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Diploma Thesis

Russian Foreign Trade with EU in times of sanctions

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Declaration

I declare that I have worked on my diploma thesis titled "Russian Foreign Trade with EU in times of sanctions" by myself and I have used only the sources mentioned at the end of the thesis. As the author of the diploma thesis, I declare that the thesis does not break copyrights of any their person.

In Prague on 31.03.2017

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Abstract

During the last couple years Russia's economy is under the burden of economic sanctions applied by the European Union and the United States as the result of the events in Ukraine. Sanctions had been applied to individuals and entities, restricting certain kinds of economic activities, including financial, technological and trade relations. The volume of trade between Russian Federation and the European Union continues to decline since 2014.

The aim of this Diploma Thesis is to study the degree of influence of the European sanctions on the trade performance of Russian Federation.

The paper seeks to answer the research questions: what is the impact of individual restrictive measures on international trade performance between European Union and Russia? Is the change in export from the EU to Russia is mainly caused by the implemented sanctions or is more influenced by the change of Russian GDP and decrease of buying power?

Keywords: Russia, EU, international trade, trade structure, trade flows, trading partners, sanctions

Ruský zahraniční obchod s EU v dobách sankcí

Abstrakt

Během posledních pár let je ruská ekonomika pod vahou ekonomických sankcí, ze strany Evropské unie a Spojených států v důsledku událostí na Ukrajině. Sankce byla použita na fyzických a právnických osobách, jako omezení některých druhů hospodářských činností, včetně finančních, technologických a obchodních vztahů. Objem obchodu mezi Ruskou federací a Evropskou unií nadále klesá od roku 2014.

Cílem této diplomové práce je studium míry vlivu evropských sankcí o výkonu obchodu Ruské federace.

Příspěvek se snaží odpovědět na výzkumné otázky: Jaký je vliv jednotlivých omezujících opatření na mezinárodní plnění obchodu mezi Evropskou unií a Ruskem? Je změna vývozu z EU do Ruska způsobena především sankcemi nebo více ovlivněna změnou ruského HDP a poklesu kupní síly?

Klíčová slova: Rusko, EU, mezinárodní obchod, se struktura, obchodní toky, obchodní partneři, sankce

Table of content

1. Introduction.....	9
2 Main objectives, methodological tools.....	10
3. Literature Overview.....	11
3.1. Foreign trade and main definitions.....	11
3.1.1. Reasons for trade between countries.....	16
3.2. International trade theory.....	19
3.2.1. Mercantilism.....	21
3.2.2. Absolute advantage trade theory.....	21
3.2.3. Comparative advantage trade theory.....	22
3.2.4. Alternative trade theories and interpretations.....	23
3.3. Benefits associated with international trade.....	23
3.4. Problems and barriers to international trade and its negative effects.....	28
4. Analysis of the EU trade with the Russian Federation.....	30
4.1. General analysis of the Russian foreign trade.....	30
4.1.1 Structure of foreign trade of the Russian Federation.....	33
4.2. Analysis of Russian foreign trade with EU.....	41
4.3. Sanctions regime between the European Union and the Russian Federation.....	46
4.3.1 Sanctions applied by the EU.....	47
4.3.2 Counter-sanctions and its results.....	51
5. Conclusion.....	62
6. References.....	63
7. Appendices.....	66
7. List of figures.....	68
8. List of tables.....	69

1. Introduction

Trade is the simple form of exchange in order to gain benefit. International trade is one of the oldest forms of economic relations between countries. During the historical course it has evolved from mere exchange of goods into present day form of trade based on import and export of goods, services and knowledge as well.

Now globalization processes accelerate the pace and modernize the form of trade between different countries making it easier and economically more beneficial to stick to liberalization type of foreign policy. In modern world governments are more focused on expanding the scope of trade relations and decreasing the degree of self-sufficiency and by doing that, increasing countries' economic performances. Protectionist approach to trade used to restrain its development.

International trade plays an important role in foreign policy formation of different countries. That is why it is important to study its essence, historical development, theories and existing approaches, so that to use to work out course of foreign policy and ways for its implementation and control.

Now international relations not only have economic influence but can also be used to influence political decisions of particular countries. The stress of this work is the particular case of trade used to affect country's decisions. In this particular case, the European Union's restrictive measures implemented towards the Russian Federation is in being examined in this research.

The goal of this paper is based on the above reasons and aims to study the degree of influence of the European sanctions on the trade performance of Russian Federation. The goal defines the following objective, which is to analyze the current economic situation of the Russia and the EU and estimate the degree of sanctions' influence on importing/exporting relations between the trading partners.

2. Main objectives, methodological tools

Research Questions

The DT aims to study the degree of influence of the European sanctions on the trade performance of Russian Federation.

The paper seeks to answer the research questions:

- what is the impact of individual restrictive measures on international trade performance between European Union and Russian Federation?
- is the change in export from the EU to Russia is mainly caused by the implemented sanctions or is more influenced by the change of Russian GDP and decrease of buying power?

Objectives and Methodology

The aim of this paper is to analyze the current economic situation of the Russia and the EU and estimate the degree of sanctions` influence on importing/exporting relations between the trading partners.

This research combines quantitative and qualitative methods with time series of 2004-2015 to trace the general trade trend, includes literature overview on the topic, trend analysis, statistical comparison, economic data analysis, usage of software for statistical calculations and estimation of regression model.

3. Literature Overview.

3.1. Foreign trade and main definitions.

International trade represents the process of purchase and sale of goods and services performed between buyers, sellers and intermediaries in the different countries (Figurnova, 2007).

International trade in goods and services develops thanks to the international job specialization (Kireev, 2010). It does necessary regular exchange of goods and services through a specific form of the economic relations – the world trade (export and import). At the same time individuals, private, joint-stock and corporate enterprises, public institutions can act as buyers and sellers.

The amount of foreign trade of each state is determined in natural and cost indicators (Ustinov, 2011). In case of natural measurement the quantity of the exported and imported products is counted (in tons, meters, pieces, etc.). Dynamics (application) of a foreign trade turnover is expressed in indexes of physical export volume and import. Cost indicators reflect not only changes in quantity of the benefits, but also price fluctuations. With respect thereto the cost of import (export) can decrease even in case of increase in quantity of the imported (exported) products if the prices of them fall. Besides, increase of cost indicators of a foreign trade turnover is capable to reflect not increase in physical trade volume, and only growth of commodity prices.

For successful participation in the world market each country needs to have the foreign trade infrastructure (Figurnova, 2007). It includes material and technical resources of foreign trade – the warehouses equipped with the special equipment which ensures safety of goods and a manipulation them (loading, unloading, sorting, marking, etc.)(Kireev, 2010). From one country in another specialized transport organizations are engaged in movement of goods. At the same time the products exported by any country can be transported by the vehicles belonging to any other national economy.

Cash calculations for the foreign trade transactions and their crediting are made by bank institutions including specialized (Figurnova, 2007). Important financial transaction is cargo insurance of insurance business by special organizations.

Extent of entry of each country into the world economy is determined by indicators of its participation in world export and commodity import and services.

The world market represents the arena of bitter competitive struggle between exporters of similar or interchangeable products. Sometimes contradictions between the countries reach such tension that the trade conflicts purchase a form of "automobile", "computer" or other wars (Zykov, 2011).

Under the influence of the competition the provision of various countries in the world market significantly changes. There are shifts, both in material structure of a world goods turnover, and in geography of the foreign trade flows.

The main direction of long-term structural shifts in the international goods turnover consists in essential reducing specific weight of raw products and increase in a share of finished products of the processing industries (especially high-tech). Ever-increasing value purchases export and any import of services, products of show business, spiritual culture, information. Economic developed countries of the world act as the main exporters of the knowledge-intensive goods delivered, first of all, to the developing states.

In geographical structure of export the share of mutual export of products of industrialized countries (more than 70% of the world trade are the share of it) in case of simultaneous reducing a share increases developing stranl.

Availability of the state and customs borders, considerable distances, distinctions of national cash systems and the prices causes difficulties of foreign trade, and also its capability to satisfy requirements and interest of many countries and the people (Kireev, 2010).

Foreign trade policy of the state – activities of public authorities for creation of an optimum ratio of the export and import of the country providing sustainable economic development of national economy and realization by the country maximum vygody.¹

In the sphere of foreign trade the state in the person of its executive and legislature is called:

- to protect national interests and to turn foreign trade into a factor of economic development and growth;
- to improve position of the country in the international division of labor;
- to protect interest of national producers and consumers;
- to promote improvement of structure of export,

- to watch a favorable ratio of export and import deliveries, ensuring production and the population with necessary goods, services, resources,
- to raise the budgetary income from foreign trade which consists of the income of the state exporters, the customs duties, taxes and other collecting.

Some tasks have long-term character, for example change of degree and way of inclusion of this country in the international division of labor. Other objectives can be achieved in shorter periods, for example change of volume of export or import.

There are two main directions of foreign trade policy:

- free-trade policy;
- protectionism.

As the national economy of all countries depends on export and import which infringe on interests of various segments of the population, the states in a legislative order establish certain rules and conditions of foreign trade (Oboyn, 2012). Historically there were two opposite types of foreign trade policy – protectionism and freedom of trade.

Protectionism is the policy directed to protection of domestic economy against the foreign competition. Protectionism – the system of restrictions of import including entering of high import customs duties, a prohibition of import of certain products, a quantitative regulation of import, use of discrimination high-quality standards and other measures interfering or complicating the competition of foreign products and local production (Ustinov, 2011).

Unlike free-trade policy at protectionism free action of market forces as it is supposed is excluded that the economic potential and competitiveness in the world market of the certain countries are various and therefore free action of market forces can be unprofitable for less developed countries, the unlimited competition from stronger foreign states can bring in less developed countries to economic stagnation and formation of economic structure, inefficient for this country.

Protectionism protects the national industry and agricultural industry, encourages the development of national production capable to replace import goods. At the same time supports the overestimated level of prices for the import goods assessed by high duties weaken incentives to technical progress, in the industries protected from a foreign competition strengthens national commodity importation, so for example, the Russian automotive industry considerably lagged behind on quality of the goods other countries

and that entailed further filling of the Russian car market with illegal goods. Response measures of the countries of trading partners negatively exert impact on a possibility of export and by that cause to national economy damage exceeding it a prize from measures of customs protection.

Free-trade policy (free trade) in pure form means that the state abstains from direct impact on foreign trade, leaving behind the market a basic role regulator. However it doesn't mean that the state in general keeps from influence on this direction of economic activity. It signs contracts with other countries to provide the maximum freedom to the economic entities.

Free trade leads to positive political consequences as in this case the countries become more interdependent and consequently, danger of hostile actions on the relation to each other decreases.

Freedom of trade – foreign trade policy in case of which customs authorities perform only registration functions (Ustinov, 2011). They don't collect import and export customs duties, don't set quantitative or other restrictions on a foreign trade turnover. The similar policy is pursued by the countries with highly developed national economy which allows local producers to show not only endurance, but also to break through protectionist customs barriers of other countries, expanding access of the goods to the world market.

Carrying out free-trade policy it allows never to receive the greatest benefit from the international economic exchange generally to the countries which were economically more developed though in pure form and it was applied anywhere.

In most cases the government performs flexible foreign policy. They selectively use protectionism methods (Ustinov, 2011). At the same time favorable conditions in commercial ties with other countries with which the commercial transactions containing points on cross liabilities are concluded are provided.

Sharp deepening of the international separation in the conditions of a scientific and technological revolution resulted in rough growth rates of world trade. If in the first half of the 20th century world trade increased a little more than twice, then it increased in the second half of the 20th century more than by 30 times (Figurnova, 2007). By 2000 the world goods turnover reached about \$12 bln. It is nearly 1,5 times more, than GDP of the USA.

Dynamism and huge scales of modern world trade led to emergence in its content of a row high-quality specifics (Kokushkina, 2014).

1. The share of the knowledge-intensive, ready-made products raised and the share of trade in fuel and raw materials fell. If in the 50th years of the 20th century the ratio of amounts of these groups of goods in world trade was 50:50 (%), then in the 1990s became – 70:30 (%). The main reasons of formation of such tendency – emergence of synthetic types of raw materials, transition to resource-saving technologies, including conversion of production wastes and consumption.

2. The share of trade in services in world trade increased: by the end of the 20th century their share approached 25%. These are transport services, tourism, communication, services of banks, insurance companies, services of health care, training, trade in patents, licenses, leasing services, the software of computer facilities, etc.

3. The center of world trade was concentrated in the different countries. They give about 60% of export of material goods and about 80% of export of services.

4. Openness of national economies increased. Export and import quotas (the relation of export, import to GDP expressed as a percentage) reach 20-30% of GDP. In the small countries of Europe, for example in Belgium and Ireland, export quotas exceed 70%.

5. Developing countries (Europe, Asia) avoid net raw-material producing specialization. All of them concentrate at themselves production of mass products of the 3rd phase of "product lifecycle" more. The markets of the USA and the EU are filled with garments, footwear, audioproducts with the "made in China" brand and other developing countries.

6. There are high-quality changes in methods of competitive struggle. If earlier the price competition was the main method, then today to the forefront there is not price competitive struggle: a competition in increase in reliability, profitability, decrease in energy consumption, enhancement of design, level of service of a difficult technique.

7. The share of the shadow market of world trade grows. Trade in goods with falsified trademarks (clothes, footwear, household electrical equipment) by the end of the 20th century reached \$60 bln. in a year, and criminal forms of trade (drugs, weapon, the stolen works of art, etc.) reach many hundreds of in a year.

8. In fight of two tendencies: protectionism and liberalization in world trade the last takes – liberalization. If in the first half of the 20th century the level of customs duties

constituted 40-60%, then by the end of the 20th century by negotiations and signing of the relevant agreements within the WTO it was succeeded to reduce the average level of customs duties in international trade of industrialized countries to 5% (World Economic Forum, 2015).

So, annual average growth rate of world commodity export made in the 50th – 6%; the 60th – 8,2%; the 70-80th – 9,0 and in the 90-97th – 6% (annual average growth rates of GDP for this period made 1,5%) (World Economic Forum, 2015). Respectively also the amount of world trade increased.

Unprecedentedly high rates of post-war growth of world trade are caused, first of all, by higher rates of economic development during this period. Besides, it is followed by the increasing job specialization in the world that stimulates the international goods turnover. At last, the significant role in acceleration of growth rates of world trade was played by active inclusion in it of new groups of the countries, earlier economically backward. According to the available forecasts, high growth rates of world trade remain and further: by 2003 the amount of world trade will increase by 50% and will exceed 7 trillion dollars.

3.1.1. Reasons for trade between countries

Global economy has already undergone changes and fast development. One of the reasons is the equally drastic increase in international trade.

Integration into the world economy has proven a powerful means for countries to promote economic growth, development, and poverty reduction. Over the past 20 years, the growth of world trade has averaged 6 % per year, twice as fast as world output. But trade has been an engine of growth for much longer. Since 1947, when the General Agreement on Tariffs and Trade (GATT) was created, the world trading system has benefited from eight rounds of multilateral trade liberalization, as well as from unilateral and regional liberalization. Indeed, the last of these eight rounds (the so-called "Uruguay Round" completed in 1994) led to the establishment of the World Trade Organization to help administer the growing body of multilateral trade agreements (IMF Global Trade Liberalization and the Developing Countries, 2001).

To manage trade on international level the General Agreement on Tariff and Trade was established. GATT is the multi-lateral agreement establishing general rules of implementation of the international trade agreements accepted by more than 100 states (WTO. The text of the general agreement on tariffs and trade).

Objective requirement of the international regulation of trade by means of regulations and rules appeared in post war period. It poured out signing of the interim agreement on questions of rates and trade (GATT) which came into force on January 1, 1948.

GATT uses 3 fundamental principles by means of which it to aim to achieve the objectives.

The principle of nondiscrimination expressed in a so-called clause about the most favored nations in the Art. of 1 GATT (WTO. The text of the general agreement on tariffs and trade). Value of this agreement consists that if during bilateral negotiations the finishing speaking party represents to other party the tariff privileges, then, all other contracting parties, in principle, have the right to the same privileges.

The contracting party has the right to use only import rates when it is necessary for are sewn up the local industry. Non-tariff measures, such as quantitative restrictions (quotas) or standards having discrimination character in relation to import goods in principle are forbidden.

There is a developed system of permission of trade disputes. In implementation of these principles of GATT numerous exceptions, in particular for benefit of customs unions and free trade areas of Art. 24 are allowed, in case of force majeure of Art. 19, for the benefit of developing countries - Art. 18, etc (WTO. The text of the general agreement on tariffs and trade).

Within GATT the mechanism of observation of implementation of recommendations and decisions of meetings of exporters is developed.

The institutional device GATT includes periodic sessions, the recommendation consisting of representatives of state members and the secretariat located in Geneva.

In activities of GATT the task of liquidation or reducing customs duties has major importance. Permanent active job in this direction allowed reducing the average size of customs duties in industrialized countries from 40-60% in 1945 - 1947 to 3-5% by the end of the 80th years (WTO. The text of the general agreement on tariffs and trade).

Along with reduction of sizes of customs duties certain success in standardization of rules and conditions of their application was achieved. In "The code on technical barriers in trade", accepted during "Tokyo round", the task of elimination of discrimination impact of standards and technical barriers in trade, marking is set certification and testing of goods (WTO. The text of the general agreement on tariffs and trade). The most important is the agreement on exchange of information, on the offered entering of new standards, technical requirements, systems of certification. The negotiations on trade liberalization by services which began on the Uruguayan round became the new moment in activities of GATT.

Thus, GATT is the institute generated by the current course of events which undertook tasks of the national organization and achieved universal recognition of negotiations in the North of coordination of international trade.

Nonequivalent exchange as here monopolization is developed more, than in domestic trade is characteristic of the modern world market. Via channels of the private monopolies controlling the world market from 80 to 90% of all products exported by the developing states are implemented (WTO. The text of the general agreement on tariffs and trade). Monopolies try to obtain a deviation of the prices from natural levels, a certain condition world market. They artificially create shortage of one goods, or limit demand for others, overstock the market to raise the price. As a result, international firms establish profitable to them the high prices of implementable goods and services and rather low – on purchased. The world prices are, as a rule, regulated by conditions of production in the countries which make the bulk of goods delivered on the world market and also a ratio of the demand and supply of goods in this market.

In modern conditions the certain country isn't able to make all products necessary for it ((Kokushkina, 2014). Even the most economically advanced states don't manage to provide independently the national needs for high-quality products and services. Production on any large modern enterprise is a part of the production process proceeding not only on national, but also at the international level. In particular, it concerns the countries having limited potential production and the greatest domestic market. About extent of internationalization of economic life it is possible to judge by amount of international trade. For example, in Holland, Belgium 60-70% of products go for export. The USA is exported by only 10-15% (Ustinov, 2011).

Many industries develop according to the world market. The aerospace, electronics, chemical industry, shipbuilding, automotive industry and some other concern to them.

The resulting integration of the world economy has raised living standards around the world. Most developing countries have shared in this prosperity; in some, incomes have risen dramatically. As a group, developing countries have become much more important in world trade—they now account for one-third of world trade, up from about a quarter in the early 1970s. Many developing countries have substantially increased their exports of manufactures and services relative to traditional commodity exports: manufactures have risen to 80 % of developing country exports. Moreover, trade between developing countries has grown rapidly, with 40 % of their exports now going to other developing countries (IMF Global Trade Liberalization and the Developing Countries, 2001).

Recent decades have seen rapid growth of the world economy. This growth has been driven in part by the even faster rise in international trade. The growth in trade is in turn the result of both technological developments and concerted efforts to reduce trade barriers. Some developing countries have opened their own economies to take full advantage of the opportunities for economic development through trade, but many have not. Remaining trade barriers in industrial countries are concentrated in the agricultural products and labor-intensive manufactures in which developing countries have a comparative advantage. Further trade liberalization in these areas particularly, by both industrial and developing countries, would help the poorest escape from extreme poverty while also benefiting the industrial countries themselves (IMF Global Trade Liberalization and the Developing Countries, 2001).

3.2. International trade theory

International trade is one of the oldest forms of economic relations between countries. During the historical course it has evolved from mere exchange of goods into present day form of trade based on import and export of goods, services, labor and capital.

Now globalization processes accelerate the pace and modernize the form of trade between different countries making it easier and economically more beneficial to stick to

liberalization type of foreign policy. In modern world governments are more focused on expanding the scope of trade relations and decreasing the degree of self-sufficiency and by doing that, increasing countries' economic performances. Protectionist approach to trade used to restrain its development.

International trade represents the form of world division of labor. Each country uses its available land, capital, technical possibilities to participate in global exchange of goods and services. The degree and share of their participation in world trade is presented in export and import of goods and services.

Export is the realization of goods and services on foreign markets outside the country. Import is the realization of foreign goods and services on domestic markets inside the country.

Results of international trade is reflected in country's balance of payments, that is the difference of all its savings and investments. It is shown as the trade balance, i.e. the difference in value between products and services exported from the country and the one imported in it during some period of time. Trade balance can be positive (called "surplus") if a country exports more than it imports, which means that it is more self-sufficient and can produce more than it buys. Although this surplus can sometimes mean that country uses its resources insufficiently. Negative trade balance or "deficit" happens when country imports more than it export and so it is more dependent on import from other countries, this can also lead to rise of prices for imported products that are in deficit.

Foreign trade turnover is the total value of both trade flows; this is the sum of import and export.

Import and export flows in open economy situation influence country's economic situation. Export is the factor that leads to raise in country's production and this creates new work places, stimulates employment, increase in revenue and provokes spending over saving. Import helps to satisfy demand for goods but reduces work places and decrease revenues.

The international trade as the strategy for the developing countries has become the driving force in boosting their economies.

International trade started in Middle East in the 3rd century BC, when monetary-exchange relations were widely developed due to the Great Silk Route, that allowed merchants to travel and trade its goods with other nations.

Later in 16th century study of international trade was based on the assumption that country's wealth was measured by the amount of gold and silver it possessed (mercantilism). At that time protectionistic approach was used by the government, it encouraged export and discouraged export by using tariffs and subsidies.

The foundations for the modern international trade studies were set up in 18th – 19th centuries by the English economist Adam Smith and were later followed by David Ricardo.

Different scientists tried to explain the essence of international trade, its reasons, goals, instruments, and logic. It is customary to single out mercantilism, absolute advantage, comparative advantage, Hecksher-Ohlin theory, and Leontyev's paradox as the basic theories.

3.2.1. Mercantilism

In 16th century study of international trade was based on the assumption that country's wealth was measured by the amount of gold and silver it possessed. At that time protectionistic approach was used by the government, it encouraged export and discouraged export by using tariffs and subsidies (Iohin, 2000).

3.2.2. Absolute advantage trade theory.

The ideas of liberalization of trade of Smith became an initial stage in development of the classical theory of international trade. Unlike mercantilists he claimed that both in import, and in export each state has absolute advantage. Smith has tried to answer a question what goods it is favorable to export and what – to import. The main A. Smith in work there was an idea that as a basis of wealth of the nation and the people serves division of labor (Iohin, 2000).

Theory of absolute advantages of A. Smith. Was considered that welfare of the nations depends not only on amount of gold, and and from ability to make goods and services. Therefore, a problem of the state is development of production due to division of labor and cooperation. The formulation of the theory sounds so: the countries export those

goods which they make with smaller expenses, i.e. in production of which have absolute advantages, and I import those goods which are made by other countries with smaller expenses, i.e. in production of which advantage is at trade partners.

This theory shows advantages of division of labor, but, in too time, doesn't explain trade in the absence of absolute advantages.

3.2.3. Comparative advantage trade theory

Import and export was set up based on theory of comparative advantage theory. Export from the country of goods and services and their realization in foreign markets is called export. Export orientation of the country, as well as volume of the goods and services exported by her, are predetermined by economic efficiency of their export, and also the solution of a number of internal economic and social problems.

Import of goods and services and their realization in domestic market of the country is called import. The circle of the imported goods and services is defined by obtaining noticeable advantages in comparison with their internal production. Economy can be connected as with comparative expenses, and factorial deficiency in this country at release of the corresponding goods. Besides, by means of import saturation of demand and satisfaction of needs for goods and services, and also release of the resources spent for production of the similar benefits is quickly reached.

The theory of comparative advantages of D. Ricardo is formulated as follows: if the countries specialize in production of those goods which they can make with rather lower expenses in comparison with other countries, then trade will be mutually advantageous irrespective of whether production in one of them is absolutely more effective, than in another or not (Iohin, 2000).

This theory has for the first time proved existence of a prize from trade and has described cumulative demand and the cumulative offer. Though at the same time she doesn't consider transport expenses and influence of foreign trade on distribution of the income within the country, acting only in the conditions of full employment

3.2.4. Alternative trade theories and interpretations

Theory of a ratio of factors of production of Heckscher-Olin. The factors-intensive (the relation of costs of factors of production of creation of goods) and a factors-intensive (security with production factors) operates with concepts. According to this theory each country exports those factors-intensive goods for which production she possesses rather excess factors of production, and imports those for which production she tests a relative lack of factors of production (Iohin, 2000). This theory removes the reason of influence of different factors of production on international trade. International trade leads to alignment of the prices of production factors in the trading countries.

Limitation of the theory consists that only two countries with identical technologies are considered and internal factors aren't considered.

The famous economist Vasily Leontyev, investigating structure of export and import of the USA in 1956, I have found out that contrary to Heckscher-Olin's theory in export rather more labor-consuming goods, and in import - capital-intensive prevailed. This result became known as Leontyev's paradox (Kokushkina, 2014).

Thus, with development of the concept "international trade", his contents became complicated though by the present moment and such theory which as much as possible would correspond to practice didn't manage to create still.

3.3. Benefits associated with international trade

The international economic relations characterize forms of communication and methods of impact of all countries of the world in the sphere of economic cooperation in system of the world economy. The structure of the international economic relations reflecting international backgrounds includes the following processes (Kokushkina, 2014):

- international trade in goods and services;
- international movement of the equities, technologies and foreign investments;
- international labor migration;
- international trade in financial instruments (currency, securities) and international settlements;

-the international relations in the sphere of information, research and development;

-economic policy of the state.

Modern international trade can be provided as the many-layered system consisting of three floors. On a lower floor there is a market of basic goods which is formed by products of agricultural industry and the extracting industries. On the middle floor there are semifinished products and labour-consuming finished products, among which: metallurgy, construction materials, textiles, products of light industry belong. On this floor also machines, automobiles, products of the main chemistry, rubber and plastic products, woodworking products are located. On the upper floor goods of high technologies, goods of the knowledge-intensive industries are located (Kokushkina, 2014). These are the office and telecommunication equipment, electronics, electric equipment, precision measuring instruments, space equipment, medical equipment, pharmaceuticals, other high-technology goods.

International trade plays an extremely important role in development of world economy. Nowadays 4/5 of the total volume of the international economic relations is the share of world trade (Oboyn, 2012). Modern international trade develops high rates. Participation of various countries in international trade promotes an intensification of production and deepening of its specialization. Extent of loading of the equipment raises, mass production will be organized, the new equipment and modern technologies take root, with demand in the market export increases. In turn development of export involves an employment increase.

International trade allows to mobilize and use more effectively the potential of economy of this or that country, promotes a gain in productivity of work and the income (Ustinov, 2011). As a result the international flows of commodities cover all regions of the world in which international trade takes the central place and serves as a powerful factor of economic growth. In particular, the greatest success in development of national economies was achieved by those countries with high rates foreign trade (Kokushkina, 2014). For many developing countries international trade was an important component of industrialization and acceleration of economic recovery.

Trade promoted formation of the monetary and credit relations, production cooperation and specialization, a sci-tech cooperation between the countries. Trade in

goods determined dynamics of the international exchange of services. International trade prepared prerequisites for economic integration. With its help the countries not only increase production efficiency, but also increase the national wealth.

So, world trade is the sphere of the international commodity-money relations, a specific form of exchange of goods and services between the buyer and the seller of the different countries. Main tendencies of development of world trade (Zykov, 2011):

- the fast updating of the commodity nomenclature connected with emergence in the markets of products of the knowledge-intensive industries and spheres of high technologies;

- deepening of the international job specialization and specialization increases exchange of details, nodes which are produced at the entities of the different countries. The end product is result of specialization, cooperation and foreign trade;

- a specific place in modern world trade is held by trade in results of intellectual property: patents, know-how, licenses;

- considerably the trade volume between developed countries and with approximately identical scientific and technical potential increased;

- the role of multinational corporation increased.

A number of indicators or parameters used as the characteristics of international trade (Ustinov, 2011):

- cost and physical amount of a world goods turnover;
- general, commodity and geographical (spatial) structure;
- level of specialization and industrialization of export;
- coefficients of elasticity of international trade, export and import, terms of trade;

- foreign trade, export and import quotas;

- trading balance.

The world goods turnover represents the amount of foreign trade turnovers of all countries. The foreign trade turnover of the country is the amount of export and import of one country with all countries with which it is in the foreign trade relations.

As all countries import and export goods and services, determine a world goods turnover still as the amount of world export and world import.

The condition of a world goods turnover is estimated in amount for a certain time period or for a certain date, and development — dynamics of these amounts for a certain period.

The amount is measured in cost and physical expressions respectively in US dollar and in natural measurement (tons, meters, barrels, etc. if it is applied to uniform group of goods), or in conditional physical measurement if goods have no single natural measurement (Kokushkina, 2014). For assessment of physical amount cost the amount is divided into the average world price.

For assessment of dynamics of a world goods turnover chain, basic and annual average rates (indexes) of growth are used.

The structure of a world goods turnover shows a ratio in its total amount of these or those parts depending on the chosen sign.

The general structure reflects a ratio of export and import as a percentage or in shares. This ratio is equal in physical amount 1, and in amount-based the import share is always more, than an export share. It is connected with the fact that export is estimated in the prices of FOB (Free on board) for which the seller pays only the goods delivery to the port and its loading aboard the vessel; import is estimated in CIF prices (cost, insurance, freight, i.e. they include in the goods cost, freight cost, insurance expenses and other harbor fees) (Kokushkina, 2014).

The commodity structure of a world goods turnover shows a share of this or that group of goods in its total amount. At the same time it must be kept in mind that in MT the goods are considered as the product satisfying any public requirement to which two main market forces are directed — the demand and supply and one of them surely works from abroad.

The largest changes happening in the last decades in commodity structure of international trade is a reducing a share of primary goods in case of increase of a share of finished products (Zykov; 2011). These changes are caused by the development of productive forces, level of the international job specialization and shifts in structure of capitalist economy caused to a great extent by a scientific and technological revolution. Reducing import of energy carriers and raw materials led to decrease in a share of trade of developed countries with the third countries. At the same time export under article "machines and vehicles" steadily increases - on the one hand, due to internal exchange

between developed countries, and to another - there is growth of their export to developing countries (Kokushkina, 2014). Sharply also import of machines and vehicles increased. From comparison of commodity structure of export and import of the countries of advanced market economy higher share of export of finished goods in comparison with its import, higher specific weight of import of fuel, approximately equal share of import and export of raw materials, almost identical share of food products and agricultural products which specific weight will hardly decrease further - apparently is obvious, it reached possible "threshold" of fall. Most in high gear export and import of fuel develop. On the second place — finished products which food products, agricultural products and, at last, industrial raw materials follow (Sherbakov, 2010).

International trade is one of the factors influencing the increase in global production. Focus on comparative advantage helps countries specialize on particular products and services production and allocate its resources in the most efficient way to create the bigger output.

Among another benefits are: raise of competitiveness, increase in sales volumes, raise of sales, possibilities for business, less dependency on domestic market`s demand, expand business internationally, possibilities for franchising.

It increases countries' economic performances, intensifies production, reduces the level of unemployment by creating new work places, improves living standards, reduces poverty, increases income, boost scientific and technological progress due to knowledge exchange. At some point, mere exchange of goods and services expands on political, cultural, educational exchange and helps to save and maintain peace across the world by coordinating affords of different countries and targeting problems with combined force.

Foreign trade targets consumers, businesses. For consumers it offers wider range of products and for businesses broadens possibilities. It also helps to reduce migration by providing citizens by satisfying existing needs for products abroad and providing them with work places.

Free trade provides consumers with a choice from a wider range of products. The benefits of international specialization and trade based on the principle of comparative advantage are obvious. A nation that ignores this principle is likely to have paid a lower standard of living and economic slowdown.

3.4. Problems and barriers to international trade and its negative effects

Because of different government internal and foreign policies, different regulations can be implied to protect national economy by restricting trade flows.

Governments use methods to regulate international trade, which are: tariff and non-tariff.

1. Tariff methods are basically the usage of customs duties – special taxes which are implied to foreign products. Customs tariffs are the payment collected by the government for registration of goods transportation abroad. Such duty is included in the price of goods and is eventually paid by the final consumer. Customs taxation assumes the use of the import duties to restrict the import to the country of foreign goods; export duties are less often used. Protectionist character of tariffs is expressed in increase in the sizes of duties for growth of the domestic prices of the imported goods. It results in decrease of its competitiveness and domestic market protection. Import duties generally fluctuate within 25%, and only for specific goods they reach 100% of their price. High customs duties are used to simplify competition of domestic producers with foreign products and are implied on import of luxury, finished and semi-finished products, and low custom duties are applied on raw materials import (Gyzva, 2009).

2. Non-tariff methods are diverse and represent set of direct and indirect restrictions for foreign economic activity by means of branched system of economic, political and administrative actions. Such as:

- quoting is the creation of quantitative parameters within which implementation of certain foreign trade operations is possible. In practice these are usually established in the form of lists of goods, free import or evacuation of which is limited to percentage from volume or the cost of their national production. After exhaustion of this quantity or its sum, the export (import) of the corresponding goods stops;

- licensing is the issuance of special permissions (licenses) to economic entities for carrying out the foreign trade operations. It is often used together with quoting to control quotas on the basis of licenses;

- embargo is the ban on carrying out export-import transactions. It can extend to a certain group of goods or be implied towards the certain countries;

- currency control is the restriction in the credit and monetary sector. Financial quotas can limit quantity of currency that the exporter can receive. Restrictions of a quantitative order can extend to the volume of foreign investments, quantity of the foreign currency that is taken out by citizens abroad;

- taxes on export-import transactions are the non-tariff measures which aren't regulated by the international agreements as the customs duties and therefore are raised both with domestic, and from foreign goods. Here subsidies from the state for exporters are possible;

- administrative measures, which are generally connected with restrictions on quality of the sold goods in the domestic market. National standards are important here (Gyzva, 2009).

Another barrier to trade is the restrictive measures that are the “complete or partial interruption of economic relations and of rail, sea, air, postal, telegraphic, radio, and other means of communication, and the severance of diplomatic relations” (Charter of the United Nations). Sanctions are one of the factors contributing to negative economic performance.

4. Analysis of the EU trade with the Russian Federation.

The mutual relations between the EU and Russia have the great impact for each of the parties. The biggest part of Russian export is realized with the European Union.

Trade turnover with European countries in 2016, according to Russian Federal Agency of Statistics, was 42,8%. Among European partners the biggest share is with Germany - 8.7%, the Netherlands – 6.9% and Italy – 4.2% (Rosstat.ru). The EU is also the important supplier of technologies, innovations and investments to Russia. Russia in its turn is the main supplier for natural resources as well as energy; it also provides great sources of labor. Relations based on energy supplies had established strong partners link and expanded it on investment sector, and like that FDI.

Central bank of Russia provides the data about the state of foreign direct investment from the EU to Russia and its share is 40%

The most part of the Russian export is the share of the European Union – 45.2% of foreign trade of Russia are performed with the EU (figure 4). The EU is also the main source of technologies, a know-how and investments for Russia. In turn, Russia has huge natural resources and a skilled labor force. Moreover, supply of energy resources from Russia to the EU can promote strengthening of energy security of Europe. The EU supports integration of the prospering Russia into a world economic system and, in particular, the entry of Russia into the World Trade Organization. The EU also fully supports the continuing reform of the Russian economy directed to performance improvement and efficiency and also expansion of production base.

4.1. General analysis of the Russian foreign trade

The Russian Federation has population that is more than 140 million people, considerable energy potential, a highly skilled manpower, and rather low labor prices. Russia represents the huge growing market of commodity, services and the capitals. However extent of its realization in the external economic sphere can be much higher.

In the last decades globalization of economic processes proceeds, and is continuous, the advancing rates in comparison with release volumes of international trade grow.

One of the reasons of this process is diversification of production and development of the international chains of deliveries and a value added which led to the increasing exchange of intermediate goods. Creation of the WTO, various forms of preferential trade agreements (a free trade zone, the Customs union, a common market, the economic union and others), establishment of the international institutes of assistance and advance of trade (Eurasian Development Bank, the International bank of reconstruction and development and others), anyway, reduces expenses of an exchange of goods and services. The agenda of the largest international forums (APEC, ASEAN, the World economic forum and others) also regularly joins questions of decrease in trade barriers (Ministry of economic development of Russian Federation, 2015).

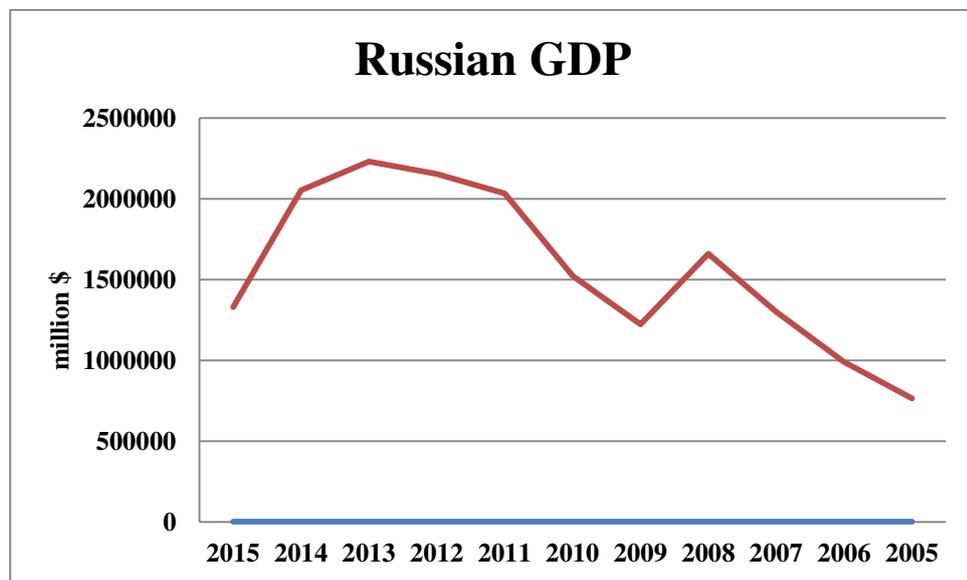
International trade (which in itself can be considered as production technology in which a factor of production are own made goods, and by the final product – foreign goods) is closely connected with the movement of factors of production (Borisov, 1997). Continuously going process of globalization led to radical reorganization of production communications worldwide; more and more the global model of production in which various intermediate components are made in the different countries on different continents extends, and many large production companies are transnational for a long time. Orientation to trade in a value added, but not final product becomes the main direction of development of the international trade relations gradually.

Practically all countries, with rare exception, intensively participate in international trade. Recent world financial and economic crisis of 2008-2009 showed that though the similar model of global economy means big diversification of placement of production, decrease in economic activity at key participants of trade mean its transfer on a commodity chain practically in all economies of the world (The Observatory of Economic Complexity). Thus, for planning of a trade policy of the state, definition of priorities of competitive strategy of the external economic development, for embedding of the domestic enterprises in the international chains of a value added the understanding of mechanisms and restrictions of international trade, factors which influence volumes and routing of trade

streams as goods of final use, and means of production, ability to identify bottlenecks of transport infrastructure is essential.

Competitiveness is a property of the object having a certain share of the relevant market which characterizes degree of compliance of technical and functional, economic, organizational and other characteristics of object to consumer requirements, determines the market share belonging to this object and interferes with redistribution of this market for benefit of other objects.

Figure 1– Dynamics of Russian Federation GDP, in million USD



Source: World Bank

GDP of Russia started to grow in 2005 till 2008 when the global economic crises caused all countries to suffer. Then again since 2009 it started to increase the values of its GDP till 2013 when the European sanctions influenced its performance and caused all economic indicators to fall. In 2015 Russian GDP was 1.331 trillion USD compared to 2.232 trillion USD in 2013 before economic sanctions have been applied (figure 1).

The World Economic Forum (WEF) has published ratings of competitiveness of 133 countries for 2015-2016 (World Economic Forum. Global Competitiveness Report 2015-2016). According to the report of Global Competitiveness Report, Russia is on the 25th place, assessed using Global Competitiveness Index. Besides, Russia is specified among the countries which global financial crisis has affected most strongly.

The main benefits of Russia are still large volume of the market and relative macroeconomic stability though it partially became result of unexpectedly increased oil export earnings and therefore in the long term stability can disappear.

4.1.1 Structure of foreign trade of the Russian Federation

For Russia value of the external economic sphere is very important. The size of the Russian export quota is about 10% and is calculated on the basis of ruble to dollar (based on data from Federal customs service). Foreign trade acts as a source of investment goods and plays a large role in providing the population of Russia with various goods of consumer goals, such as cars, electronic and computer facilities, and etc.

The structure of foreign trade of Russia includes trading of fuel and energy, simple chemical goods, petrochemical goods, ferrous and non-ferrous metals, forest products, the weapon, the food, gold and other precious metals.

Essential changes happened in trading structure of the Russian import: the share investment reduced and the share of consumer goods increased.

Competitive advantages of Russia include: huge stocks of raw material resources, rather high skill level of labor at its relative low cost, considerable volumes of the saved-up fixed business assets, funds of the universal processing equipment allowing lowering a capital intensity of technological modernization of production. The country has unique advanced development and technologies in a number of the economy sectors first of all connected with military industrial complex. All these advantages give Russia an opportunity for development.

However along with competitive advantages in foreign trade of the Russian Federation there are also weaknesses, which constrain its development. It is backwardness of financial and organizational infrastructures of the foreign trade cooperation, lack of the developed system of the state support of export, difficulty of adaptation to conditions of mass production on the basis of the competitive technologies concentrated in defense industry and intended for limited-edition or single production. Here it is possible to refer low production efficiency and too high share of material inputs even in the advanced sectors of the industry.

In the modern world there are hundreds of organizations in which practically all countries of the world participate. They help other countries and the people, who live there, to understand each other better, to promote development of trade and the economic relations, a cultural exchange. Therefore the majority of the states seek for broad participation in the international organizations.

In the conditions of open economy the government sticks to the course of further opening of domestic market of goods and services, and also on weakening of barriers in the field of the movement of the capital. This course is connected with Russia's accession to the World Trade Organization. The World Trade Organization today — the major international institute developing rules of international trade in goods, services and implementation of other forms of the international economic relations (Ministry of economic development of Russian Federation, 2015).

When three years ago Russia joined WTO, one of main objectives was, including, receiving new opportunities for further development of export.

The main advantages from Russia's accession to the World Trade Organization are as follows:

- accession to WTO will provide to the Russian manufacturers the equal access to the world market of ferrous metals, chemical production; it will reduce quantity of the restrictive measures applied against the Russian production. It will lead to strengthening of positions of the Russian metallurgical enterprises in the world market;

- it will cause increase in import of foreign production and decrease in the internal price of it that is a favorable factor for the consumer;

- inflow of foreign investments will allow to create new workplaces (World Trade Center Moscow).

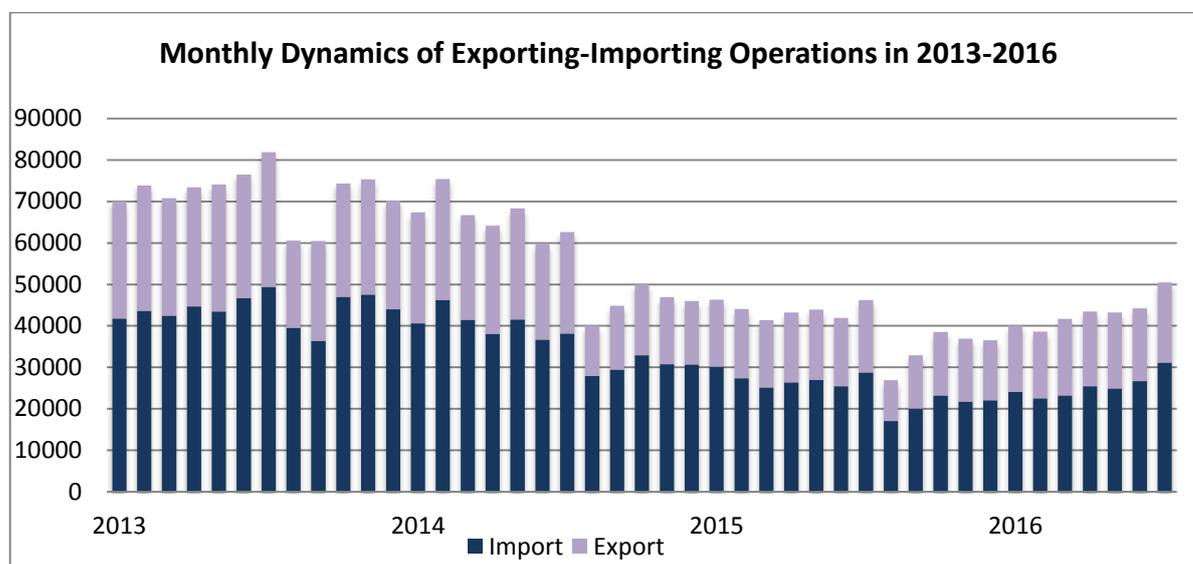
The purpose of Russia development plan is to identify ways and means to ensure the long-term, sustainable well-being of Russian citizens, establish national security, foster dynamic economic development, and strengthen Russia's position in the world community. In line with these objectives, the document formulates the main directions of long-term socio-economic development, identifying and addressing the key challenges of the coming period. It outlines a strategic plan, setting final and intermediate targets. It defines forms and mechanisms of strategic partnerships between the state, business and society. Furthermore, it sets the priorities and main objectives of long-term public policies attaining

to the social sphere, science and technology, as well as structural changes in the economy. It deals with internal spatial development, identifying the economic goals for different areas of the country and in particular for the Eastern part. Finally, it outlines the fundamental framework of Russia’s foreign and trade policy, focusing on integrating the national economy into the world market, increasing exports, establishing Russia as a main transport and logistics platform, strengthening its role as a major player in the natural resources market, and geographically diversifying its economic relations (Ministry of economic development of Russian Federation, 2015).

According to WTO statistics, in 2014 Russian share of total export was 2.62 and 1.61 of total import (World Economic Forum, 2015).

From the Figure 2 we can see that in 2015 there is the decreasing tendency in trade balance. According to “Trading Economics” in 2015 Russia decreased its trading flows and its trade balance fall down (World Economic Forum, 2015).

Figure 2 - Monthly Dynamics of Russian Exporting-Importing Operations with World in 2013-2016, in millions USD



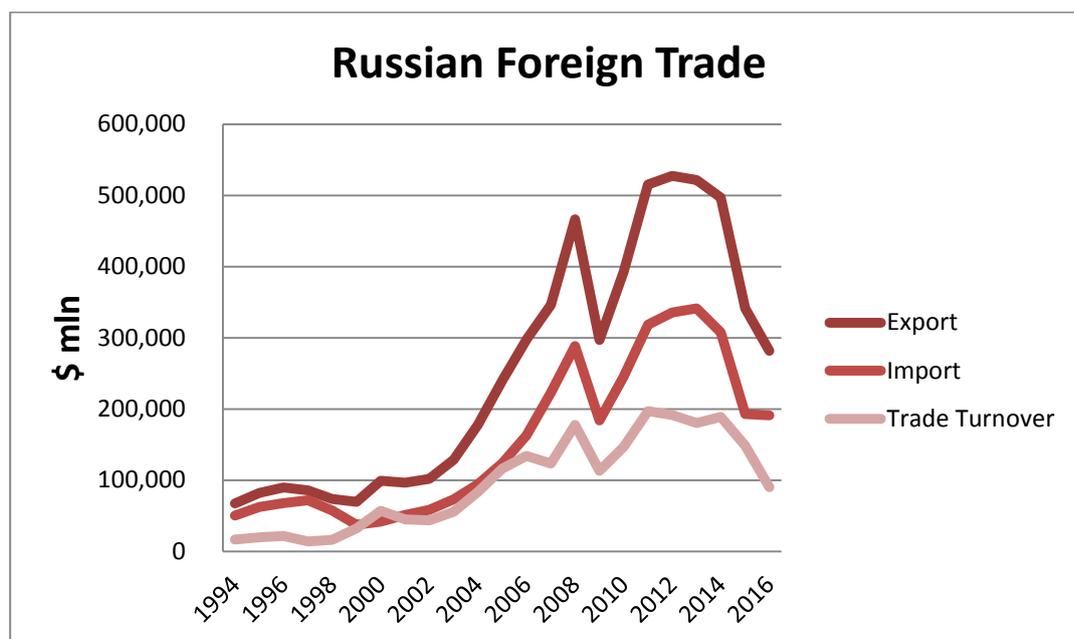
Source: Central Bank of Russia

Cooperation of Russia with the international and regional organizations — an important factor of creating favorable conditions for activity of domestic businessmen and development of economy in general. In the conditions of the growing instability of the world economy it gains the new stabilizing value. It is possible to believe that control of

the systems developed by the international organizations helps in tracking, control and counteraction to the negative phenomena of world economy, that start forming with participation of all interested parties of the international community, the commitment membership and Russia becomes more and more active participant it.

According to world trade center by the end of 2015 Russia is among key participants of international trade, taking the 15th place on commodity export, and possessing the large domestic market. It takes the 15th place (\$343,54 bln.) in world export, that is 2,1% of total global export and 25th place in world import, generating \$182,72 bln.(that is 1,1% of total import trade) (World Trade Center Moscow). Figure 3 shows the changes in foreign trade since 2010 till 2015 and allows to see the difference.

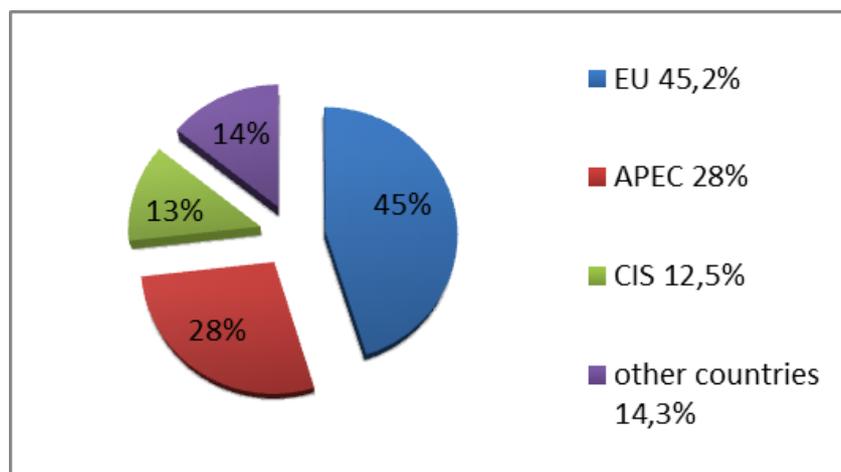
Figure 3 – Russian Foreign Trade with World, in millions USD



Sorce: Centarl Bank of Russia

A foreign trade turnover, by assessment in 2015 (using methodology of payment balance) constituted 533,6 bln. dollars of the USA, having decreased by 33,8% with comparison with 2014, at the same time export decreased by 31,8%, import – for 37,0 % (figure 3). In a total amount of goods turnover in 2015 63,6% constitutes export and 36,4% to the share of import (Ministry of economic development of Russian Federation, 2015).

Figure 4 - RF foreign trade turnover structure, 2015



Source: Federal Agency of Statistics

In geographical structure of foreign trade The European Union holds a specific place, its share in a goods turnover decreased from 48,4% in 2014 to 45,2% in 2015 (\$217,1 bln. dollars). Goods turnover in 2015 decreased by 38,1% in comparison with similar the period of 2014, at the same time export decreased by 36,4%, import – for 41,8 percent.

The second group on foreign trade turnover volume are the countries of Asian - Pacific economic cooperation (APEC), which specific weight in 2015 constituted 28,0% (26,9% in 2014) (\$134,6 bln). The business volume with the countries of APEC decreased by 30,8%, including export - reduced by 27,7%, import – for 33,9% in comparison with 2014 (figure 4).

Indicators of foreign trade with the CIS countries in 2015 were also much lower than in 2014. The goods turnover with the CIS countries constituted 66,7% by the corresponding period in 2014 (\$60,0 bln). Share of the CIS countries in a goods turnover of Russia did not change and constitute 12,5 % (12,4% in 2014).

Foreign trade balance decreased by 24,3% to \$ 148,4 bln. Balance to turnover relation in 2015 grew to 30,9% in comparison with 27,1% in 2014 (figure 3).

Of all groups of the countries of balance trading balance is positive (figure 4). Considerable negative balance in 2015 was in trade with China (\$ 6,0 bln), the USA (\$ 1,8 bln), Indonesia (\$ 1,0 bln), Brazil (\$ 0,8 bln), Thailand (\$ 0,8 bln), Ecuador (\$ 0,8 bln). With the CIS countries positive balance trading balance decreased by 23,7% to 21,8 bln in comparison with 2014, and with the far abroad countries – decreased by 24,4% to 126,6

bln. dollars of the USA. At the same time in 2015 growth of positive balance of a trading balance was observed with the countries of APEC – by 2,8 times to 8,0 bln. dollars of the USA (based on data from Federal customs service).

Export structure in 2015 increased in terms of metals and products from them, machines, the equipment and vehicles, products chemical industry and rubber, food products and agricultural raw materials, wood and pulp-and-paper products, only the share fuel decreased energy goods (Ministry of economic development of Russian Federation, 2015).

Export – the most significant group – fuel and energy goods – decreased by 37,9%, at the same time the share of this commodity group also decreased from 6,4 percent points to 63,8 percent. Negative dynamics is caused by strong decrease in average contract prices, first of all on crude oil – for 47,0%, oil products – for 44,0%, natural gas (in gaseous state) – on 28,1%, coal – for 17,8 percent. At the same time physical export volumes crude oil grew by 8,6% to 222,3 million tons, gas natural (in gaseous condition) – for 4,8% to 167,2 billion cubic meters, oil products – for 4,1% to 157,6 million.

Far abroad are main trade partners of Russia (Ministry of economic development of Russian Federation, 2015). In 2015 their share in a goods turnover constituted 87,5%, that number in export – 87,0%, in import – 88,5 percent.

Foreign trade turnover of Russia with foreign countries in 2015 constituted 420,1 bln. dollars of the USA and relatively 2014 decreased on 33,7 percent. Export was reduced on 31,8% to 273,4 bln. dollars of the USA, import – for 37,1% to 146,7 bln. USA dollars.

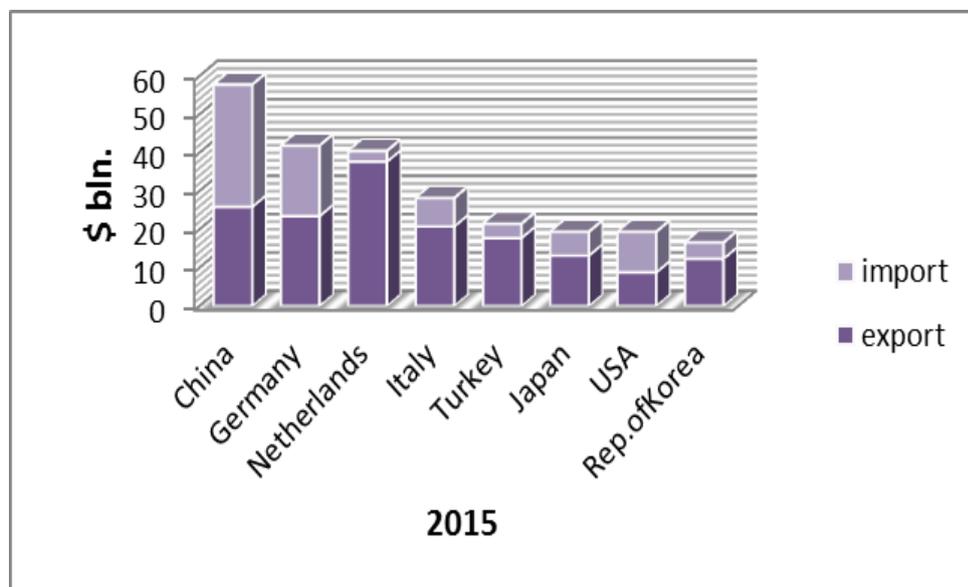
The most important foreign trade partners among the countries of APEC are China, Japan, the USA and the Republic of Korea, on which share in 2015. 84,0% of a foreign trade turnover were necessary.

Following the results of January-November, 2015 China – the largest foreign trade partner Russia. Specific weight of the largest partners of Russia in the considered period constituted 12,0% for China, 8,7% for Germany and 5,9% for Italy.

In commodity structure of export of Russia to foreign countries the share of metals and products from them, machines, the equipment and vehicles, chemical production and rubber, food products and agricultural raw materials increased, wood and pulp-and-paper products, at the same time specific weight was reduced fuel and energy

items (Ministry of economic development of Russian Federation, 2015). Figure below demonstrates main trading countries and the volume of trade among them.

Figure 5 - Volume of Russian trade with the main partners from far abroad

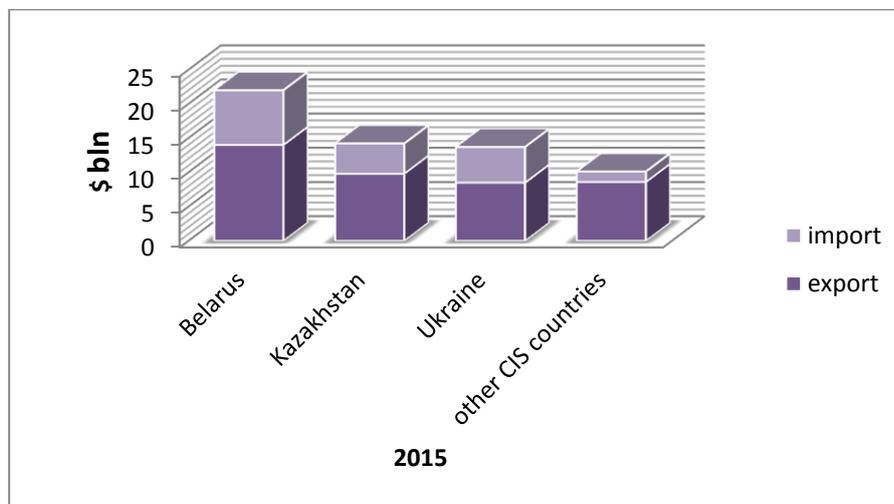


Source: Federal Agency of Statistics

In commodity structure of import of Russia from foreign countries the specific weight of chemical products and rubber, textiles, products from it increased and footwear, mineral products, food products and agricultural products, at the same time the share of machines, the equipment and vehicles and other goods was reduced, the share of metals and products from them didn't change.

Foreign trade turnover of Russia with the CIS countries in 2015 was reduced by 33,3% to 60,0 bln. dollars. USA. Export of Russia to the CIS countries decreased by 31,0% to 40,9 billion. US dollar, and import of Russia from the CIS countries – for 37,7% to 19,1 bln. dollars. USA. With all CIS countries in 2015 there was a surplus trading balance. Figure below demonstrates the volume of Russian trade with the main partners from CIS countries.

Figure 6 - Volume of Russian trade with the main partners from CIS countries, 2015



Source: Federal Agency of Statistics

In commodity structure of export of Russia to the CIS countries the specific weight increased products of the chemical industry and rubber, food products and agricultural raw materials, metals and products from them, at the same time the share of fuel and energy decreased goods, wood and pulp-and-paper products, machines, equipment and vehicles.

In commodity structure of import of Russia from the CIS countries specific increased weight of mineral products, products of the chemical industry, food products and agricultural raw materials, textiles, textile products and footwear, at the same time the share of machines, the equipment and vehicles, metals decreased and products from them.

Strategy of development of trade in the Russian Federation aims at creation of effective commodity distribution infrastructure, conforming to requirements of the innovative scenario of development (World Trade Center Moscow).

Tasks are to increase the efficiency of regulation of sector of trade; development of infrastructure of trade; stimulation of development of trade in small and remote settlements; decrease in staff shortage in trade; ensuring necessary level of the competition; support of development of small and medium business without restriction development of networks; stimulation of development of remote sales channels.

4.2. Analysis of Russian foreign trade with EU.

The European Union (EU) represents the unique phenomenon in world economic history, and it plays a huge role in development of international trade. The most part of growth of world commodity turnover was provided long decades with Western Europe, and now value of this region is determining in the world by many parameters.

In international affairs, as well as in world trade, the EU acts as the uniform subject taking the leading positions practically on all indicators. It is enough to tell that the EU takes the seventh place in the world across the territory, the third on the population (508 million people in 2012), the first by the GDP sizes (15,7 trillion dollars). At the same time separately even the most considerable member countries of the EU concede on economic scales to world leaders. Even Germany, the conventional world economic power, has GDP (on PPS according to the list of the IMF) of 3,2 trillion dollars, almost one quarter, than at China, below, than at Japan and India. It is even less economy of other EU countries (trillion dollars): GDP of Great Britain – 2,3; France – 2,2; Italy – 1,8; Spain – 1,4 (Deardorff, 1998). Characteristic feature of the European Union is high degree of asymmetry of his members. Some European countries are just economic dwarfs. It is interesting that five member countries with the greatest GDP (Germany, France, Great Britain, Italy and Spain) give more than 70% of all GDP of the European Union, and 10 countries with the smallest GDP – 3%.

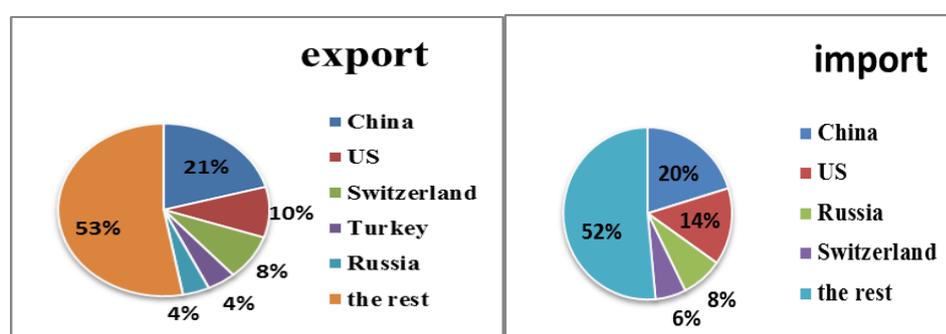
The position of the EU in international trade is rather stable for several decades, and on cumulative indicators it wins first place in the world by the amount of export and import. As for trade of EU countries among themselves, it is considered as internal and is allocated with the European and international statistics in separate sections. At the same time its value is big, and in a total amount of trade of the EU the share of intra zone export makes more than 60% (tab. 8.1), and in some countries above: in Luxembourg – more than 80%, and in the Czech Republic and Slovakia – nearly 80% that shows high degree of integration of the European economies (Dougherty, 2002).

The European Union (EU) is the leading trade partner of Russia. 44,8% of all Russian commodity turnover are the share of EU countries now. During the period from 2004 to 2012 commodity turnover grew more than by two and a half times and reached record 338,5 billion euros in 2012. However since 2013 indicators of a gain of trade gained

negative values. So in 2015 commodity turnover made 209,5 billion euros and was reduced by 26,7% in comparison with 2014; the Russian export – 135,6 billion euros (- 25,7%), the Russian import - 73,9 billion euros (- 28,4%). The structure of barter of basic changes didn't undergo. In 2015 in deliveries of goods from Russia in the EU still main position was taken by goods of raw group, first of all fuel and energy goods. In import machines and the equipment, chemical goods and finished products dominated.

Main trading partners EU in 2015 were: US, China, Switzerland, and Russia

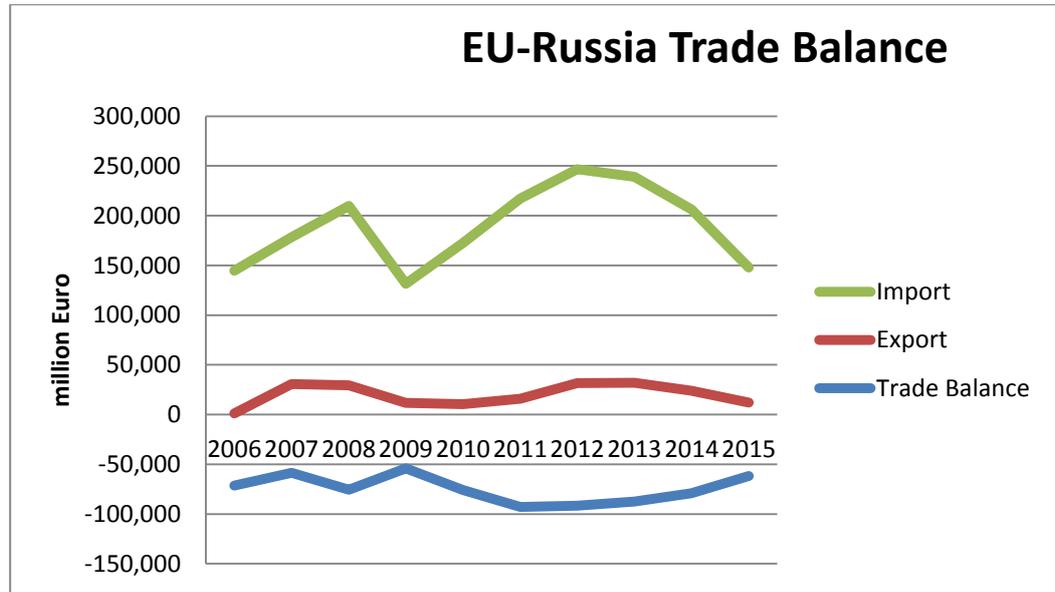
Figures 7 - Main trading partners EU (% share, 2015)



Source: Eurostat

After 18 years of negotiations Russia in August, 2012 joined the World Trade Organization (WTO), having become her 156th member. According to the obligations Russia after accession to the WTO started drop of rates of the import duties on average from 10% to 7,8%. In such key sectors as, for example, automotive industry, the import duties decreased from 30% to 25%, and after a seven-year transition period they will be lowered to 15%. According to the experts, reduction of import duties will allow to save to exporters of EU Member States up to 2,5 billion euros annually (Dougherty, 2002).

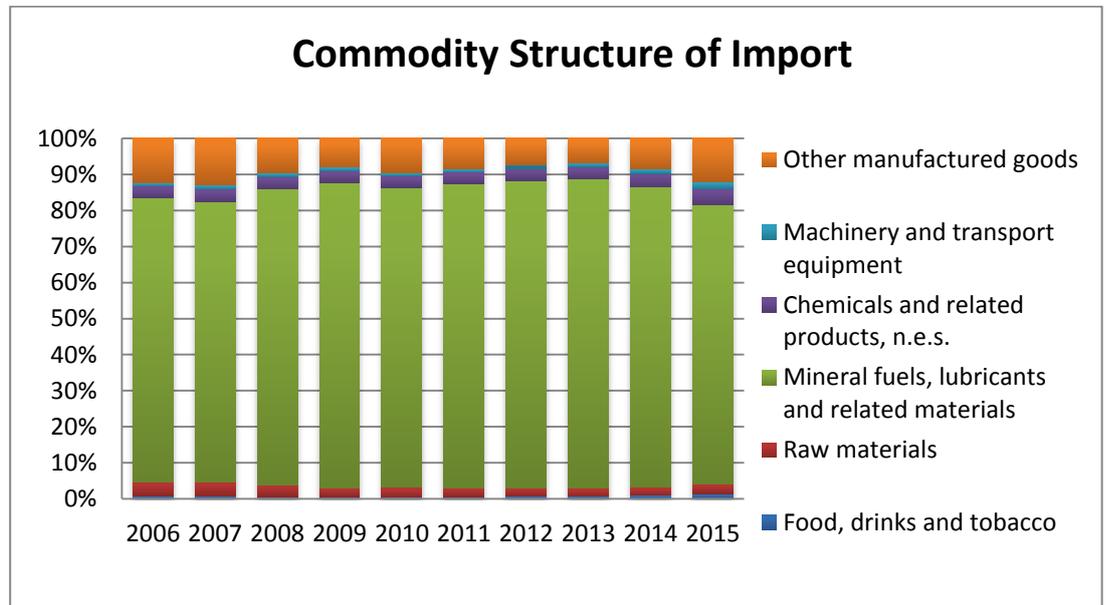
Figure 8 – EU-Russia Trade Balance, in millions Euro



Source: Eurostat

Trade balance with EU has been negative since 2006, due to high volumes of import from Russia to EU.

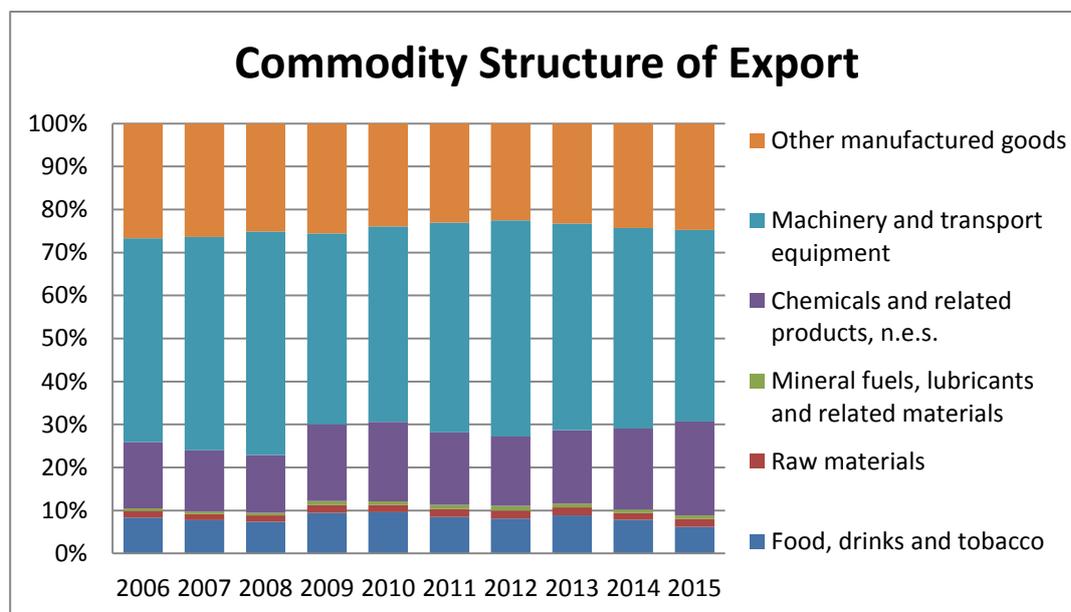
Figure 9 – Dynamics of Commodity Structure Change in EU-Russia Import



Source: Eurostat

In 2015 in deliveries of goods from Russia in the EU still main position was taken by goods of raw group, first of all fuel and energy goods. In import machines and the equipment, chemical goods and finished products dominated.

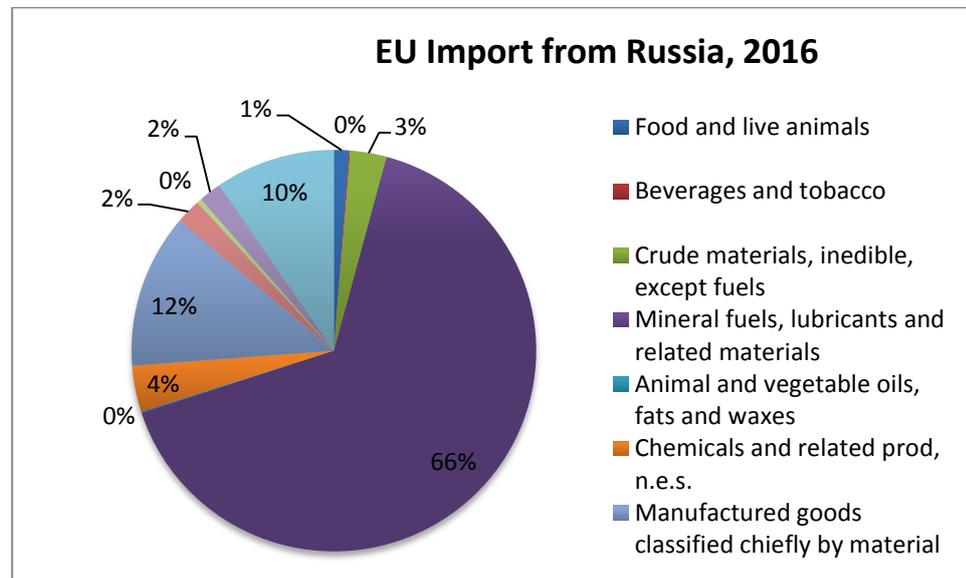
Figure 10 – Dynamics of Commodity Structure Change in EU-Russia Export



Source: Eurostat

In commodity structure of the Russian import the specific weight increased chemical products and rubber, fuel and energy goods, food products and agricultural raw materials, textiles, products from it and footwear, the share of machines, the equipment and vehicles, metals and products decreased from them, wood and pulp-and-paper products (figure 10).

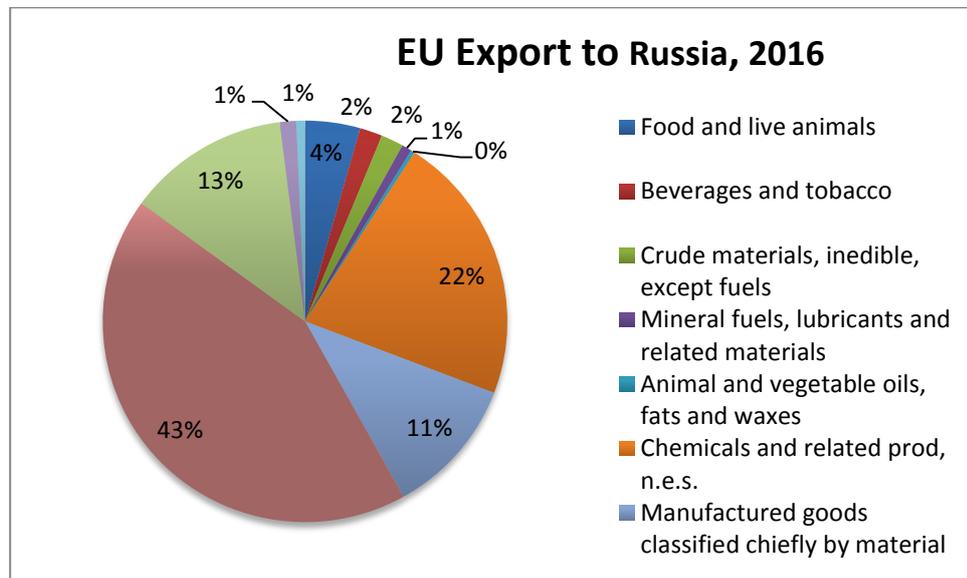
Figure 11 – Commodity Structure of EU Import from Russia, in 2016 in % from total



Source: Eurostat

Machines, the equipment remain the main article of the Russian import and vehicles, which purchases in January-November, 2015 in relation to to the same period of 2014 decreased by 40,9% to 74,0 bln. dollars of the USA, at the same time the specific weight of this commodity group in structure of domestic import was lost on 2,9 percent points (World Trade Center Moscow). This dynamics is in many respects caused by devaluation ruble as a result of which appeal of foreign significantly decreased consumer goods. Most strongly import of bodies (-62,4%) decreased and parts (-45,9%) of motor vehicles, other flight vehicles (- 56,6 %), cars (-52,5%) and telephone sets (-22,5%). Together with that observed expansion of purchases of other ocean ships – by 2,8 times, parts computers – by 2,1 times, industrial furnaces not electric (+45,9%) (figure 12).

Figure 12 - Commodity Structure of EU Export to Russia, in 2016 in % from total.



Source: Eurostat

44,8% of all Russian commodity turnover are the share of EU countries now (appendix 1) . During the period from 2004 to 2012 commodity turnover grew more than by two and a half times and reached record 338,5 billion euros in 2012. However since 2013 indicators of a gain of trade gained negative values. So in 2015 commodity turnover made 209,5 billion euros and was reduced by 26,7% in comparison with 2014; the Russian export – 135,6 billion euros (- 25,7%), the Russian import - 73,9 billion euros (- 28,4%). The structure of barter of basic changes didn't undergo.

4.3. Sanctions regime between the European Union and the Russian Federation.

During the years 2014-2016 Russia's economy is under the burden of economic sanctions applied by the European Union and the United States as the result of the events in Ukraine. Sanctions have been applied to individuals and entities, restricting certain kinds of economic activities, including financial, technological and trade relations. The volume of trade between Russian Federation and the European Union continues to decline since 2014.

4.3.1 Sanctions applied by the EU

Restrictive measures have been applied after the Russian Federation annexed the Crimea in 2014; the United States along with the European Union considered this illegal and violating country`s sovereignty and decided to implement economic sanctions against Russia as the way of influence. Sanctions are one of the factors contributing to negative economic performance and the barriers to trade as well. United Nations define sanctions as “complete or partial interruption of economic relations and of rail, sea, air, postal, telegraphic, radio, and other means of communication, and the severance of diplomatic relations” (Charter of the United Nations).

On 17 March 2014 first wave of restrictive measures were imposed. These concerned prohibitions to individuals to visit the US, Canada and the EU member countries and freeze of financial assets of Russian residents abroad.

These sanctions are of several types, which are: diplomatic sanctions, individual sanctions, sanctions against Crimea, and economic sanctions. This block of economic sanctions at that time consisted of:

- financial restrictions for major state-owned Russian banks, development banks and their subsidiaries outside EU, in order to restrict for them, and therefore for Russian Federation, access to capital markets. The EU nationals and companies could not buy or sell any financial instruments issued by these companies with a maturity exceeding 90 days;

- ban on imports of goods originating in Crimea or Sevastopol unless they have Ukrainian certificates; prohibition to invest in Crimea; ban on providing tourism services in Crimea or Sevastopol; goods and technology for the transport, telecommunications and energy sectors or the exploration of oil, gas and mineral resources may not be exported to Crimean companies or for use in Crimea;

- embargo on the import and export of arms and related material;

- ban on exports of dual use goods and technology for military use;

- ban on exports of equipment for deep water oil exploration and production, arctic oil exploration or production, equipment for shale projects (EU sanctions against Russia over Ukraine crisis).

In the oil industry: sanctions against Russian oil companies and their subsidiaries, as well as subsidiary companies in the industry; a ban on exports to the Russian technology production and refining; the rejection of the joint projects in the oil sector and invest long-term projects.

In the gas sector: sanctions against Russian gas companies and their subsidiaries, as well as subsidiary companies in the industry; the rejection of the joint projects in the gas sector and the investment perspective projects.

In the banking and finance industry: Freezing Russian financial assets of individuals and entities; off Russian banking structures from international paying systems; reducing customer portfolio abroad; restrict access to investment projects; limiting access to external borrowing (loans); limit the financial freedom of Russian companies abroad. The growth of foreign exchange reserves and capitalization of Russian banks and financial difficulties caused by the global financial crisis, the world's leading banking institutions, has allowed Russia to expand into foreign financial markets and to consolidate them in order to support Russian companies abroad. Leading Russian state banks operationally and financially support the activities of oil and gas, nuclear power, aviation, defense, information and other Russian companies in foreign markets

These sanctions have been strengthened in September, 2014. Sanctions of the USA and Canada are termless. Sanctions of the EU which had to end in July, 2015 have been prolonged till January, 2016 (Russia: EU prolongs economic sanctions by six months, 2016).

Sanctions have played a significant role in the Russian economy change, another factor was started in 2014 significant drop in oil prices.

As for the Russian economy, according to the general estimates, they have aggravated macroeconomic problems which it already faced, in particular the fast and sharp drop in oil prices which has begun in recent months 2014.

The latest data confirm the beginning of economic recession in Russia: GDP growth has made -2,2% in the first quarter 2015 in comparison with the first quarter 2014.

Moreover, cumulative influence of these sanctions and drop in oil prices have led to considerable depreciation of ruble and increase in capital outflow.

At the same time sanctions for access to financing have forced the Russian State to use a part of currency reserves to support the enterprises and the organizations which have fallen under sanctions.

These events have compelled the Central Bank of Russia to actions: in December, 2014 the Central Bank of Russia has suddenly stopped protecting the cost of ruble and to raise interest rates.

Table 1 – Change in EU-28 export/import with Russia

	Jan. 2014	Jan. 2015	Jan. 2016	% change
Export value (euro)	7 708 294 866	5 019 211 761	4 172 858 499	-46%
Import value (euro)	17 336 974 938	10 331 176 609	8 584 557 188	-50%
Export quantity (kg)	18 902 682	11 421 894	9 444 590	-50%
Import quantity (kg)	372 268 782	323 327 210	346 671 181	-7%

Source: Own processing of data available at Eurostat

Table shows the change that happened after the sanctions were impose. In general, there is the significant decline in trade flows - 50% decrease in import to EU and 46% in export to Russia in euro value since January 2014 till January 2016. Though the monetary value demonstrates almost two times drop, quantitative value shows another result: there is 50% drop in volume of export, but import volume dropped only on 7 %. This signifies that sanctions may be not the only factor contributing to decrease in import value, because its volumes had not changed that significantly.

Table 2 – Trade in services of Russian Federation with world, % change 2011-2013 and 2013-2015

	Imported		Exported	
	% change 2011-2013	% change 2013-2015	% change 2011-2013	% change 2013-2015
Service label	40%	-31%	21%	-26%
All services	12%	-11%	33%	-2%
Charges for the use of intellectual property n.i.e.	23%	-9%	34%	-38%
Construction	40%	-41%	54%	-29%
Financial services	48%	-21%	46%	-20%
Government goods and services n.i.e.	19%	-14%	56%	6%
Insurance and pension services	67%	-48%	6%	-11%
Maintenance and repair services n.i.e.	25%	-42%	4%	-56%
Manufacturing services on physical inputs owned by others	41%	-31%	21%	-26%
Memo item: Commercial services	23%	-19%	25%	-32%
Other business services	39%	-57%	56%	-56%
Personal, cultural, and recreational services	44%	-33%	34%	-5%
Telecommunications, computer, and information services	62%	-35%	20%	-19%
Transport	14%	-33%	6%	-29%
Travel	40%	-31%	21%	-26%

Source: International Trade Center

Table presents information about percentage change of services structure imported to Russia and exported to world. In period since 2011 till 2013 there is the tendency of positive change, i.e. the increase in both trade volumes; the biggest rise is seen in import of insurance and pension services and telecommunications, computer, and information services. The biggest rise in export is in government goods and services and business services and construction. After sanctions implementation this tendency changed into the negative one. Period of 2013-2015 the biggest drop can be observed in importing personal, cultural, and recreational services (-57%), maintenance and repair services (-48%) and manufacturing services (-42%). Export also decreased in manufacturing services on physical inputs owned by others (-56%) and personal, cultural, and recreational services (-56%). Financial sector, as the first one targeted by sanctions decreased by 29% in export and 41% in import.

4.3.2 Counter-sanctions and its results

On 6 August 2014, Russian President, Vladimir Putin signed an edict prohibiting (or limiting), for a period of one year, the import of agricultural products, raw materials and food originating in countries that have imposed sanctions against Russian entities or individuals. Russia has responded with counter-sanctions banning around half of EU agrifood imports, such as fruit, vegetables, meat and dairy (Economic impact on the EU of sanctions over Ukraine conflict).

Table 3 - Trade flows by SITC product grouping and HS section for 2013 – 2016, values in Mio €

	Imports				
	2013	2014	2015	2016	%change
Agricultural products (Food (incl. Fish) & Raw Materials)	3,937	3,74	3,707	3,688	-6%
I Live animals; animal products	408	457	549	572	40%
II Vegetable products	441	520	533	629	43%
III Animal or vegetable fats and oils	441	144	120	95	-78%
IV Foodstuffs, beverages, tobacco	644	741	690	622	-3%
	Exports				
	2013	2014	2015	2016	%change
Agricultural products (Food (incl. Fish) & Raw Materials)	12,15	9,254	5,624	5,707	-53%
I Live animals; animal products	3,351	1,456	395	350	-90%
II Vegetable products	3,304	2,471	1,261	1,284	-61%
III Animal or vegetable fats and oils	243	286	190	230	-5%
IV Foodstuffs, beverages, tobacco	4,881	4,748	3,563	3,595	-26%

Source: Own processing of data available at Eurostat

The Russian ban on import of the Western food has aggravated this difficult picture as it has led to increase in prices for food and as a result inflation growth. And it in addition to falling of cost of ruble, owing to which the price in rubles rose already by the imported goods and services.

One of the sectors that was influenced the most in trading relationships is agricultural one.

Import to the EU of agricultural products decreased only by 6%, when export to Russia decreased by 53% (table 3).

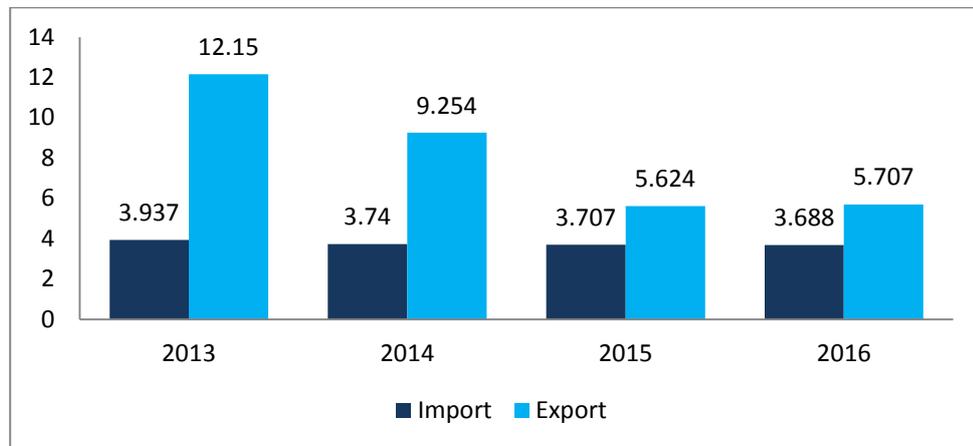
Table 4 – Change of EU-Russia agri-food export and import, % change

	Export			Import		
		%change			%change	
	2014	2015	2016	2014	2015	2016
Total	-14%	-29%	-2%	-12%	-25%	-13%
Agricultural products	-24%	-39%	1%	-5%	-1%	-1%
of which food	-25%	-43%	1%	-4%	2%	2%
of which fish	-22%	-58%	0%	12%	24%	5%
Raw materials	-23%	-8%	2%	-6%	-4%	-3%

Source: Eurostat

Based on presented data in table, counter sanctions applied by Russia on importing agri-products affected the value of agricultural trade between trading partners. Since these counter-measures influenced Russia itself, so the export from EU to Russia fell by 29% since 2014 till 2015 across all sectors, i.e. total trade flow; agricultural sector fell by 39%, of which export of food fell by 43%. Total import from Russia to EU changed only by 25% and agricultural food sector changed even more insignificantly (-1%). This allows concluding the uneven dependence between trading partners in agri-food sector, Russia is more dependent on EU export. Since 2015 Russia maintains the stable volume of trade in these sectors, in total it did not really change import -2% change compared with previous drop of -29% (table 4).

Figure 13 - EU-Russia Trade flows of agricultural products, for 2013-2016, values in Mio €



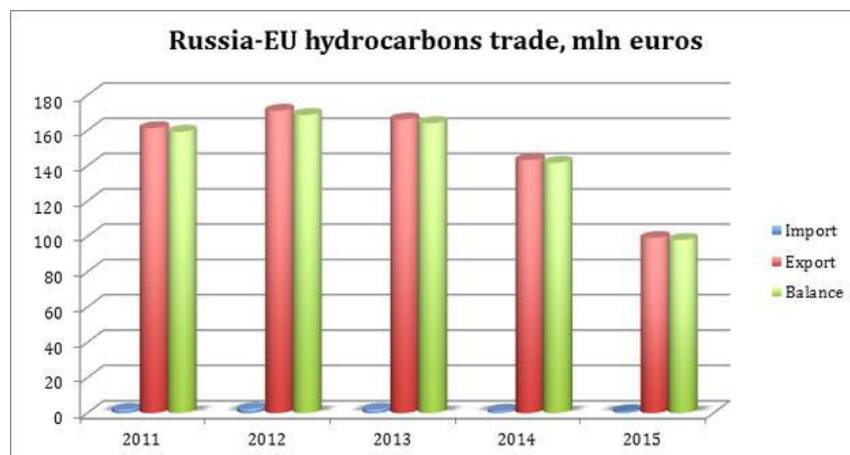
Source: Eurostat

Sanctions reduced agricultural exports 50 % from the EU to Russia by 50 % in 2015 compared with the level of 2013 and by that reduced of the negative balance of trade between Russia and the EU in this sector (figure 13).

Another sector being influenced by sanctions is the energy one and hydrocarbons in particular.

Hydrocarbons are one of the main exporting materials to EU that hold the high share in total export. Figure 14 shows the almost 50% drop of export from Russia of this commodity since 2013 till 2015. One of the reasons can be the decrease in oil prices in the world.

Figure 14 – Russia-EU hydrocarbons trade, mln Euros



Source: Eurostat

Through years Russian Federation remains the main exporter of crude oil for EU, despite that it decreased its share. It became the main trading partner and now holds the leading position as the supplier of crude oil imported to EU. Figure below shows that in 2014 of all the imported oil 30% was from Russia, the second place takes Norway, but still its share is less (13.1%).

Table 5 - Main origin of crude oil imports (EU-28 (% of extra EU-28 imports))

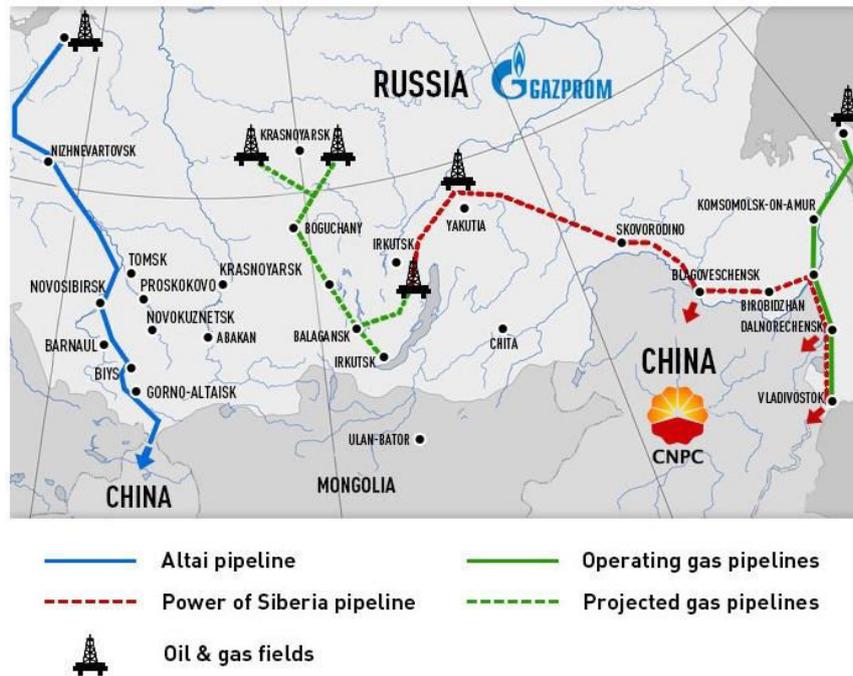
		Crude Oil										
	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	
Russia	32,5	32,9	33,8	33,7	31,8	33,6	34,7	34,8	33,7	33,7	30,4	
Norway	18,7	16,8	15,4	15,0	15,0	15,1	13,7	12,5	11,2	11,8	13,1	
Nigeria	2,6	3,2	3,6	2,7	4,0	4,5	4,1	6,1	8,2	8,1	9,1	
Saudi Arabia	11,3	10,5	9,0	7,2	6,8	5,7	5,9	8,0	8,8	8,7	8,9	
Kazakhstan	3,3	4,4	4,6	4,6	4,8	5,3	5,5	5,7	5,1	5,7	6,4	
Iraq	2,2	2,1	2,9	3,4	3,3	3,8	3,2	3,6	4,1	3,6	4,6	
Azerbaijan	0,9	1,3	2,2	3,0	3,2	4,0	4,4	4,9	3,9	4,8	4,4	
Algeria	3,3	3,5	2,5	1,9	2,5	1,6	1,2	2,6	2,9	3,9	4,2	
Angola	0,6	1,2	0,7	2,0	2,6	2,7	1,6	2,1	2,0	2,9	3,3	
Others	24,5	24,0	25,2	26,6	26,0	23,8	25,8	19,8	20,1	16,7	15,5	

Source: Eurostat

December 1, 2014, Russia refused from the project "South Stream", due to the sanctions imposed by EU on Russia. And now the Russian Federation intends to reorient its economy from West to East. In May 2016 the Russian Federation has signed 20 agreements on cooperation in various fields with China ("Power of Siberia").

The Power of Siberia gas trunkline will transport gas from the Irkutsk and Yakutia gas production centers to consumers in Russia's Far East and China (eastern route). In May 2014, Gazprom and China National Petroleum Corporation (CNPC) signed the Sales and Purchase Agreement for gas to be supplied via the eastern route (Power of Siberia gas pipeline). The 30-year Agreement provides for Russian gas deliveries to China in the amount of 38 billion cubic meters per year (Gazprom).

Figure 15 - Gas resources exploitation and gas transmission system development in Eastern Russia



Source: Gazprom

To estimate impact of sanctions on bilateral trade of EU and Russia gravity model was chosen. Gravity model as an econometric tool for estimation of relations between trading countries.

Some specific kinds of econometric models are used for modeling the trading streams between couples of the countries; these are called the gravity models. Each model represents a function that connects trading streams with several factors: socio-political, economic, and geographical. Gravitational models define the dependence of the unidirectional foreign trade stream from the parameter of an inland economic state of export country, and the country of the importer.

The core of the gravitational model is the Newton's law of attraction, taken from physics, that relates the gravity between two objects to their masses and the distance between them.

Formula 1 Newton`s Law of Attraction

$$GF_{ij} = M_i M_j / D_{ij}$$

In this equation, the gravitational force is directly proportional to the masses of the objects (M_i and M_j) and indirectly proportional to the distance between them (D_{ij}) (Anderson, J.E., Wincoop E., 2001).

The gravity model, written by Anderson and Wincoop, is considered a classical one and is used in scientific researches pretty often (Anderson, J.E., Wincoop E., 2001).

Based on various approaches to theoretical foundations of gravity equations, Evenett and Keller summarize three types of trade models, which differ in the way product specialization is obtained in equilibrium:

- technology differences across countries in the Ricardian model;
- variations in terms of countries' differing factor endowments in the Heckscher-Ohlin (H-O) model;
- increasing returns at the firm level in the increasing returns to scale (IRS) models (Evenett J. and Keller, 2002).

Each of these perfect specialization models is a limiting case a model of imperfect specialization, but imperfect product specialization is empirically important. In reality, though, technologies and factor endowments are not the same around the world; they change over time and can be transferred between countries. Trade theory, as a rule explains why countries may trade in different products but does not explain why some countries' trade links are stronger than others and why the level of trade between countries tends to increase over time. This emphasizes the limited applicability of trade theory in explaining the size of trade flows. Therefore, while trade theory can explain why trade occurs it can not explain the extent of trade, whereas the gravity model allows more factors can be taken into account to explain the extent of trade as an aspect of international trade flows (Anderson, J.E., Wincoop E., 2001).

According to the gravity approach, bilateral trade between two countries is directly related to their incomes (GDP, GNP) and inversely related to the distance between them.

Later on, another researcher added more variables. It was Linnemann. He pointed out that, when considering the theoretical aspects of a gravity model for trade, there are three main factors to be considered:

- the total potential supply (or exports) of a country to the world market;
- the total potential demand (or imports) of a country to the world market;
- those factors that create a resistance to trade and thus affect the degree of trade intensity (Linnemann, 2007).

And so, there are various options of gravitational models in which variables can be the indicators of population, the areas of the countries, border extents and also the dummy variables that correspond to the socio-political, climatic and other distinctions. Thus, the gravitational models define the dependence of the unidirectional foreign trade stream from parameters of intra economic state as export country, and import country (Anderson, J.E., Wincoop E., 2001).

The influence of these factors is estimated on the basis of the data about the actual amount of trade turnover between the countries by means of the regression analysis. The received parameters of gravitational model have the character of elasticity and show on how many percent can increase trade turnover between the countries if the corresponding factor increases by 1%. Usually this model is represented in a logarithmic form.

Gravity-based approach for measuring the correlation between the trading countries

Empirical dependence of bilateral trade streams on the size of economies of the partner countries and geographical distance between them is one of most successful analogies between economic and physical processes. In this work gravitational model of foreign trade was used and possibility of their use for an assessment of influence of economic dynamics of export-import streams were considered.

Gravity models of international trade implement equation uses trade flows or exports from county i to country j (E_{ij}) in place of gravitational force, with arbitrarily small numbers sometimes being used in place of any zero values. Distance is often measured using “great circle” calculations. The handling of mass takes place via four alternatives. In the first alternative with the most solid theoretical foundations, mass is associated with the gross domestic product (GDP) of the countries (Anderson, J.E., Wincoop E., 2001).

It is rather obvious that the distance between trade partners is not the most reliable tool for modeling of trade expenses, on pricing in the market some other factors can influence as well: features of passing of customs, a type of cargo, type of transport, tariff policy of transport companies, features local infrastructure, etc. However the distance between the trading countries is used most often due to its relative simplicity of collecting the statistical data.

The influence of these factors is estimated on the basis of the data about the actual amount of trade turnover between the countries by means of the regression analysis. The received parameters of gravitational model have the character of elasticity and show on how many percent can increase trade turnover between the countries if the corresponding factor increases by 1%. Usually this model is represented in a logarithmic form.

As an indicator of the size of economy volumes, GDP of the trading partners were used, and as the distance between the exporter and the importer – distance between the capitals of two the countries, as between the main economic centers of the countries, was taken. For construction of such model the data was taken:

– stream of goods (export and import) from the country i to the country j in a year (t), that depends on GDP of the countries in a year t respectively (stream of goods, as well as GDP expressed in US dollars), and also on the distance D_{ij} between the capitals of the countries (in km).

Based on the specification of the gravity model, the following exports and imports equations are estimated:

Formula 2 Gravity Model Equation

$$\ln(\text{EXPORTS}_i) = B_0 + B_1 \ln(\text{GDP}_i) + B_2 \ln(\text{DISTANCE}_{ij}) + B_3 \ln(\text{GDP}_j) + B_4 \ln(\text{Sanctions}) + u_i,$$

Where:

- (GDP_i) - the data on nominal GDP of the EU for 2005-2015;
- (GDP_j) - the data on nominal GDP of the Russia for 2005-2015;
- (Distance) – distance between the centers of trading partners` countries;
- (Exports_j) - data on export of the EU to Russia from 2005-2015 in USD value;
- (Sanction) – as dummy variable.

So, the gravity model is the way to estimation of value of external trade of the Russian Federation with the European Union. The constructed gravitational model is supposed to use for the analysis of export streams to Russia from EU for the period of 2005-2015.

Table 6 – Data for regression model

Year	Import, USD	Export, USD	Distance, km	GDPi, million \$	GDPj, million \$
2015	151,314,418,714	81,727,847,551	4933	16311897	1331208
2014	220,906,068,020	136,267,308,389	4933	18573805	2052807
2013	274,191,098,337	158,985,409,156	4933	18005491	2231827
2012	276,499,789,541	158,595,909,680	4933	17272909	2154067
2011	280,185,193,774	151,061,738,307	4933	18336368	2034007
2010	212,788,588,139	114,019,089,483	4933	16975515	1524916
2009	166,668,542,673	91,716,708,986	4933	17078416	1222644
2008	255,417,602,363	154,994,791,090	4933	19116323	1660844
2007	201,510,232,288	122,421,535,285	4933	17780816	1299705
2006	179,255,372,216	91,001,662,250	4933	15388308	989930,5
2005	141,571,676,876	70,398,808,587	4933	14426313	764017,1

Source: UN Comtrade, World Bank, Distance FromTo

After building the regression model the results and the whole statistics are shown in model summary in the table 7. From the table: adjusted R^2 is 0.913 and R^2 is 0.939, so it shows that the built model defines 93.9% of the data changes, in other words, the accuracy of data selection for the equation is rather high. The Durbin-Watson test is used to check the residuals for the possible autocorrelation in regression model, its value is 1.721, which falls in the interval from 1.5 to 2.5 and means that there is no autocorrelation in residuals.

Table 7 – Regression Model Summary

Model Summary					
Model	R	R square	Adjusted R square	Standard Error of the Estimation	Durbin-Watson
1	,969 ^a	,939	,913	,08657	1,721

a. Predicators: (Constant), Sanct, lnGDPi, lnGDPj

b. Dependent: lnExp

Source: Own estimations based on SPSS

In Anova table 8 the Fisher`s test shows high value (36.180) and means that there is linear relation between variables.

Table 8 - Anova

ANOVA ^a						
Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	,813	3	,271	36,180	,000 ^b
	Residual	,052	7	,007		
	Total	,866	10			

a. Dependent: lnExp

b. Predictors: (Constant), Sanct, lnGDPi, lnGDPj

Source: Own estimations based on SPSS

Table 9 reflects the results of regression and significance level of the coefficients. Beta shows the relation between changes in variables and net change in trade. The important predictor is GDP of the country importing goods, in this case it is the Russia (beta is 0.680 – the highest value among others), and influences more than GDP of the EU (lnGDPi) and sanctions.

Another relevant factor here if the collinearity statistics, it helps to detect multicollinearity in the model; the tolerance is supposed to be more than 0.1 and VIF should be less than 10, all these conditions are fulfilled.

Table 9 - Coefficients

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	-1,421	8,172		-,174	,867		
lnGDPj	,579	,144	,680	4,020	,005	,303	3,304
lnGDPi	1,123	,588	,321	1,911	,098	,307	3,257
Sanct	-,214	,069	-,295	-3,126	,017	,974	1,026

a. Dependent variable: lnExp

Source: Own estimations based on SPSS

For implementation of the analysis of adequacy for gravity model of export and import we use the "sigma" and "R²", relying on the following facts:

– the main characteristic of regression model`s absolute accuracy is the assessment of its mean square deviation (R²=0.939);

– the coefficient of determination of R^2 , that is the main characteristic of relative accuracy of model, shows what part of "dispersion" of a dependent variable – logarithm of the volume of export or import – reproduces model;

– from the practical point of view the characteristic of absolute accuracy of the model (σ), is much more important than the determination coefficient as it gives the chance to approximately estimate model error value for the majority observations.

Based on the gained data by means of gravity model, the result is that applied in 2014 sanctions have no significant impact on the export from the European Union to Russia, since its beta parameter is lower than GDP of the EU and the Russia respectively.

Based on the examined data and conducted research, sanctions appear to be not the main reason of Russia trade flows fall. Another factors contributing to this decrease can be fall of oil prices, high level of inflation or another political, military or economic reasons, but to understand that there is the need for further analysis.

Conclusion

Following the objective of this paper, the conducted research answered the questions set by the goal.

After analysis of the industry structure of sanctions against Russia, it can be seen that the sanctions are directed against the key, i.e., competitive, sectors of the Russian economy, such as oil, gas, nuclear and military industries of the Russian Federation, as well as against the Russian banking capital.

The conflict in Ukraine and further sanctions, have led to the deterioration of relations between Russia and the European Union, though Russia has historically been the largest partner of the EU in the energy sector. And maintained it until now. One of the biggest consumers of hydrocarbons of the country are Germany, the Netherlands, Italy and others. Cooperation between Russia and European countries is mutually beneficial, therefore, any differences in the economic or political views will have a negative impact for both sides, as it happens in a given period of time.

This conducted research combines was based on the analysis of the trade flows between the reviewing entities: Russian Federation and European Union and econometrics tool, that is the gravity model with time series of 2004-2015 to trace the general trade trend and find out whether the applied sanction have become the main contributing factor to Russian trade and consequently economic decrease.

Based on the gained data by means of gravity model, the result is that applied in 2014 sanctions have no significant impact on the export from the European Union to Russia, since its beta parameter is lower than GDP of the EU and the Russia respectively.

And the change in export from the EU to Russia was mainly caused by the change of Russian GDP, which in turn influenced on production of import-goods substitution inside the importing country, decrease in buying power.

Based on the examined data and conducted research, sanctions appear to be not the main reason of Russia trade flows fall. Another factors contributing to this decrease can be fall of oil prices, high level of inflation or another political, military or economic reasons, but to understand that there is the need for further analysis.

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Appendices

Appendix 1– Changes in export to Russia from the EU, value in euros

Country	Jan. 2014	Jan. 2015	Jan. 2016	Jan.-Dec. 2016	% change
Austria	287 270 721	180 070 998	124 483 455	1 952 604 469	-57%
Belgium	329 942 787	210 900 393	207 604 758	3 394 728 738	-37%
Bulgaria	30 760 051	20 109 888	22 494 076	344 028 709	-27%
Cyprus	1 287 824	79 637	210 851	10 177 733	-84%
Czech Republic	344 518 429	210 050 929	162 150 268	2 775 384 700	-53%
Germany	2 222 850 990	1 435 109 056	1 273 609 647	21 665 523 285	-43%
Denmark	101 615 849	44 111 198	40 100 544	727 920 559	-61%
Estonia	92 853 975	39 316 793	35 632 095	776 044 229	-62%
Spain	212 701 742	118 145 698	94 968 789	1 602 739 295	-55%
EU-28	7 708 294 866	5 019 211 761	4 172 858 499	72 405 525 709	-46%
Finland	351 462 938	191 420 737	155 705 384	2 979 922 198	-56%
France	567 155 047	354 817 863	269 951 336	4 941 797 177	-52%
United Kingdom	334 978 444	243 351 288	195 016 023	3 084 026 977	-42%
Greece	15 884 050	9 918 715	9 020 724	215 491 137	-43%
Croatia	14 103 714	12 393 665	9 201 496	190 562 832	-35%
Hungary	159 218 230	114 042 772	112 527 954	1 412 491 508	-29%
Ireland	45 123 109	26 025 364	27 594 749	361 184 329	-39%
Italy	668 943 037	422 790 972	320 924 642	6 720 476 758	-52%
Lithuania	299 237 399	185 212 794	136 648 381	3 049 070 045	-54%
Luxembourg	10 774 087	6 568 285	7 693 602	130 263 403	-29%
Latvia	90 317 864	66 663 821	57 459 737	1 243 225 951	-36%
Malta	95 696	129 099	15 584	3 153 353	-84%
Netherlands	467 120 531	292 951 217	309 545 781	4 692 340 097	-34%
Poland	508 404 680	409 500 231	325 155 398	5 206 795 007	-36%
Portugal	18 000 559	10 615 080	7 678 403	143 056 280	-57%
Romania	103 851 769	113 240 290	72 811 484	969 709 593	-30%

Sweden	175 744 275	148 227 981	75 619 676	1 544 663 173	-57%
Slovenia	89 604 144	55 969 234	48 186 561	789 606 106	-46%
Slovakia	164 472 925	97 477 763	70 847 101	1 478 538 068	-57%

Source: Own processing of data available at Eurostat

Appendix 2 – Changes in export to Russia from the EU, quantity in 100kg

Country	Jan. 2014	Jan. 2015	Jan. 2016	% change
Austria	355 534	271 577	236 290	-34%
Belgium	1 010 010	627 061	517 196	-49%
Bulgaria	284 427	252 514	176 668	-38%
Cyprus	12 374	251	339	-97%
Czech Republic	570 830	355 617	278 538	-51%
Germany	3 211 984	2 334 550	1 955 804	-39%
Denmark	292 008	130 602	112 292	-62%
Estonia	701 399	150 544	132 462	-81%
Spain	755 994	356 427	461 316	-39%
EU-28	18 902 682	11 421 894	9 444 590	-50%
Finland	1 591 259	1 265 433	870 190	-45%
France	799 516	529 441	456 353	-43%
United Kingdom	541 966	263 773	183 625	-66%
Greece	81 187	39 999	35 442	-56%
Croatia	8 885	148 488	22 753	156%
Hungary	301 887	204 546	195 805	-35%
Ireland	500 187	98 883	289 277	-42%
Italy	911 412	634 159	468 569	-49%
Lithuania	1 172 492	629 469	429 076	-63%
Luxembourg	42 021	16 582	41 899	0%
Latvia	498 815	358 008	238 945	-52%
Malta	62	14	6	-90%
Netherlands	1 203 877	713 210	691 095	-43%
Poland	2 527 062	1 258 085	917 731	-64%
Portugal	61 034	32 892	30 692	-50%
Romania	318 925	240 207	156 977	-51%
Sweden	834 007	296 862	366 189	-56%
Slovenia	97 614	67 957	58 563	-40%
Slovakia	215 914	144 743	120 498	-44%

Source: Own processing of data available at Eurostat

List of figures

Figure 1– Dynamics of Russian Federation GDP, in million USD.....	32
Figure 2 - Monthly Dynamics of Russian Exporting-Importing Operations with World in 2013-2016, in millions USD.....	35
Figure 3 – Russian Foreign Trade with World, in millions USD.....	36
Figure 4 - RF foreign trade turnover structure, 2015.....	37
Figure 5 - Volume of Russian trade with the main partners from far abroad.....	39
Figure 6 - Volume of Russian trade with the main partners from CIS countries, 2015.....	40
Figures 7 - Main trading partners EU (% share, 2015).....	42
Figure 8 – EU-Russia Trade Balance, in millions Euro.....	43
Figure 9 – Dynamics of Commodity Structure Change in EU-Russia Import.....	43
Figure 10 – Dynamics of Commodity Structure Change in EU-Russia Export.....	44
Figure 11 – Commodity Structure of EU Import from Russia, in 2016 in % from total.....	45
Figure 12 - Commodity Structure of EU Export to Russia, in 2016 in % from total.....	46
Figure 13 - EU-Russia Trade flows of agricultural products, for 2013-2016, values in Mio €.....	53
Figure 14 – Russia-EU hydrocarbons trade, mln Euros.....	53
Figure 15 - Gas resources exploitation and gas transmission system development in Eastern Russia.....	55

List of tables

Table 1 – Change in EU-28 export/import with Russia.....	49
Table 2 – Trade in services of Russian Federation with world, % change 2011-2013 and 2013-2015.....	50
Table 3 - Trade flows by SITC product grouping and HS section for 2013 – 2016, values in Mio €.....	51
Table 4 – Change of EU-Russia agri-food export and import, % change.....	52
Table 5 - Main origin of crude oil imports (EU-28 (% of extra EU-28 imports).....	54
Table 6 – Data for regression model.....	59
Table 7 – Regression Model Summary.....	59
Table 8 – Anova.....	60
Table 9 – Coefficients.....	60