifested in the long term when FDI contributes to the development of import-substituting industries, which, undoubtedly, will lead to a reduction in the country's imports under the corresponding items. When developing the substitution industries in the host country, an important aspect is to ensure a high level of use of local resources in production, otherwise, the significant import capacity of production will block all the benefits of import substitution.

In general, characterizing the influence of FDI on the development of foreign trade activity, the authors of empirical studies (for example, conducted by J. Sochinger and G. Harrison, R. Lensink and O. Morrissey) come to the conclusion that in various countries and sectors of the economy the impact of foreign direct investment on external trade of receiving countries is very different, though a consensus is gradually reached that the close link between FDI and foreign trade should be viewed in a more narrow context than the direct impact of the investment to import and export. The main foreign trade-related benefit for developing countries from FDI is determined by the fact: the longer term they will facilitate the closer integration of the country into the world economic system, which happens when the volumes of both imports and exports increase. In other words, it is increasingly recognized that trade and investment are becoming mutually reinforcing means of implementing cross-border activities.

1.5. Literature Review of FDI effect on Export

It is important to research the impact of foreign direct investment on the export of host country as export is considered to be a generator of economic growth. Many observations proved that FDI stimulates export in the receiving country by expanding local capital for export giving an opportunity to enter new and larger foreign markets; allowing renewing the technology of producing exporting goods and of course increasing the local labor force; implementing new technical and administration skills. Nevertheless, FDI doesn`t affect only in positive way. FDI can also lead to the decrease of national savings and investments bring technology that is not applicable to the receiving country and can only have worse effect on production focusing only on production for the domestic market, which will have no impact on export. FDI can be used just for the reason that the production in the receiving country is cheaper due to labor force and technology. By doing so FDI will not improve country`s competitive advantage and will just use it as a mechanism to make profit causing other companies to focus more on export not on the domestic market. Consequently, it can lead to the shortage of goods for the local consumers.

Iwasaki and Suganuma (2015) in the research of FDI and regional economic development in Russia by using econometric analyses valued the Cobb-Douglas production functions for the 71 regions of Russian Federation to find out whether FDI

effects on the regional economic development. The result illustrated that there was a close relationship between foreign direct investment and regional total factor productivity in Russian Federation.

Falchenko (2014) studied the role of transnational corporations and foreign direct investment on the receiving country`s economy using econometric analysis. In econometric model the author studied the influence of FDI on GDP and export of the receiving country offering two models: (1) the dependence of GDP on domestic investment and foreign investment of transnational corporations in the capital stock; (2) the dependence of exports of goods and services on the dynamics of domestic production and accumulated direct investment of TNCs in the host country. The econometric analysis for the first model displayed that domestic investment has more positive effect on the GDP of Russia. Foreign direct investment of TNC also affects positive on the economic growth but a little bit less than domestic investments. The calculations for the second model stated that growth of real GDP has a positive effect on the rise in export. If take the consideration the accumulated foreign direct investment, positive effect on the export growth might be noticed as the rise of FDI by 1% leads to the increase of export by 0,19%. Falchenko also suggests to improve the investment climate and liberalize domestic market to attract more investment, which will have a positive effect on the economic growth in general.

Yormirzoyev (2015) in his work studied the influence of FDI on economic growth in the case of transitional European economies and economies of CIS states. The author practiced an empirical approach using the World Bank and EBRD data for the 1992-2009 period. As a result of regression analysis, there was a high regression between FDI and economic growth in Central and Eastern European countries and CIS states.

In the study on the impact of FDI on Turkish trade with European countries Cetin and Taban (2009) research whether there is an influence of FDI from such major countries as Japan, the USA and the EU on the Turkish trade with the European countries. To analyze the relationship between FDI from mentioned three economies and trade of Turkey with European countries the authors built up two models of export supply and import demand. During the study, both Augmented Dickey-Fuller (ADF) and Phillips-Perron tests were used to examine the order of integration of the series included in the

analysis. To test if there is a long-run relationship or cointegration between variables or not the researchers decided to apply the Johansen and Juselius multivariate cointegration approach. The evaluation results of a long run export model illustrated that inward foreign direct investment from the USA, Japan, and the EU don`t have the same effect on Turkish export. If Japanese and the EU`s FDI increase Turkish export, FDI of the USA has the negative impact, which leads to the decrease of Turkish export to the EU market.

Thanh Xuan and Xing (2008) compiled the database of FDI that was actually distributed in Vietnam from 23 countries for the period between 1990 and 2004. Using data set the impact of FDI on the export of Vietnam was analyzed using gravity models. According to analysis, Vietnamese GDP rise by 1% leads to the rise of export by 3.21%. This displays that country is more export oriented. Industrial policy of a country, which promoted export sector was very successful, but the income of Vietnamese trade partners also has an impact on country`s export.

Concerning the research of the influence of FDI on the economic growth in Nigeria, Akinlo (2004) also used empirical analysis, applying Augmented Dickey-Fuller test and the Johansen–Juselius techniques. After examining the links between mentioned variables, the result indicated that FDI increased the economic growth after a considerable lag, and FDI made into the mining sectors, specifically oil may not be as effective as FDI made into manufacturing industries. To increase the economic growth, the government of Nigeria has to provide favorable investment climate for the manufacturing fields, which were closed to the investors previously. The country could also be benefited from the FDI into the oil sector but it is separated from the main economy. According to the researchers, a government should let some sectors to be privatized by domestic and foreign companies. Export has a positive effect on the economic growth and to increase it FDI has to be attracted because there are directly connected.

For Chinese economy, which is considered one of the leading economies in the world nowadays, many types of research on the impact of FDI on trade and economic growth have been made. In their study, Liu and Burridge et al (2002) were the first to analyze the influence of inward FDI into China on export. After implementation of multivariate

Granger casualty test in a cointegration framework, the result demonstrated that there was a two-way causal connection between FDI, export and economic growth and failure to explain cooperation between reviewed factors could lead to false results in the analysis of the relationships between mentioned variables.

Concerning the relationships between GDP, export and investment in the case of Iran, Morfad (2012) by comparing the long and short-term relationship between mentioned variables for the period of 1991-2008 used Johnson`s cointegrations test to determine the long term relationship between variables. According to the results for the long-term relationships FDI and export influence GDP at 95% confidence level, but FDI does not influence export. To test short-term relationship authors used vector error correction model. The results came out to be the same but for the short-term relationship, the amount of FDI and export variables is over the long-term equilibrium values. In short-term, FDI and export have a positive effect on GDP, domestic production has a positive effect on investment but negative on export. Export, in its turn, has a negative effect on investment but investment has a positive effect on export.

The same relationships also can be found in Szkorupova`s (2014) research for Slovakia in the period of 2001-2010. Quarterly data was tested by cointegration method and vector error correction model. Johanson test indicated a positive long-run relationship between FDI and GDP and between export and GDP. Unfortunately, the author did not study export and FDI relationship.

In the case of Croatia research made by Dritsaki and Stiakakis (2014) revealed no effect of FDI on the growth of Croatian economy but there was a strong bi-directional causal relationship between growth and export for both long and short term. In the study author used Auto Regressive Distributed Lag (ARDL) developed by Pesaran et al. for long-term relationships and vector error correction mode (VECM) for causal relationships. For unit root analysis ADF, PP KPSS DF-GLS and ERS-Point Optimal Tests were used.

For Least Developed countries, namely Angola, Benin, Burkina Faso, Central African Republic, Chad, Gambia, Haiti, Liberia, Madagascar, Malawi, Mauritania, Nijer, Rwanda, Senegal, Sierra Leone, Togo, Yemen and Zambia Tekin (2012) investigated potential Granger causality amount real GDP, real export and inward FDI for the mentioned economies. Panel-data way established in Konya (2006), which is based on

SUR systems and Wald test were used in the study. Findings of export and growth link expressed that both exports affects growth and growth effects export, but not for all countries.

Zhang and Felmingham (2001) determining the relationship between inward direct foreign investment and China`s provincial export trade tested the presence of unit roots by using Dickey-Fuller (ADF) and Phillips-Perron (PP) tests for stationary and Engle and Granger test for bivariate cointegration. For the research Granger test was limited and to overcome the limitation, Sims test was also used, which took into consideration both lags and leads, Granger in its turn failed to do it. The results of ADF and PP tests were incomplete, but the results of Engle and Granger bivariate cointegration test displays that there was no long-term equilibrium between FDI and export. As for the regions of China groped Granger and Sims causality test was used and according to the result, there was a relationship between inward FDI and export but not the same for all China regions.

Sims test, specifying a vector autoregressive mode (VAR), was also used in Stamatiou and Dritsakis (2012) work in FDI, export and economic growth relationship investigation for five European countries, which have been in recession during the last year before the research was done. For panel data unit root test Breitung, LLC, W-test, ADF-Fisher, PP-Fisher tests were used. Then the Hausman test was implemented to choose between FEM and REM estimations and after the Wald test to determine the Granger causality direction was applied. The result presented no influence of FDI neither on economic growth nor export, but there was an existence of strong bi-directional causality relations between export and economic growth.

Concerning the interrelationship between growth, export and FDI in Turkey Alici and Ucal (2003) also tested unit rood using the ADF test, but having low power, Philips-Perron (PP) test was also applied. After mentioned tests were applied authors chose Toda and Yamamoto procedure (Wald test), which led to a point where the usual test statistics for Granger causality exhibit standard asymptotic distributions. As a result, used VAR methodology revealed the absence of positive spillover from FDI to output. But authors offer that only with more Inflow FDI to Turkish Economy can be followed by a positive effect on output.

The similar study for Eight East and Southeast Asian economies was introduced by Hsiao (2006) using Granger causality test for the period of 1986-2004. Results, as in many above mentioned works, displayed the influence of FDI on GDP through export and multi-directional causality between export and GDP.

Eryigit (2012) investigated the long run relationships between FDI and export volume, FDI and Gross Domestic Products (GDP), and export volume and GDP through cointegration tests. 15 countries that regularly invest into Turkish economy were selected and the data set for the period of 200-2010 was used. The results revealed a long-term relationship between FDI and export, FDI and GDP and export and GDP.
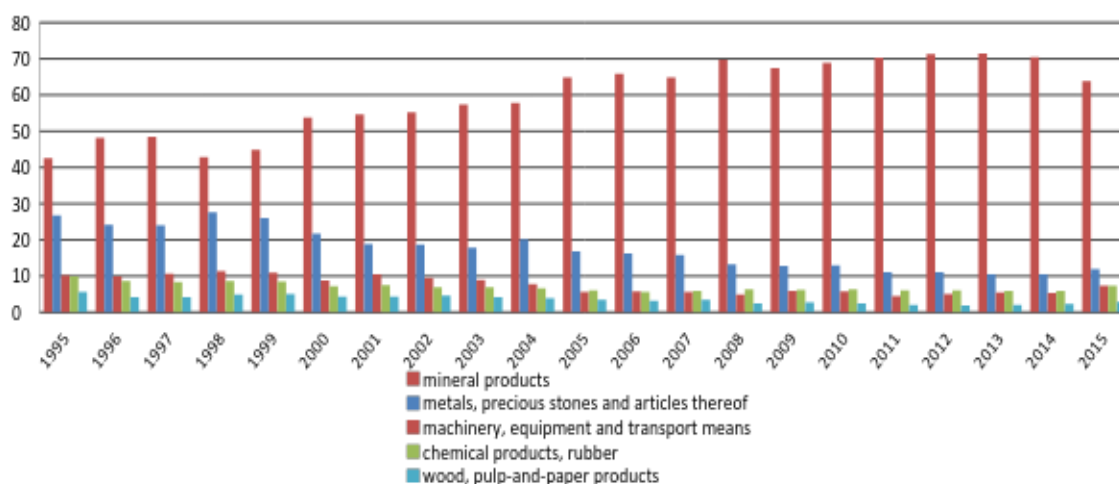
For Greece Dritsaki, et al (2004) also revealed a long-term relationship between FDI, export, and GDP, which was also checked by using Granger causality test.

CHAPTER 2. OBSERVATION OF RUSSIAN FEDERATION EXPORT AND FOREIGN DIRECT INVESTMENTS

Russian Federation is one of the largest countries in the world and its economy also has been growing rapidly after the collapse of Soviet Union. Despite numerous crises Russian Federation overcomes economic instability successfully. This chapter provides information on Russian Federation export and foreign direct investment over the last 20 years. Graphs and tables were formed on statistical data retrieved from UNCTAD and Russian Federation State Statistical Service.

2.1. Export Structure of Russian Federation

Graph 2.1. Commodity Structure of Export of The Russian Federation (% of Overall Export)

Source: Russian Federation Federal State Statistics Service

Dynamics of Russian Federation export by industries for the period of 1995-2015 show that during the whole period prevailing industry, which export has been at the average level of 60%, was mineral products industry. At the second place of exporting industry, which accounted average 25% of all exports, were metals and precious stones. Machinery, equipment, and transport means makes average 10%, chemical products, and rubber around 5% and wood, pulp-and paper products accounts for 3-4%.

Mineral products
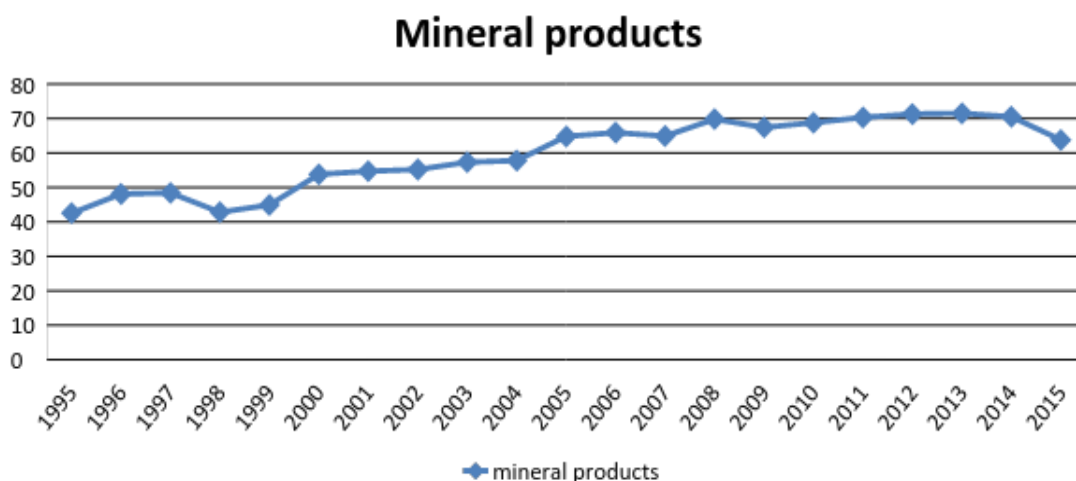
mineral products

Graph 2.2. Dynamics of Export of Mineral Products of RF

Graph 2.2 illustrates dynamics of export of mineral products over the last 20 years and it can be observed that the average trend is positive, except the period of 1998, 2009 and 2015, which can be explained by Russian financial crisis of 1998, World financial crisis of 2008 and the Ukrainian crisis of 2014. In spite of mentioned economic changes, a share of mineral products in total the export remains the same level in Russian export commodity.

The following are included in export of this product category:

- Crude oil and crude oil products obtained from bituminous rocks (53%);
- Oil and oil products obtained from bituminous rocks, except for crude (40%);
- Coal stone; briquettes, pellets and similar solid fuels derived from hard coal (4%);
- Gaseous oils and other gaseous hydrocarbons (2,6%);
- Electricity (0.3%);
- Coke and semi-coke from coal, lignite or peat, agglomerated or non-agglomerated; retorted coal (0.1%);
- Oils and other products of high-temperature distillation of coal tar (0.1%);
- Oil coke, petroleum bitumen and other residues from processing of oil or petroleum products obtained from bituminous rocks (0.1%);

- Petroleum jelly; Paraffin wax, microcrystalline wax, paraffin wax, ozocerite, brown wax, peat wax, other mineral waxes and similar products obtained as a result of synthesis or other processes, dyed or unpainted (0.1%);
- Lignite, or brown coal, agglomerated or non-agglomerated, except for the jet (0.04%).

Metals, precious stones and articles thereof
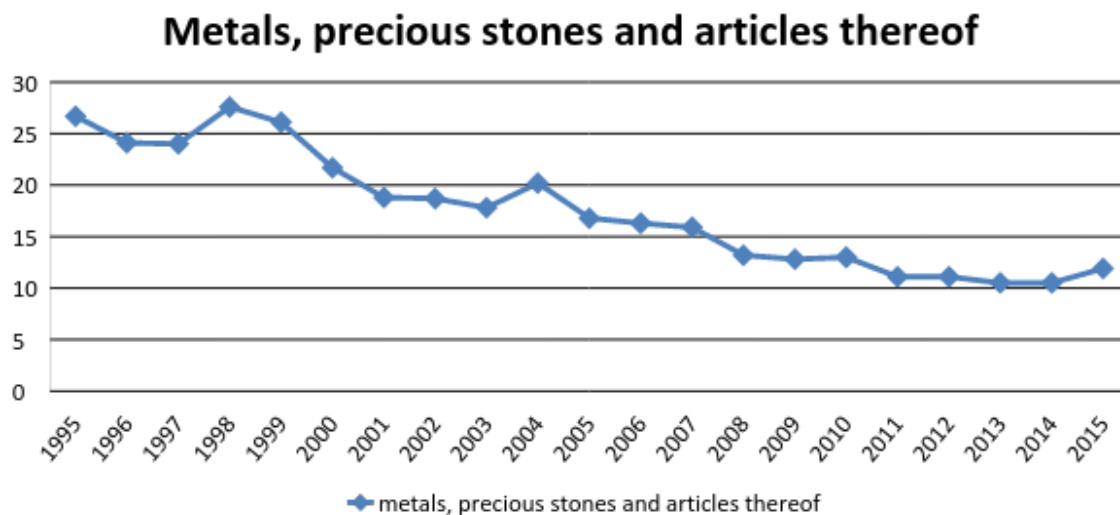
Graph 2.3. Dynamics of Export of Metals, Precious Stones and Articles Thereof of RF

Source: Russian Federation Federal State Statistics Service

The second commodity that Russian Federation export prevails at is metals, precious stones, and related articles. Nevertheless, the graph displays the decrease in total export in comparison with minerals the share of metals over the whole period since 1995. While all industries suffered a decline during the Russian Financial crisis, export share of metals and precious stones increased in 1998 and accounted for 28% of total export.

In 2015 export of Russian precious stones, metals and articles thereof decreased by 21% in comparison with 2014, to a volume of 40.9 billion US dollars (see Table 2.1). The positive balance of trade balance in 2015 amounted to $ 6.8 billion US dollars. In 2015, the Russian exports of precious stones, metals, and articles thereof amounted to 1.7% of the world volume, which put Russia ranked on 16th position of exporting countries of precious stones, metals, and metal products.

Table 2.1.

Export of Metals, Precious Stones and Articles Thereof for

The Period of 2000-2015 (bln. USD)

Year	2000	2005	2010	2011	2012	2013	2014	2015
Export volume	22.4	40.6	50.3	58.7	58.3	55.1	52.3	40.9

Source: Russian Federation Federal State Statistics Service

Product categories of this export are:

- Diamonds polished and not polished but not mounted or loose (50%);
- Gold (including platinum plated gold), untreated or semi-processed, or in powder form (19%);
- Platinum raw or semi-processed, or in powder form (13%);
- Other articles of precious metals or metals clad with precious metals (9%);
- Silver (including silver plated with gold or platinum), untreated or semi-processed, or in powder form (6%);
- Jewelry and their parts from precious metals or metals clad with precious metals (2%);
- Precious or semiprecious stones, artificial or reconstructed (1%);

Russia remains a major exporter of precious stones, metals and metal products, with export exceeding import by 13 times (Russian Exporters, 2016).

Chemical products, rubber
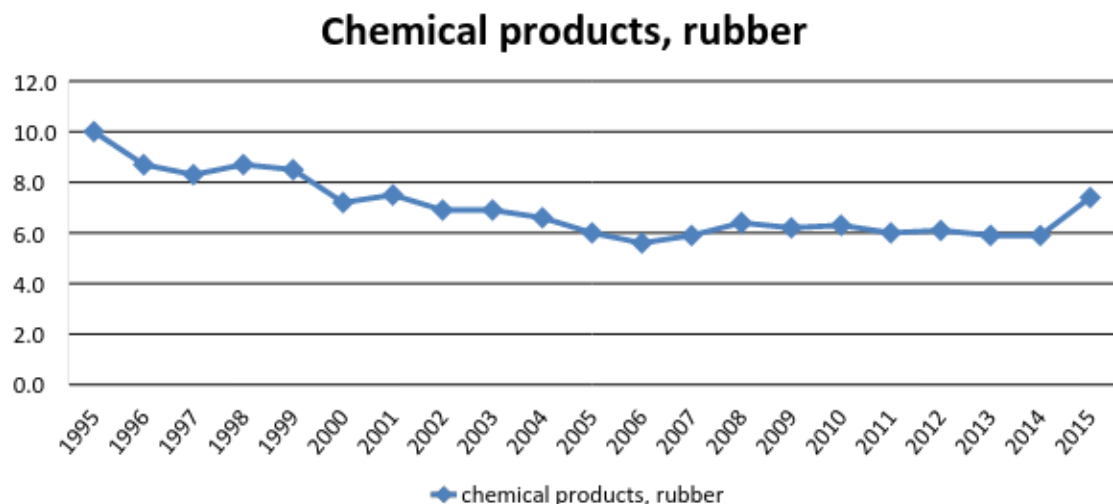
Graph 2.4. Dynamics of Export of Chemical Products and Rubber of Russian Federation

Source: Russian Federation Federal State Statistics Service.

Over the last ten years, the export share of chemical products and rubber almost remained at the same level, around 6% of the total. Nowadays, Russian Federation exports 40% of total chemical products produced. Due to export about half of the total revenue of chemical industry is formed. In some sectors such as potash and phosphoric fertilizers, caprolactam, xylenes and others, the indicator even exceeds 80%.

The main directions of Russian chemical products export are the CIS countries, the EU, and the Asia-Pacific region (APR). They account for about 80% of all exports.

It is important to note that, in respect of certain types of Russian chemical products, protectionist measures have been introduced in some countries (mainly in the form of anti-dumping duties) which narrow the sales markets. A list of Russian chemical and petrochemical products subject to export restrictions constantly replenishes with new products. Currently, restrictive measures apply to urea, potassium chloride, ammonium nitrate, a solution of carbamide-ammonium mixture (KAS), PVC, trichlorethylene, oxy alcohols, polytetrafluoroethylene (fluoroplastic), epichlorohydrin.

Among the countries introduced protectionist measures with respect to Russian chemicals are the USA, the EU countries, China, India, that is, countries with large volumes of markets.

In the medium term, Russian exporters of chemical and petrochemical products are waiting for additional tests. First of all, the introduction of the technical regulation REACH in the EU, obliging all suppliers of chemical and petrochemical products (including Russian exporters) to undergo an expensive procedure for testing for safety and subsequent registration in a specially created European Chemical Agency (ECHA).

Another serious problem is the toughening of competition in connection with the entry of new players to the world markets and the strengthening of the positions of traditional exporters as a result of increasing export potential. As the main competitors should be considered manufacturers from the Near and Middle East, who have stocks of cheap raw materials and use the latest technology to produce products that are part of the export nomenclature of the Russian chemical complex.

In near future a special role will be played by China, which has already become the world's largest producer of methanol, nitrogen and phosphate fertilizers, monoethylene

glycol products, which form the basis for the export of the chemical complex in Russia. For these products, China has already entered the world market and is actively conquering the Asia-Pacific region, which is also of considerable interest for Russian exporters (Russian Exporters, http://www.rusexporter.ru/export-features/686/, Access: 28.08.2017).

Machinery, equipment and transport means
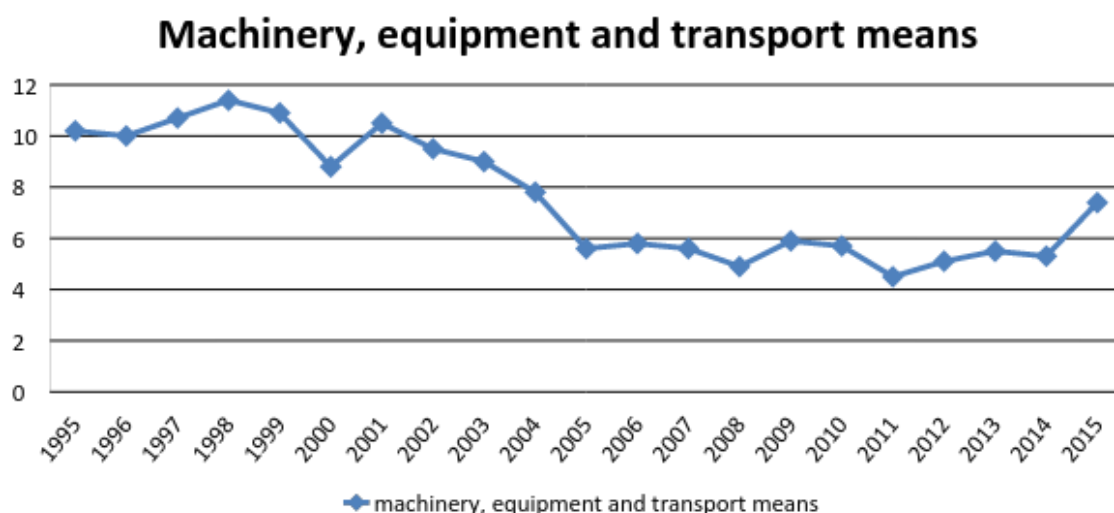
Graph 2.5. Dynamics of Export of Machinery, Equipment and Transport Means of RF

Source: Russian Federation Federal State Statistics Service.

It is generally accepted that Russia is a raw material exporter. However, according to statistical data, non-primary exports account for about half of the total exported output. Export of equipment from Russia today is an important article of international trade and in the near future it is planned to increase the share of exports of this group of goods.

Mechanical engineering is an important branch of Russian industry, which includes the production of various machines, equipment, and devices.

The share of machinery, equipment and transport means in total export of Russian Federation has been decreasing since 2001 and had an increase during the crisis of 2008 and in 2015. Nevertheless, if we look at the statistical data, it can be seen that over the past 15 years the amount has continuously increased, reaching 25.4 bln. UDS in 2015.

Table 2.2.

Export of Machinery, Equipment and Transport Means for

The Period of 2000-2015 (bln. USD)

Year	2000	2005	2010	2011	2012	2013	2014	2015
Machinery, equipment and transport means	9.1	13.5	21.3	26.0	26.6	28.8	26.4	25.4

Source: Russian Federation Federal State Statistics Service.

Wood, pulp-and-paper products

◆ wood, pulp-and-paper products
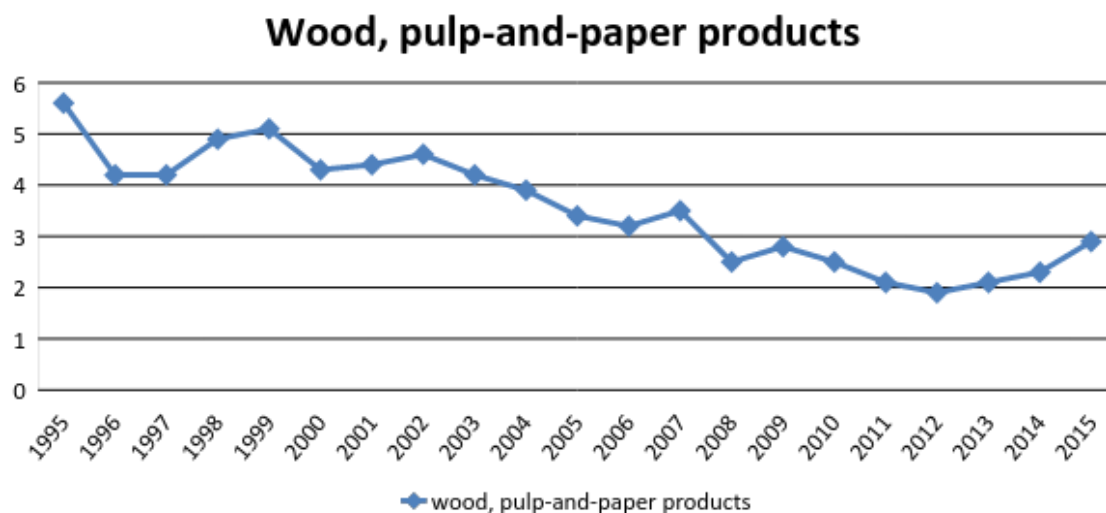
Graph 2.6. Dynamics of Export of Wood, Pulp-and-Paper Products of Russian Federation

Source: Russian Federation Federal State Statistics Service.

Export of wood and pulp-and-paper products always played an important role in the economy of forest complex of Russian Federation. Historically unprocessed timber was not in demand inside the country and most of the added-value wood is exported to more than 100 countries around the world. The graph illustrates the share of wood and pulp-and-paper products export share in total export of Russian Federation. Export of wood in 2015 in general retained last six years trend. In comparison with 2014, export volume decreased by 1.5 mln m^3 and export value decrease by 438 mln USD. The decrease of export value was caused by unfavorable price situation. So, from 2010 to 2013, the export price for processed timber was around 300 UDS/m^3, and in 2015 price fell till 214.5 UDS/m^3. However, negative consequences of such situation partially compensated by national currency devaluation, as producers cost is formed in rubles and profit – in USD dollars. Almost 60% of all timber products are exported to China,

around 30% to Europe and the rest 10% to other countries of the world (Koryakin and Golotovskaya, 2015).

Concerning the flow of FDI into Russian Federation, sectors, which attract most of the investments are processing production, wholesale and retail trade, mining and financial activity, insurance.

2.2. Structure of Foreign Direct Investments of Russian Federation

2.2.1. FDI Dynamics in Russian Federation

After the collapse of the Soviet Union in 1990s Russian Federation did not attract foreign direct investments immediately. Some signs of inflow FDI were noticed in the early 2000s, after Russia passed through the crisis in 1998 and when oil prices began to increase and economic activities started to prosper (Semenova, 2007).
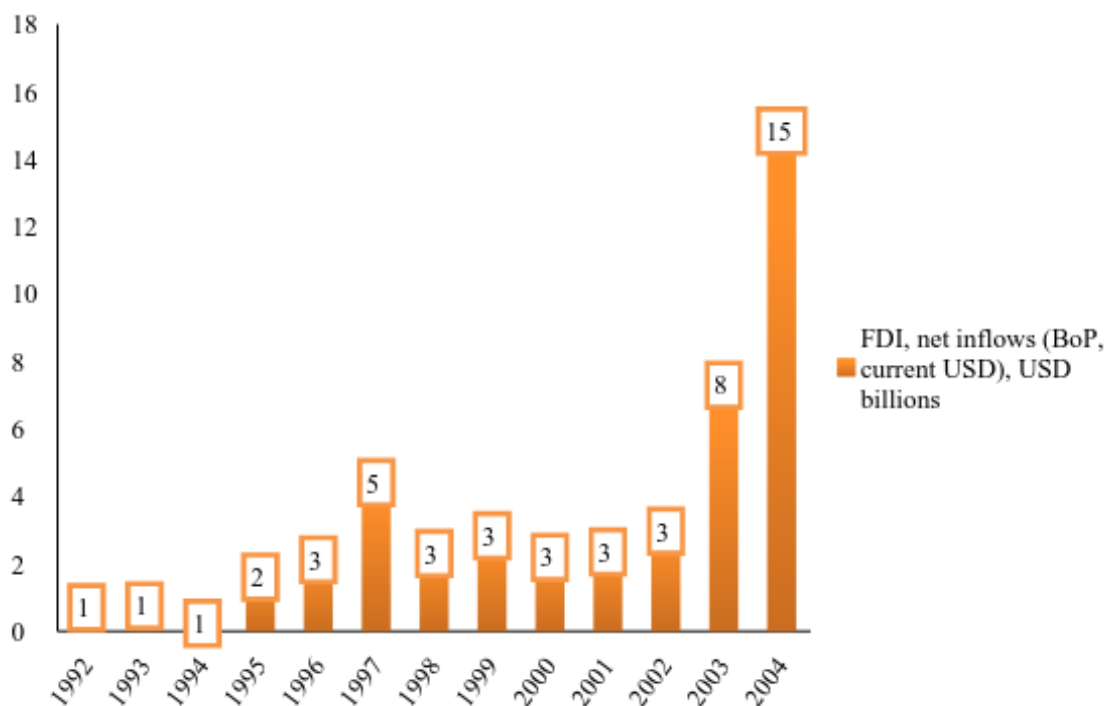
Graph 2.7. FDI Net Inflows Dynamics in Russian Federation (1992-2004) (BoP).

As it illustrated in the graph 2.8 within the period of 2005-2008 FDI inflows were expanding at a high pace but the growth changed to the fall in 2009 when Russia as the whole worlds` economies was influenced by the financial crisis of 2008. The FDI data

for 2009 showed numbers twice low then in 2008. The recovery after the financial crisis led to the steady growth of FDI.

FDI reduction in 2012 was noticed not only in Russia but in many other developing economies; but unlike other countries for Russia achievement was more essential than mere average reduction. While average world FDI decrease about 4% for developing countries, 18% for the World, it made only 8% for Russian Federation (World Trade Report, 2013).
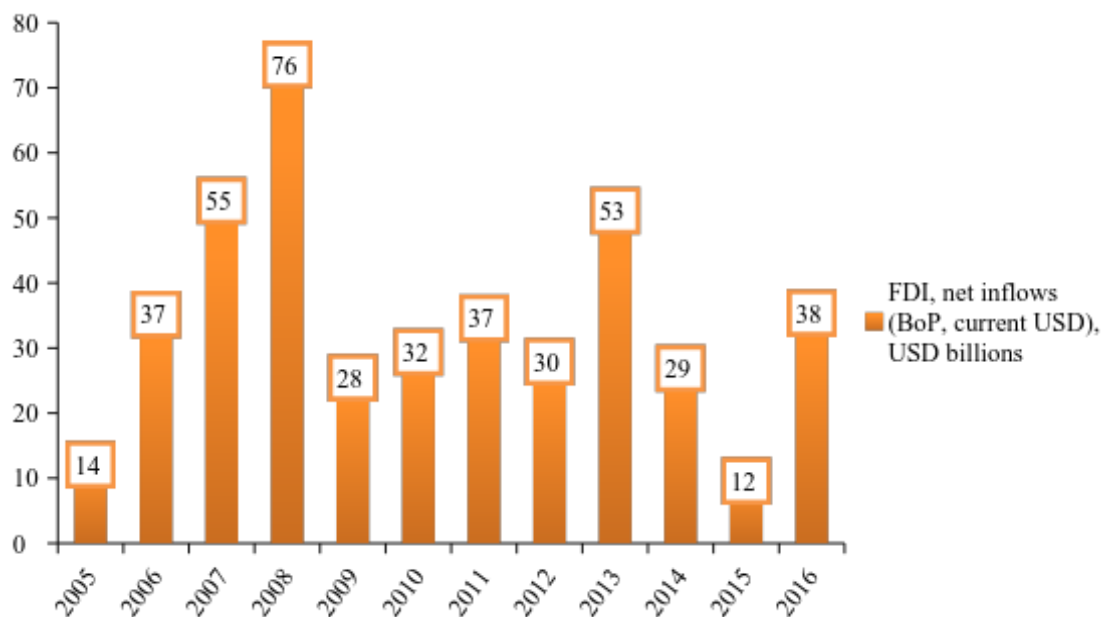
Graph 2.8. FDI Net Inflows Dynamics in Russian Federation (2005-2016) (BoP)

Source: UNCTAD, World Investment Report 2017.

Predominantly due to BP-Rosneft transaction Russian Federation saw the maximum point of FDI inflows in 2013. British Petroleum obtained 18,5% of Rosneft shares, which is considered one of the biggest Oil and Gas companies in the country. (http://www.bp.com/en_ru/russia/about-bp-in-russia/business.html, Access: 28.08.2017) If we don`t consider mentioned investment, there was a negative trend in inward FDI, which started in 2012.

In 2014 the crisis with the Ukraine, sanctions from European countries and the United States and poor investment climate led to quick FDI reduction. In the 3rd quarter of 2014, the FDI inflow to Russian Federation was three times less compared to the same period in 2013 (USD 69 billion in 2013 and USD 22 billion in 2014). So, Russia fell

from 5th place in the World to the 16th by FDI Inflows. 2014 was the 1st year when outward foreign direct investment stock went beyond inward FDI stock (UNCTAD, 2017).
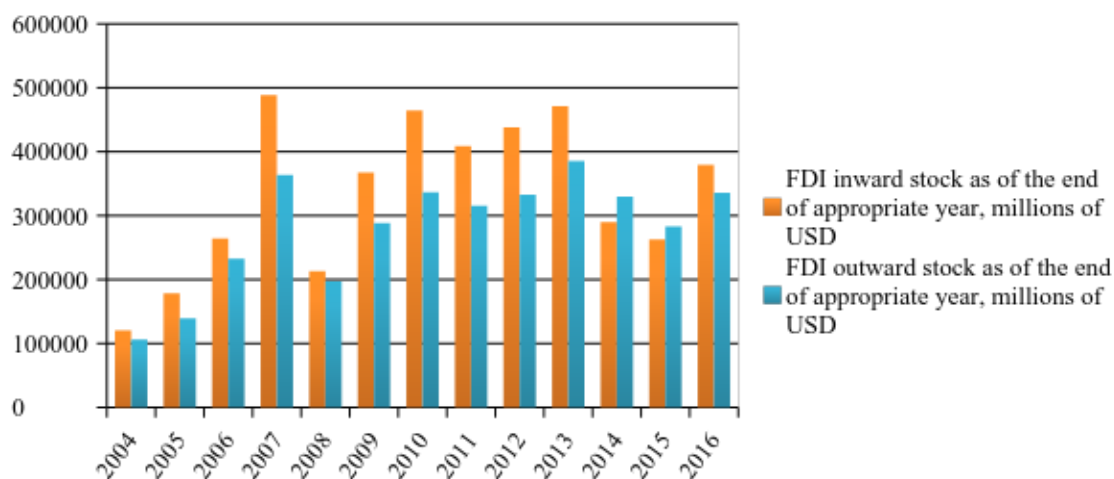
Graph 2.9. FDI Stock Dynamics in Russian Federation (2004-2016)

Source: UNCTAD, World Investment Report 2017

According to UNCTAD data on BoP, in 2015 there was a decrease in FDI inflows by 6.5 billion USD, which accounts approximately 70% slump in comparison with 2014. Nonetheless, as can be seen from the graph 2.9 the FDI stock both inward and outward increased by 36% therewith.

In 2015 quantity of inter-company credit compensation payments to foreign direct investors from Russian companies were considerably higher than the quantity of new credits provided, although equities shrunk compared to the quantity before a crisis (UNCTAD, 2017).
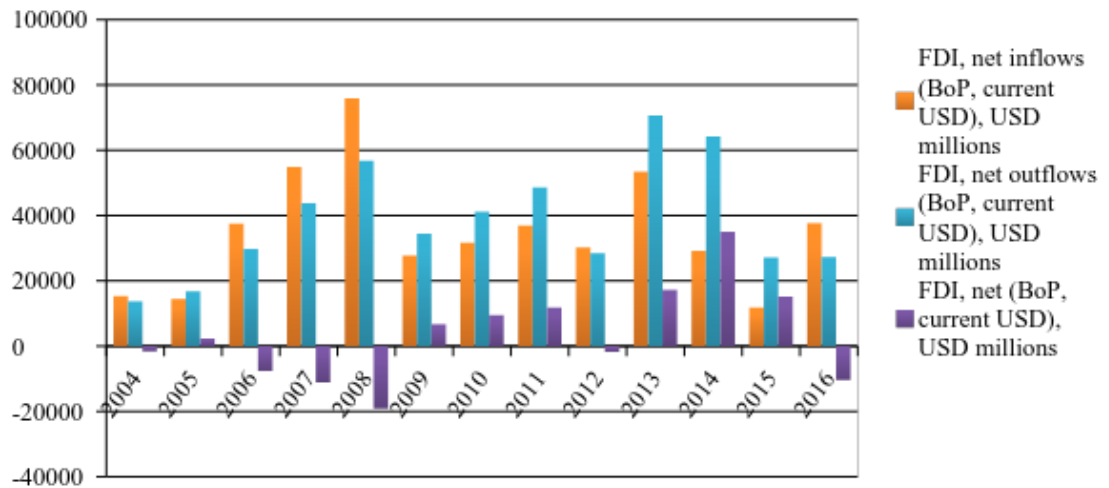
Graph 2.10. FDI Dynamics in Russian Federation (2004-2016)

Source: UNCTAD, World Investment Report 2017

2.2.2. Share of FDI in GDP

The financial crisis of 2008-2009 led to a considerable reduction of FDI inflows for almost all countries in the world, and, relatively in the FDI inflows share in GDP. Reduction at a new average around 3% was also noticed in Russian Federation (IMF, 2016).
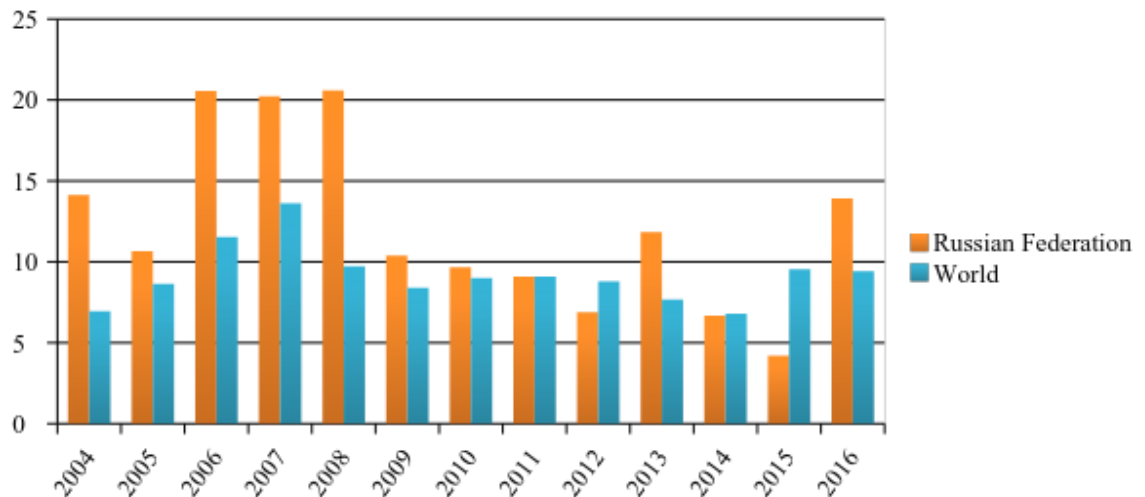
Graph 2.11. FDI Net Inflows Dynamics in the Russian Federation and the World, % of GDP (2004-2016)

Source: UNCTAD, World Investment Report 2017

Starting in 2009, FDI outflows have begun continuously over passing FDI inflows in Russian Federation, which was at the same time reflected by a steady difference between FDI inflow and outflows in GDP shares (Graph 2.12).
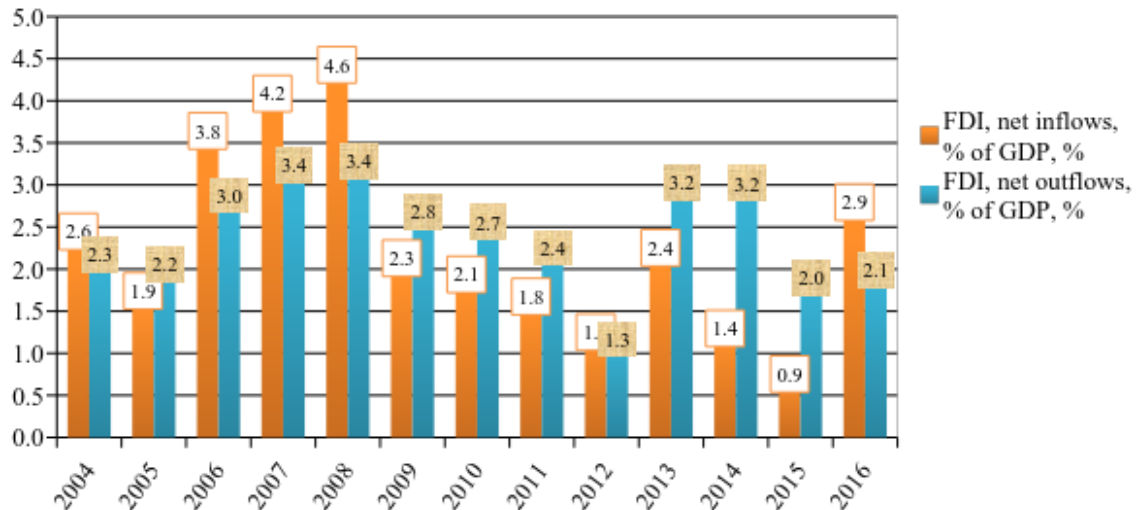
Graph 2.12. FDI Net Inflows and FDI Net Outflows Dynamics in Russian Federation as % of GDP (2004-2016)

Source: UNCTAD, World Investment Report 2017

As it was mentioned above due to BP – Rosneft transaction the dynamics of the share of FDI inflows in GDP was positive in 2013, but if we do not consider it, the difference between inward and outward FDI share in GDP for the considerable period would be greater.

The general reduction of investment activity, the presentation of sanctions following the Ukrainian crisis and sudden decline in oil prices led to the dramatic decrease of the share of FDI inflow in GDP. In 2016 the first time in many years the share of FDI inflow in GDP exceeded the share of FDI outflow (Graph 2.12).
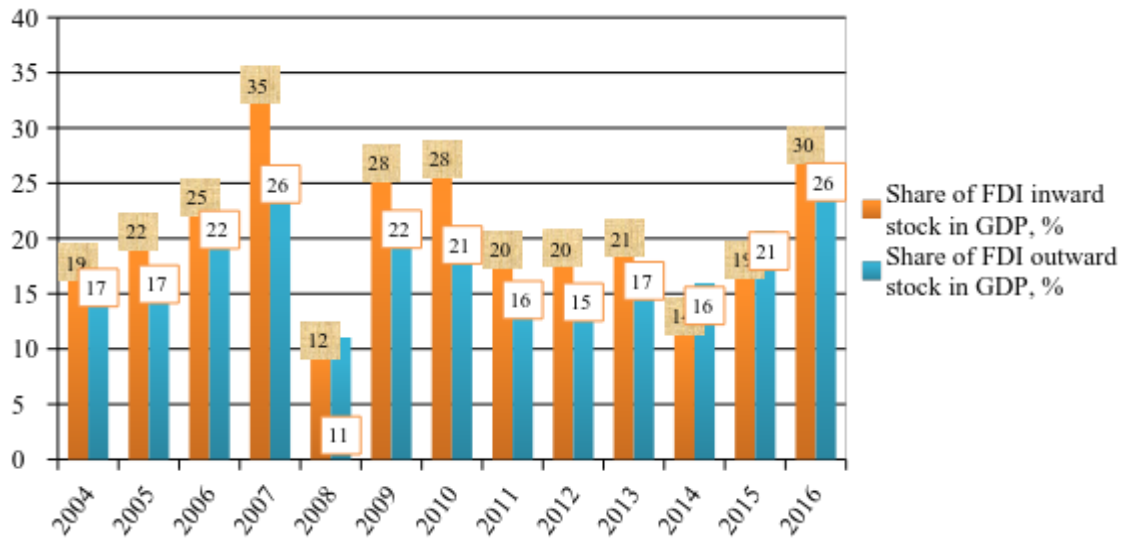
Graph 2.13. Shares of FDI Inward and Outward Stock in GDP Dynamics (2004-2016)

Source: UNCTAD (United Nations Conference on Trade and Development)

2.2.3. Share of FDI in Gross Fixed Capital Formation

The share of FDI inflows in gross fixed capital formation reduced in a big amount in 2009 in comparison to 2000s. The dynamics of FDI inflow and outflow share for the period between 2004 and 2016 are illustrated in the graph below. The average share in 2005-2007 was 18.7% and compared to the data in the graph we can see a dramatic decline. It reflected the continuous reduction of the investment climate, which in its turn led to the decline of investment interest to Russian Federation as an investment destination, as well as the shortage of motivation for the Russian offshore companies' owners to make reinvestment in Russia (UNCTAD, 2017).
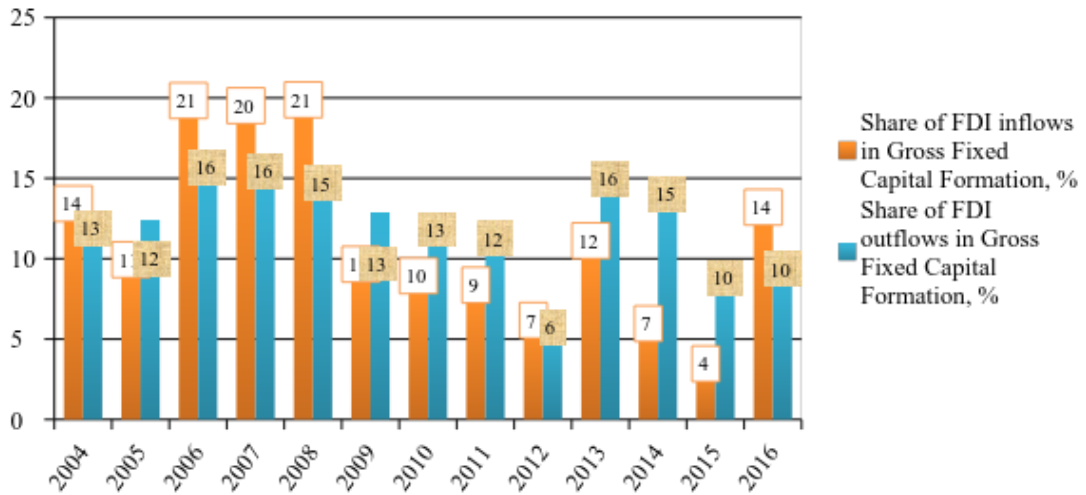
Graph 2.14. Shares of FDI Inflows and Outflows in Gross Fixed Capital Formation (2004-2016)

Source: UNCTAD, World Investment Report 2017

2.2.4. FDI Breakdown by Country

For the last ten years, a considerable share of FDI inflows in Russian Federation was not actually from foreign countries but from the offshore companies ruled by Russian businesses. In this situation, Russian businessmen were able to improve tax position and decrease risks of doing business in Russia. As the result, the same capital traveled from the country as export and came back as the investment. The top countries to invest into Russian Federation between 2014 and 2016 were Cyprus, Luxemburg, Netherlands, the Bahamas, and BVI.
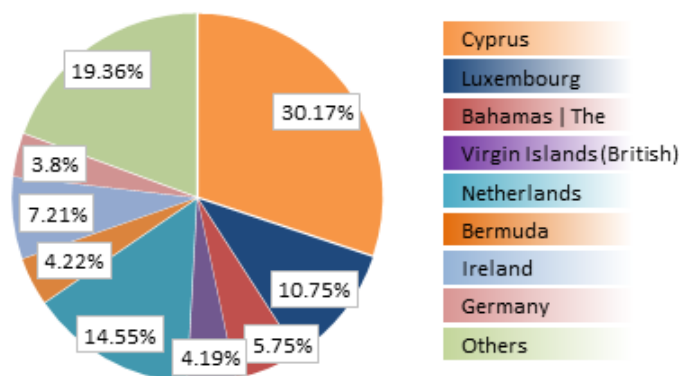
Graph 2.15. Russian FDI Inward Stock (Beginning of 2015), Breakdown by Country

Source: Central Bank of Russia.
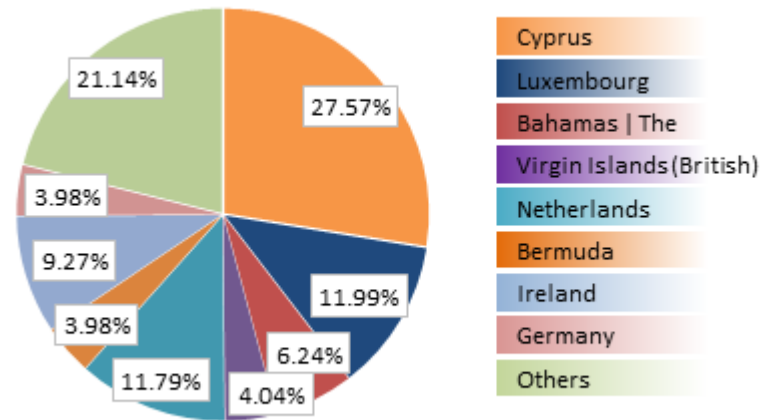
Graph 2.16. Russian FDI Inward Stock (Beginning of 2016), Breakdown by Country

Source: Central Bank of Russia
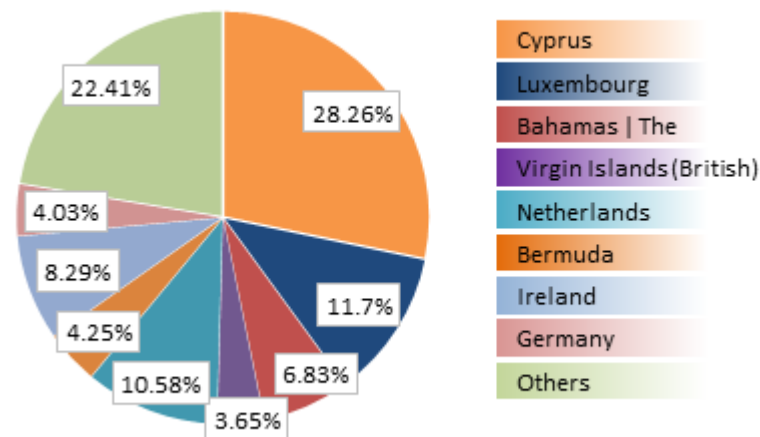
Graph 2.17. Russian FDI Inward Stock (end of 1st Quarter, 2016). Breakdown by Country

Source: Central Bank of Russia

In 2015 a new Federal Law was introduced and it launched strict rules regarding taxation and reporting of foreign businesses owned by Russian citizens.

It is considered that it will dramatically hit overall Russian FDI volumes in the following years, in addition to the influence of the low oil prices and international sanctions.

In fact, the introduction of the law on the controlled foreign companies led to diminishing Russian FDI stock originating from more transparent offshore jurisdictions, like Cyprus and Luxemburg, with the leading role in FDI inflows held by less transparent jurisdictions like the Bahamas, and BVI.

CHAPTER 3: EMPIRICAL ANALYSIS

This chapter consists of data and methodology of the current study and also the empirical analysis for the relation between export and foreign direct investment using Granger Casualty Test is presented below.

3.1. Data and Methodology

3.1.1. Data

For the empirical analysis the quarterly data of export, foreign direct investments and gross domestic product of Russian Federation from 1996 till 2016 has been used. The data for the analysis has been taken from different sources, as on September 1, 2013, Federal Law No. 251-FZ of July 23, 2013, "On Amending Certain Legislative Acts of the Russian Federation in Connection with the Transfer to the Central Bank of the Russian Federation of Authorities for Regulation, Control and Supervision in the Sphere of Financial Markets", entered into force according to which the Central Bank of the Russian Federation was given the functions of implementing official statistics on direct investment. In this regard, by the order of the Government of the Russian Federation No. 256-r dated February 25, 2014, from No. 1-INVEST "Information on investments in Russia from abroad and investments from Russia abroad" is excluded from the Federal Statistical Work Plan. Quarterly export (EX) is taken from Russian Federation Federal State Statistic Service together with quarterly GDP, which was provided in current and stable prices. For our analysis, we took GDP in current prices. Quarterly GDP was also provided in rubles and using average quarter dollar/ruble exchange rate the data was converted from Ruble to USD Dollar. Quarterly Foreign Direct Investment (FDI) was provided by Central Bank of Russian Federation. To fulfill empirical analysis the data has been presented as times series.

3.1.2. ADF Test and Existence of Unit Root

Time series should be checked for the existence of unit root to choose method for defining the impact of FDI on Export of Russian Federation.

The verification of the presence of unit roots is the problem of testing the main hypothesis of the form

H0: $\rho = 0$ in the first-order autoregressive model:

$$Yt = a + \rho y_{t-1} + \varepsilon_t.$$

For the given series the following assumptions are valid:

The time series y_t will be stationary if $-1 < \rho < 1$;

The time series y_t will be nonstationary and is a model with a random trend if $\rho = 1$;

The time series y_t will also be nonstationary if $\rho > 0$.

Based on above statements, we come to the conclusion that the hypothesis of stationarity of the time series y_t consists in testing the main hypothesis $H_0: \rho = 1$ (Erdinch, Access: 15.07.2017).

The Dickey-Fuller criterion is used in testing the hypothesis of the presence of unit roots.

In this case, the main hypothesis $H_0 : \rho = 1$ for the first-order autoregression model is proposed:

$$Y_t = a + \rho y_t - 1 + \varepsilon_t.$$

At the next stage, this model of autoregression is not estimated, but the model that is obtained after the transition to the first differences:

$$\Delta y_t = \delta y_t - 1 + \varepsilon_t,$$

$$\text{Where } \delta = \rho - 1.$$

Checking the basic hypothesis of H0: $\rho = 1$ for the initial model of first-order autoregression is the same as testing the hypothesis H0: $\delta = 0$ for the model obtained. This hypothesis can be tested for three types of regression equations:

$\Delta y_t = \delta y_{t-1} + \varepsilon_t;$ 　　　　　　　　　　　　　　　　　　　　　　　　　(1)

$\Delta y_t = a + \delta y_{t-1} + \varepsilon_t;$ 　　　　　　　　　　　　　　　　　　　　　　　(2)

$\Delta y_t = a + \delta y_t - 1 + \beta_t + \varepsilon_t.$ 　　　　　　　　　　　　　　　　　　　(3)

These regression models differ only in the presence of a and β_t (Dickey, 1984).

The first model will be a random trend model, the second model includes the random term a, which is the coefficient of the random trend. The third model includes both the coefficient of the random trend and the coefficient of the linear time trend β_t.

Testing the main hypothesis H0: $\delta = 0$ consists in estimating by one-of-the-least-squares one or more of regression models 1, 2, 3 to obtain an estimate and its standard error.

The observed value of the t-test for testing the basic hypothesis H0: $\delta = 0$ consists in estimating by one-of-the-least-squares one or more of the regression models 1, 2, 3 to obtain an estimate $\tilde{\delta}$. and its standard error.

The observed value of the t-test for testing the basic hypothesis H0: $\beta = 0$ is calculated by the formula:

$$t_{obs} = \frac{\tilde{\delta}}{\omega(\widetilde{\delta})}$$

Where:

$\omega(\delta)$ is a standard estimation error δ

In this case, the critical value of the t-test cannot be determined from the Student's distribution table. Dickey and Fuller conducted a research, as a result of which the critical values of the t-test were determined to test the hypothesis H_0: $\delta = 0$, depending on the type of regression model and the volume of the sample population. The statistics data are denoted as τ for the first regression model, $\tau\mu$ for the second regression model, and τx for the third regression model. It is worth noting that they are listed in the graph of critical values of the Dickey-Fuller statistics for different significance levels (Winner, 2003).

When testing the hypothesis of the presence of more than first order in the autoregressive time series, the Augmented Dickey-Fuller Test (ADF) criterion is used.

The autoregression process of order p can be written as follows:

$$\Delta y_t = a + \delta y_{t-1} + \beta t + \sum_{i=2}^{p} \varphi_i \Delta y_{t-i+1} + \varepsilon_t$$

The basic hypothesis is formulated as H0: δ = 0. If this hypothesis is correct, then this autoregression model has a unit root, i.e. it obeys the first-order autoregression process.

The basic hypothesis H0: δ = 0 is checked for different types of regression equations:

$$\Delta y_t = \delta y_{t-1} + \sum_{i=2}^{p} \varphi_i \Delta y_{t-i+1} + \varepsilon_t; \ (1)$$

$$\Delta y_t = a + \delta y_{t-1} \sum_{i=2}^{p} \varphi_i \Delta y_{t-i+1} + \varepsilon_t; \ (2)$$

$$\Delta y_t = a + \delta y_{t-1} + \beta t + \sum_{i=2}^{p} \varphi_i \Delta y_{t-i+1} + \varepsilon_t; \ (3)$$

The validity of the main hypothesis is checked with the help of the τ statistic for the first regression model (in the absence of intercept and a temporary trend).

The validity of the basic hypothesis is verified with the help of the τμ statistics for the second regression model, including intercept.

The validity of the main hypothesis is checked using the statistics τx for the third regression model, including intercept and the time linear trend.

If the sum of the coefficients of the regression model of the form

$$\Delta y_t = a + \delta y_{t-1} + \beta t + \sum_{i=2}^{p} \varphi_i \Delta y_{t-i+1} + \varepsilon_t$$

Is equal to one, i.e.,

$$\sum_{i=1}^{p} a_i = 1, then \ parameter \ \delta = 0,$$

That is, there is a unit root in this model (Dickey, 1999).

3.2. Econometric Analysis

3.2.1. Stationerity of Times Series

At first stage of our econometric analysis we have to check if our time series stationary or non-stationary. In to order it unit root test has to be applied. Time series will have unit root or integration order one, if its first differences generate stationary series. This

condition is written as yt~I(1)if the row of first differences $\Delta y_t = y_t - y_{t-1}$ is stationary yt~I(0).

Using this test, we check the value of the coefficient a in the first –order auto regression equation AR(1):

$$y_t = a y_{t-1} + \varepsilon_t$$

Where: y_t – time series, ε – error.

If a=1, then the process has unit root, in this case series y_t is non-stationary and integrated time series of first order – I(1). If a<1, then series is stationary – I(0).

The reduced autoregressive equation AR(1) can be rewritten in the form:

$$y_t = a y_{t-1} + \varepsilon_t$$

Where b=a-1 and Δ-operator of the difference of first order.

Therefore, testing the hypothesis of the unit root test in mentioned representation means checking the null hypothesis of that coefficient b is 0. Since the case of "explosive" processes is excluded, the test is one-sided, that is, the alternative hypothesis is the hypothesis that the coefficient b is less than zero. The test statistic (DF-statistics) is a common t-statistics for checking the significance of linear regression coefficients. However, the distribution of this statistics differs from the classical distribution of t-statistics (Students`s distribution or asymptotic normal distribution). The distribution of DF statistics is expressed through a Wiener process and is called the Dickey- Fuller distribution.

There are three types of tests (test regressions):

1. Without constant and trend (none):
$$\Delta y_t = b y_{t-1} + \varepsilon_t$$

2. With constant, but without trend:
$$\Delta y_t = b_0 + b y_{t-1} + \varepsilon_t$$

3. With constant and linear trend:
$$\Delta y_t = b_0 + b_1 t + b y_{t-1} + \varepsilon_t$$

If we add lags of the first differences in the time series to the test regressions, the distribution of the DF statistics (and hence the critical values) will not change. This test is called the Augmented Dickey-Fuller test (ADF), which is commonly used in many works for finding a unit root.

The necessity of including the lags of the first differences is due to the fact that the process can be an autoregression of not of the first but of a higher order. Let`s consider the following model AR(2):

$$y_t = a_1 y_{t-1} + a_2 y_{t-2} + \varepsilon_t$$

This model can be represented as:

$$\Delta y_t = (a_1 + a_2 - 1) y_{t-1} - a_2 \Delta y_{t-2} + \varepsilon_t$$

If the time series has one unit root, then the first differences are by definition stationary. And since y_{t-1} is nonstationary by assumption, then if the coefficient of it is not equal to zero, the equation is contradictory. Thus, from the assumption of first-order integration for such a series it follows that (a1+a2-1) =0. Thus, to check the presence of unit roots in this model, a standard DF test for the coefficient at y_{t-1} should be carried out, and the lag of the first difference of the dependent variable must be added to the test regression. In addition to this reason, there is also another reason as model errors may not be white noise, but rather be some stationary ARMA process, so we should check the presence of a single root for several lags. It should, however, be taken into account that an increase in the number of lags leads to a decrease in the power of the test. Usually limited to three or four lags.

ADF-test if export time series have a unit root test at level for lag length 5 and 4, which were chosen automatically based on AIC, gave us the following results (Table 1.1). As we don't know yet which test equation to use, we did ADF test for all equations:

Table 3.1.

The result of ADF test for EXP

	None		Constant		Constant and linear trend	
	t-statistics	Prob.	t-statistics	Prob.	t-statistics	Prob.
EXP	-2.869788	0.0046**	-4.545930	0.0004	-4.751975	0.0004

*Meaningful on 1% level, **Meaningful on 5% level, ***Meaningful on 10% level

From the Table 3.1 we see that p-value for all types of equation is below 0.05 or 5% level and meaningful at 1%, 5% and 10% level for constant and constant and linear trend equation, and at 5% and 10% level for equation without constant and trend (none). When we have probability at 95% level we can reject the null hypothesis and say that the series is stationary. As stationarity of the time series was detected at level, there was no need to fulfill 1st and 2nd differences tests. The result of the test meets requirements and it can be concluded that EXP time series is stationary.

Table 3.2.

The results of ADF test for FDI

	None		Constant		Constant and linear trend	
	t-statistics	Prob.	t-statistics	Prob.	t-statistics	Prob.
FDI	-5.538622	0.0000	-5.763659	0.0000	-5.615615	0.0001

*Meaningful on 1% level, **Meaningful on 5% level, ***Meaningful on 10% level

For FDI time series the p-vaue is almost 0 for all equations and it`s meaningful at all levels. FDI time series is stationery.

Table 3.3.

The results of ADF test for GDP

	None		Constant		Constant and linear trend	
	t-statistics	Prob.	t-statistics	Prob.	t-statistics	Prob.
GDP	-1.355499	0.1610	-3.770198	0.0048	-2.400029	0.3763

As for GDP results, time series is stationery only in constant equation, as p-values is below 0.05 and meaningful at 1%,5% and 10% level. As for none and constant/linear trend equation, the result showed that row is non-stationery and not meaningful at 1%, 5% and 10% level. But stationarity at in constant equation is enough to process to Granger casualty test.

3.2.2. Granger Test and Results

The essence of the method proposed by Granger will be explained below. Suppose that there are records of oscillations of two systems-the series $\{x_n\}_{n=1}^{N}$ from the system X and the series $\{y_n\}_{n=1}^{N}$ from the system Y, where n (n = 1, 2, ..., N) is a discrete time, length of rows. Based on the analysis of the realizations $\{x_n\}_{n=1}^{N}$ and $\{y_n\}_{n=1}^{N}$, which generally contain noises, it is also necessary to determine whether the system Y affects

the system X or not. At the first step an individual model (dynamic system) is constructed:

$$x_{n+\tau}^{'} = f\left(x_n, x_{n-1}, \dots, x_{n-(D_S-1)l}, c^S\right), \quad (1.1)$$

where xr` is a predicted value at time n, and may differ from the measured values x_n, f - approximating function (if it is not linear, the method is called nonlinear Granger causality), l - lag model (the number of discrete time steps between a number of points constituting D_s which is a dimensional model state vector x_n (x_n, x_{n-1}, ..., $x_{n-(Ds-1)l}$), τ is a prediction distance (the distance in time between the predicted point and the closest point of the state vector), D_s - dimension individual models (the number of points in the time series that make up hector state, which is reconstructed by the time delays), c^s - unknown coefficient vector which is selected by the method of least squares so as to minimize the mean square error of approximation (1.1):

$$\varepsilon_S^2 = \frac{1}{N} \qquad \sum_{n=\tau+(D_S-1)l+1}^{N}\left(x_n^{'} - x_n\right)^2 \qquad (1.2)$$

The next step is the construction of a joint model in which, in addition to the data from the series $\{x_n\}_{n=1}^N$, we use Da terms from the series $\{y_n\}_{n=1}^N$:

$$x_{n+\tau}^{''} = g\left(x_n, x_{n-1}, \dots, x_{n-(D_S-1)l}, y_n, y_{n-1}, \dots, y_{n-(D_a-1)l}, c^j\right) \quad (1.3)$$

Where xn`` is the value predicted by the model, and c^j are the coefficients of the joint model. The minimized mean square error of the forecast of the joint model, similarly to (1.2), looks like:

$$\varepsilon_j^2 = \frac{1}{N} \qquad \sum_{n=\tau+(\max(D_S,D_a)-1)l+1}^{N}\left(x_n^{''} - x_n\right)^2 \qquad (1.4)$$

For $\varepsilon_j^2 < \varepsilon_S^2$ we say that Y acts on X (the systems are connected). (Lin, 2008)

As a measure of connectivity, as a rule, *the index of improving the forecast* is used:

$$PI = 1 - \frac{\varepsilon_j^2}{\varepsilon_S^2}. \quad (1.5)$$

If PI = 0 (accounting for the Y signal did not help in the prediction of X), then it is assumed that Y does not work on X. If P I → 1 (taking Y into account significantly improved the prediction of X), consider that Y affects X.

Practice shows that the choice of the parameters of the described procedure (lag l, forecast range τ, dimensions D_s and D_a, the form of the nonlinear functions *f* and *g*) essentially determines the operability of the method. For example, the use of too small or too large values of τ can lead to a large number of errors like positive conclusions about the existence of a connection when it is actually absent. Neglecting non-linearity in modeling often leads to the fact that real connections are not detected. The efficiency of the method can be achieved by developing specialized technologies for its implementation for a selected rather narrow class of systems, based on additional considerations, for example, a priori information on the properties of the system under investigation, or based on the results of analytical and numerical analysis of basic (reference models for this class) models. As already mentioned, we do this for systems in the movement of which there are characteristic temporal realizations (Hansen, 2005).

In order to determine lag length for VAR models we implied (LR) Sequential modified, LR test statistic ,(FPE) Final prediction error, (AIC) Akaike information criterion, (SC) Schwarz information criterion, (HQ) Hannan-Quinn information criterion and the results can be seen in Table 3.4.

Table 3.4.

Lag Length for EXP-FDI

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-180.8233	NA	0.479706	4.941169	5.003441	4.966010
1	-179.9762	1.625400	0.522421	5.026385	5.213201	5.100908
2	-176.1043	7.220621	0.524402	5.029846	5.341206	5.154051
3	-170.7136	9.761580	0.505422	4.992259	5.428163	5.166146
4	-149.3064	37.60713	0.316150	4.521796	5.082244	4.745365
5	-136.3374	22.08245*	0.248596*	4.279389*	4.964381*	4.552641*
6	-133.2742	5.050111	0.255718	4.304708	5.114245	4.627642
7	-132.0658	1.926858	0.276869	4.380158	5.314238	4.752774

* indicates lag order selected by the criterion; LR: sequential modified LR test statistic (each test at 5% level); FPE: Final predictionerror; AIC: Akaikein formation criterion; SC: Schwarzin formation criterion; HQ: Hannan-Quinnin formation criterion

Table 3.5.

Lag Length for GDP-FDI

Lag	LogL	LR	FPE	AIC	SC	HQ
0	-188.7045	NA	0.593584	5.154175	5.216447	5.179016
1	-187.5229	2.267320	0.640622	5.230349	5.417165	5.304872
2	-178.8045	16.25864	0.564104	5.102824	5.414185	5.227030
3	-172.8393	10.80179	0.535311	5.049712	5.485616	5.223599
4	-147.4813	44.54794	0.300933	4.472467	5.032915	4.696037
5	-135.1915	20.92588*	0.241015*	4.248418*	4.933410*	4.521670*
6	-132.8201	3.909492	0.252599	4.292436	5.101973	4.615370
7	-130.0489	4.418975	0.262181	4.325646	5.259727	4.698263

* indicates lag order selected by the criterion; LR: sequential modified LR test statistic (each test at 5% level); FPE: Final predictionerror; AIC: Akaikein formation criterion; SC: Schwarzin formation criterion; HQ: Hannan-Quinnin formation criterion

Table 3.6.

Lag Length for GDP-EXP

Lag	LogL	LR	FPE	AIC	SC	HQ
0	110.0132	NA	0.000185	-2.919277	-2.857004*	-2.894435
1	113.3453	6.394035	0.000188	-2.901225	-2.714409	-2.826702
2	118.0818	8.832829	0.000185	-2.921129	-2.609769	-2.796924
3	124.5388	11.69236	0.000173	-2.987534	-2.551630	-2.813646
4	136.4128	20.85975	0.000140	-3.200345	-2.639897	-2.976775
5	144.8329	14.33703*	0.000125*	-3.319809*	-2.634816	-3.046557*
6	148.1017	5.389111	0.000127	-3.300047	-2.490510	-2.977113
7	150.5003	3.824740	0.000134	-3.256765	-2.322684	-2.884148

* indicates lag order selected by the criterion; LR: sequential modified LR test statistic (each test at 5% level); FPE: Final predictionerror; AIC: Akaikein formation criterion; SC: Schwarzin formation criterion; HQ: Hannan-Quinnin formation criterion

From Tables 3.4, 3.5, 3.6 it can be seen that lag length is 5 almost for all variables. Only for GDP-EXP lag length Schwarzin formation criterion gives lag 1, but as Akaikein formation criterion gives lag 5, we will rely on it and continue analysis with VAR(5) models.

Table 3.7.

Results for Diagnostic Tests Related to VAR models.

Component	Skewness	Chi-sq	df	Prob.
1	-0.269603	0.920689	1	0.3373
2	-1.926490	47.01062	1	0.0000
Joint		47.93131	2	0.0000
Component	Kurtosis	Chi-sq	df	Prob.
1	3.260458	0.214822	1	0.6430
2	15.25570	475.6400	1	0.0000
Joint		475.8549	2	0.0000
Component	Jarque-Bera	df	Prob.	
1	1.135511	2	0.5668	
2	522.6507	2	0.0000	
Joint	523.7862	4	0.0000	

And AR roots are inside the circle means that as we proved before the time series is stationary.
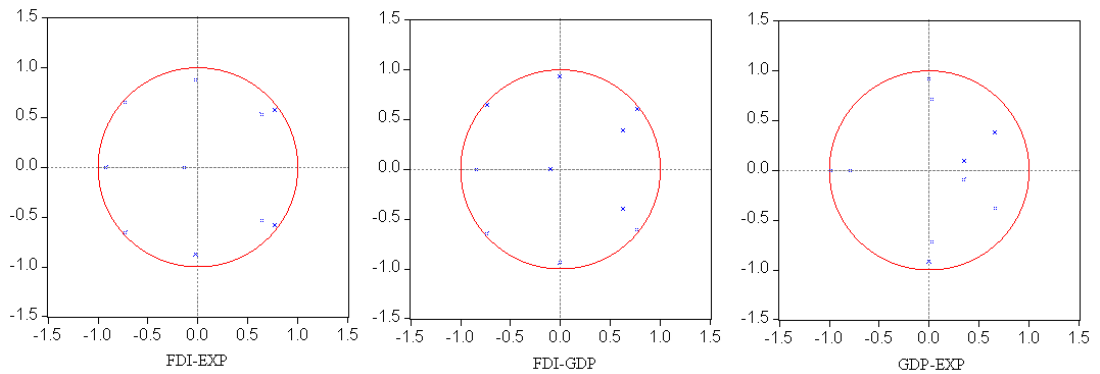
Graph 3.1. Inverse Roots of AR Characteristic Polynomial

In addition, Table 3.8, it is seen that the autocorrelation-LM test results do not include error terms in all equations with 5 percent significance level.

Table 3.8.

Autocorrelation-LM Test Results for FDI-EXP

FDI-EXP		
Lags	LM-Stat	Prob
1	4.897494	0.2980
2	4.686164	0.3210
3	3.053519	0.5489
4	10.29909	0.0657
5	0.746644	0.9455
6	5.664184	0.2257
7	2.278491	0.6847
8	1.951960	0.7446
9	2.046018	0.7273
10	1.876317	0.7585
11	1.050859	0.9020
12	5.765421	0.2174
Probs from chi-square with 4 df.		

Table 3.9.

Autocorrelation-LM Test Results for FDI-GDP

Lags	LM-Stat	Prob
1	4.897494	0.2980
2	4.686164	0.3210
3	3.053519	0.5489
4	10.29909	0.0657
5	0.746644	0.9455
6	5.664184	0.2257
7	2.278491	0.6847
8	1.951960	0.7446
9	2.046018	0.7273
10	1.876317	0.7585
11	1.050859	0.9020
12	5.765421	0.2174
Probs from chi-square with 4 df.		

Table 3.10.

Autocorrelation-LM Test Results for GDP-EXP

Lags	LM-Stat	Prob
1	3.223942	0.5211
2	2.264159	0.6873
3	8.739086	0.0680
4	3.471887	0.4822
5	2.108891	0.7157
6	3.539287	0.4719
7	4.078863	0.3954
8	4.346244	0.3612
9	2.529183	0.6394
10	2.123669	0.7130
11	1.975404	0.7403
12	2.999593	0.5579
Probs from chi-square with 4 df.		

Tables 3.8, 3.9 and 3.10 indicates that there is no correlations between the analyzed variables.

After applying Walt test for Granger Causality for FDI-EXP relations, the results indicated in Table 3.11 were obtained.

Table 3.11.

Wald test for Granger Causality for the relation between FDI and EXP

Dependent variable: EXP			
Excluded	Chi-sq	df	Prob.
FDI	16.46010	5	0.0056
All	16.46010	5	0.0056
Dependent variable: FDI			
Excluded	Chi-sq	df	Prob.
EXP	0.359855	5	0.9964
All	0.359855	5	0.9964

Table 3.11 shows that FDI effects EXP at the level around 99% in 5 lags, that mean that foreign direct investment will affect export in five quarters and export will change on sixth quarter. Regarding EXP-FDI relationship, EXP doesn`t affect FDI as probability is more than 5%.

Table 3.12.

Wald test for Granger Causality for the relation between FDI and GDP

Dependent variable: GDP			
Excluded	Chi-sq	df	Prob.
FDI	19.41042	5	0.0016
All	19.41042	5	0.0016
Dependent variable: FDI			
Excluded	Chi-sq	df	Prob.
GDP	1.174873	5	0.9473
All	1.174873	5	0.9473

Table 3.12 indicates that FDI affects GDP at 99% level and GDP does not affect FDI as probability is around 6%.

Table 3.13.

Wald test for Granger Causality for the relation between GDP and EXP

Dependent variable: EXP			
Excluded	Chi-sq	df	Prob.
GDP	9.755181	5	0.0825
All	9.755181	5	0.0825
Dependent variable: GDP			
Excluded	Chi-sq	df	Prob.
EXP	4.282561	5	0.5095
All	4.282561	5	0.5095

Regarding the Wald test for Granger Causality for the relation between GDP and EXP provided in Table 3.12, it can be seen that GDP and EXP do not affect each other on a high level. For that reason, equations for FDI-EXP and FDI-GDP relations are provided below:

$$\text{EXP} = 0.027234 + 0.01558809072 * \text{FDI}(-5)$$

$$\text{GDP} = 0.020318 + 0.01365133401 * \text{FDI}(-5)$$

The result provides the following: rise in FDI by 1% leads to the rise in EXP by 1,56 % in 5 terms period. Increase in FDI by 1% leads to the increase of GDP by 1,37%, also in 5 terms period.

"

CONCLUSION

The findings of this thesis which explores the relationship between export and foreign direct investments of Russian Federation are given in detail at the end of econometric analysis part. There are previous studies that explore the relationship between export and GDP output variables. But among these the studies that explore the relationship between export and foreign direct investments are quite limited. We think that our thesis will contribute to the literature in this aspect. The focus of the most of previous studies has been the expectation that the foreign direct investments will enrich country's economy by increasing the GDP (or country's production output). And of course, it is true that the received foreign direct investments increase country's production output, and that increased production output increases GDP. Along with this, other than enriching the country, foreign direct investments which are mainly directed toward domestic market cause payment balance openings. It is known that the foreigners investing in domestic consumption will take the profits to their own countries but in the process will export technology, know-how, and other resources to the host country. This binary effect that increases the fragility and foreign dependency of country's economy is nothing more but the manifestation of the new expansionist polities which are called neo-mercantilism nowadays.

The selection of Russian Federation as the object of the thesis is not a coincidence. Looking back at history, Russian Federation is one of few countries that had an empire history. Nowadays it is widely known that it harbors a goal to dominate surrounding countries whether politically or economically. Even though historically it had some setbacks from time to time Russia has always been a strong country. After the collapse of the Soviet Union it had to adopt capitalist economical system which it had fought against for a long time, but it has quickly become one of the world's most important capitalist countries. In certain extent the main theme of the thesis is the evaluation of Russian economy's adaptation to global trading relations. In order to evaluate its adaptation, export-and foreign direct investments relationship is taken as a measure.

The goal of this thesis is to explain the theoretical relationship between export and foreign direct investments and to test this relationship econometrically. For the purpose of this goal Russian Federation's export and foreign direct investments are defined on

sector basis and the government's role in these variables is expressed. Furthermore, it has been worked on creating foundation to enable transition from the theory to econometric analysis by performing a wide literature search. The findings from the econometric analysis on this subject are showing consistency with the literature. In other words, econometric findings meet the accepted expectation that the received foreign direct investments will increase the export level.

In order to express the relationship between export and foreign direct investments Granger Causality test was performed and the existence and direction of relationship was established. According to the results of Granger Causality test there is a causal relationship between export and foreign direct investments. According to the results of Granger Causality test this relationship is direct, and there is a direct causality relationship between foreign direct investments and export. In other words, the foreign direct investments that Russian Federation accepts in a specific time period are a cause of increase in export of Russian federation in that time period. On the other hand the increase in export in a given time period is not a cause to increase in foreign direct investments in that period.

Along with this, according to the test results, the causal relationship between the foreign direct investments and export is realized with five terms delay. The meaning of this is that the increase in foreign direct investments cause the increase in export only after five terms have passed. It was previously stated that the statistical data used for analysis was taken on three-month-terms basis. This means that in Russian Federation for time period subject to the analysis the increase in export is caused only a year and three months after the increase in foreign direct investments. This result is highly rational. Because after an investment is performed certain time period is required for production process to end with export. According to the econometric findings of the thesis this time period for Russian Federation is one year and three months. Looking at the thesis results, obtained empirical findings are consistent with the literature review.

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APPENDIX

FDI, Export and GDP of Russian Federation (1196-2016, mln of USD)

	FDI	Export	GDP
1 quater 1996	430	17 880	89271
2 quater 1996	235	19 801	84248
3 quater 1996	746	20 652	115021
4 quater 1996	1 041	22 960	103847
1 quater 1997	527	18 574	90637
2 quater 1997	1 642	18 850	96284
3 quater 1997	2 014	20 338	109056
4 quater 1997	2 049	22 436	108537
1 quater 1998	622	16 079	93367
2 quater 1998	446	17 351	97886
3 quater 1998	406	17 537	76756
4 quater 1998	1 280	17 620	45694
1 quater 1999	642	13 980	39360
2 quater 1999	750	16 294	44959
3 quater 1999	659	17 868	55365
4 quater 1999	1 252	21 927	55032
1 quater 2000	532	21 947	53594
2 quater 2000	468	23 456	59531
3 quater 2000	660	25 684	73303
4 quater 2000	1 049	27 417	73252
1 quater 2001	548	23 532	68131
2 quater 2001	642	24 278	75448
3 quater 2001	829	24 342	84910
4 quater 2001	447	22 590	82209
1 quater 2002	709	20 571	73447
2 quater 2002	949	25 153	82099
3 quater 2002	926	27 723	95342
4 quater 2002	1 073	28 205	95184
1 quater 2003	3 763	28 965	89940
2 quater 2003	2 803	30 062	100378
3 quater 2003	1 993	33 225	116508
4 quater 2003	-646	35 478	122657
1 quater 2004	4 801	34 443	117976
2 quater 2004	-255	40 290	137452
3 quater 2004	740	45 293	157328
4 quater 2004	7 503	49 702	173541
1 quater 2005	6 152	47 325	159817
2 quater 2005	7 227	56 407	181996
3 quater 2005	5 686	61 306	209505
4 quater 2005	- 3 992	65 275	217007
1 quater 2006	8 818	62 500	205889
2 quater 2006	9 681	72 565	234121

3 quater 2006	9 998	74 527	271485
4 quater 2006	3 837	75 726	281214
1 quater 2007	18 347	66 911	257802
2 quater 2007	11 015	78 121	299903
3 quater 2007	8 647	84 061	349125
4 quater 2007	16 699	102 610	398252
1 quater 2008	21 807	101 739	360882
2 quater 2008	22 417	116 368	443826
3 quater 2008	17 833	128 322	476942
4 quater 2008	13 139	93 944	388970
1 quater 2009	9 374	54 956	242285
2 quater 2009	10 047	65 593	287105
3 quater 2009	12 252	78 544	332629
4 quater 2009	6 653	89 722	366658
1 quater 2010	8 107	87 354	335416
2 quater 2010	11 492	92 064	364139
3 quater 2010	7 458	91 433	394950
4 quater 2010	16 143	103 821	369032
1 quater 2011	15 625	102 027	409390
2 quater 2011	11 081	124 731	458095
3 quater 2011	11 982	122 269	506286
4 quater 2011	13 833	132 958	509733
1 quater 2012	12848.60088	131033	478365
2 quater 2012	4466.268717	131185	520934
3 quater 2012	16469.89302	125205	545067
4 quater 2012	16801.88195	140011	591985
1 quater 2013	40140.42331	124833	522874
2 quater 2013	6899.9204	126919	538451
3 quater 2013	13514.94154	130658	563631
4 quater 2013	8663.803742	139425	602045
1 quater 2014	11449.8546	122812	488286
2 quater 2014	12083.49567	132067	539559
3 quater 2014	-58.65646059	125653	568438
4 quater 2014	-1443.369549	116275	456787
1 quater 2015	2038.152752	90177	288128
2 quater 2015	-463.0870749	91424	365230
3 quater 2015	-177.719286	78761	339082
4 quater 2015	5081.040012	81104	335100
1 quater 2016	-384.6683677	60266	247814
2 quater 2016	7114.827838	67791	303177
3 quater 2016	8651.569874	71090	342961
4 quater 2016	2456.365412	73659	389654

CURRICULUM VITAE

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