

Czech University of Life Sciences Prague

**Faculty of Economics and Management
Department of Economics**



Diploma thesis

**EUR/USD, EUR/CZK, EUR/RUB and bank
interventions**

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EUR/USD, EUR/CZK, EUR/RUB and bank interventions

Objectives of thesis

Goals of my diploma thesis are identification of Central banks interventions, to evaluate ways and applications of using exchange rates as a tool of monetary policy and what is the extent to which the central bank is able to influence exchange rates using foreign exchange interventions. The research is performed for selected countries in the last quarter.

Methodology

To determine the status and development of exchange rates and causes of central bank intervention are used in particular the methods of time series analysis and Central bank annual reports, as well as exploration of related articles and literature. Progression is observed in the time series from 1990 to 2015. Data for the processing of the thesis are derived from Czech Statistical Office sources, the World Bank data, Central bank of Russian Federation and Ministry of finance.

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Prague on 30. 11. 2015

Declaration

I declare that I have worked on my diploma thesis titled "EUR/RUB, EUR/CZK, EUR/USD and bank interventions" 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 31.03.2016

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EUR / RUB, EUR / CZK, EUR / USD a bankovní intervence

Souhrn

Táto Diplomová práce je zaměřená na ekonomickou analýzu intervencí v cizích měnách, které byly implementovány ve třech různých regionech: Ruské Federaci, České Republice a Evropské Unii. Autor se pokusil zhodnotit příčiny a dopady daných zákroků z popisného a analytického hlediska. Pro lepší porozumění problematiky, první kapitola je věnována přehledu literatury. Pokrývá základní pointy a definice spojené s tématem Diplomové práce. Druhá kapitola zahrnuje praktickou část, která je rozdělena do tří dílčích kapitol. První podkapitola druhé kapitoly zahrnuje analýzu aktuální situaci v Ruské Federaci, příčiny a dopady prováděné politiky Ruské Centrální Banky. Dále v této části byli prozkoumány hlavní ukazatelé které měli největší vliv na ekonomiku Ruské Federace a strategii RCB. Druhá podkapitola obsahuje názory a příčiny provádění intervence v České Republice, taky poskytuje ekonomickou analýzu hlavních ukazatelů, jaké jsou: HDP na obyvatele a zahraniční obchod. Poslední podkapitola se skládá z analýzy pádu Eura vůči Americkému dolaru. Stejně tak byly analyzovány a vysvětleny hlavní důvody pádu. Výsledkem této práce, je posouzení, jestli intervence Centrálních bank je tím správným krokem, případně jestli by to mohlo být tzv. „lékem od všech nemocí“, protože zatím neexistuje jasný závěr o jejím dopadu.

Klíčová slova: intervence, směnný kurz, Centrální banky, monetární politika

EUR / RUB, EUR / CZK, EUR / USD and bank interventions

Summary

This Diploma thesis is focused on economic analysis of foreign exchange interventions, that had been implemented in three different regions: the Russian Federation, the Czech Republic and the European Union. Author tried to evaluate reasons and impacts of this step from the descriptive and analytical point of view. For better understanding of problematic, the first chapter is dedicated to the literature review. It covers the basic definitions and points, which are connected with the theme of the Diploma thesis. The second chapter contains the analytical part, which is divided into three subchapters. The first part of the second chapter analyses the situation in Russia, reasons and impacts of the Russian Central Bank policy. Furthermore, in this part were analysed main indicators which have had an impact on the economy of Russian Federation and on RCB strategy in foreign exchange interventions. The second part contains opinions and reasons of implementation of the foreign exchange intervention in Czech Republic, also provides economical analysis of main indicators, such as: GDP per capita and Foreign Trade. The last part consists of analysis of falling Euro against the US dollar. As well as the the main reasons were analysed and explained. The result of this work is to consider, if the foreign exchange intervention is the right step, if it could be “the medicine for all diseases” as there is no conclusion about this impact.

Keywords: intervention, exchange rate, currency, central banks, free market operations

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1. Introduction

Nowadays we live in the era where the economic reality is constantly changing. Currencies have become an inseparable part of life of our society. Our lives are simply impossible without currencies. That is the reason why modern people should by all means understand what currencies are, purposes they exist for, functions they fulfil. Without such knowledge they will not be able to work, to create their business, to take part in international relations, etc.

The Diploma thesis is focused on foreign exchange interventions in selected foreign exchange pairs of currencies EUR / RUB, EUR / CZK and EUR / USD, its reasons, criticism, opinions and the consequences of market reactions. Reasons and impacts are completely different in all three situations.

In the theoretical part the main definitions and basic information about currencies are explained. Reasons of interventions for each currency pairs and current market and geopolitical situations are also explained.

Empirical data and analytical tools are employed to capture the results of analyzes: price of Brent crude oil upon EUR / RUB exchange rate or Trade balance of Czech Republic upon foreign exchange rate EUR / CZK or GDP per capita in millions of Euro for EU upon EUR / USD.

At the end of each part of the analytical part of the Diploma thesis, author discuss some recommendations, which were used at the last part of the work to summarize the results and make up a conclusion.

2. Objectives and methodology

Objectives

The main goals of this Diploma thesis are identification of Central Bank interventions, to evaluate ways and applications of using exchange rates as a tool of monetary policy and what is the extent to which the Central Bank is able to influence exchange rates using foreign exchange interventions. The research is performed for selected countries in the last quarter.

Methodology

To determine the status and development of exchange rates and causes of Central Bank interventions are used in particular the methods of time series analysis and Central Bank annual reports, as well as exploration of related articles and literature. Progression is observed in the time series from 2004 to 2016. Data for the processing of the Diploma thesis are derived from the Czech Statistical Office sources, the World Bank data, Central Bank of Russian Federation and Ministry of finance.

3. Theoretical foundation

3.1 Foreign exchange

We can find a lot of information about the foreign exchange interventions of the central banks. Periodic media constantly reports about the behavior of the currencies in the foreign exchange market. Practically in any textbook about banking and monetary theory, we can find the simplest examples of what the foreign currency interventions are. In practice, however little is known about the effectiveness of foreign exchange intervention, especially if we are talking about the Bank of Russia.

Any national currency is the currency, it acquires a number of additional functions and features as soon as they are not considered in the narrow confines of the national system of macro-economic origin, but from the point of view of a participant in international economic relations.

National monetary system is inseparately linked to the global monetary system, is the form of organization of global currency relations, fixed by interstate agreements. The world monetary system has been formed by the middle of the XIX century. The nature of the functioning and stability of the global monetary system depends on the degree of compliance of its principles with the structure of the world economy.

The movement of currencies in the world is affected by their attitude towards each other. All the macro and micro aspects of various world economic community depend on of the daily quotations of major currencies in the world. Major currencies are: Euro, Dollar, Japanese yen, Pound of Sterling, Renminbi, the so-called cross rates, which in their own turn arise from the political and economic components in the world, Central Banks activities, the volume of oil and natural gas production in the world, the yield of crops, environmental conditions, warfares, etc. Our country is integrated into the world community and is a full member of the world community. Its Central Bank forms foreign currency assets, buying and selling different currencies.

Currency - the monetary unit of the country, used to measure the value of the goods.

The concept of currency is used in three senses:

1) The monetary unit of the country, used in foreign economic relations and international settlements with other countries (the national currency).

2) Banknotes of foreign countries (foreign currency) as well as credit and payment instruments denominated in foreign monetary units used in international transactions.

3) International (regional) monetary unit of account.

Activities of the currency market are based primarily on currency transactions associated with the transfer of property rights and other rights to currency values using as a means of payment in foreign currency and payment documents in foreign currency.

3.2 Classification of currencies

Currency can be classified in three basic parts, such as: basis of affiliation, sphere and regime of application and by the functional role.

3.2.1 Currency can be divided into different types on the basis of affiliation:

- National currency
- Foreign currency
- International (regional) currency
- Reserve currency

Reserve currency - foreign currency, in which the central banks of other countries accumulate and store reserves for international settlements for foreign trade transactions and foreign investment. (Avdokushin, E., 1996, p.11)

Initially, the role of reserve currency played the pound of sterling, who played a dominant role in international payments. Decisions of the Conference at Bretton Woods (USA, 1944), along with the pound of sterling as an international payment and reserve currency the US dollar was used, which soon took a dominant position in international payments. Reserve currencies were also the German mark, the Swiss franc, and the Japanese yen. Nevertheless, now the share of US dollar accounts for the vast majority of foreign exchange reserves.

A reserve currency means that the respective national currency is convertible, has adequate stability of its exchange rate, favoring the legal regime of its usage in other countries and in international exchanges. A country whose currency is used as a reserve one, gets some benefits in obtaining foreign loans, imports of its goods have privileged conditions for their expansion to the international markets.

The most important part of the foreign exchange reserves of the state are the central reserves of gold and foreign exchange, international currency and means of payment reserve, placed in the International Monetary Fund (IMF).

International currencies, including **the regional currencies**, used in payments between members of various international alliances, international funds or regional alliances. Currently, in some sectors of world trade the SDR is used as an international currency.

Special drawing rights (SDR) are the international payment and reserve funds, issued by the International Monetary Fund and used as means for clearing of international payments by entries in special accounts, and as a unit of account of the IMF.

SDR performs a number of functions of global money in regulating of balances of payments, replenishment of official foreign exchange reserves, the comparison of the value of national currencies, but it does not have its own value.

The first SDR were issued in January 1970, their second issue was made in 1979-1981. Nowadays there are 21.3 billion SDRs. SDR allocation is done automatically in accordance with a country's share in the IMF. Advantages of the SDR as a set of obligations of countries - members of the IMF allow gradually transform it into one of the main reserve means of the global monetary system. The increasing role of the SDR is confirmed by the expansion of their quotes, and with respect to the national currencies of the leading countries of the world.

To reduce the risk in exchange transactions with the use of SDRs were created by so-called special currency, the most prevalent of which the 90-th year received ECU - European Currency Unit. (Avdokushin, E., 1996, pp.17-19)

3.2.2 By the sphere and regime of application.

Another reason for the currency classification is the sphere and regime of its application, depending on which currency is subdivided into freely convertible, partially convertible and non-convertible currency.

Hard (freely convertible) currencies are currencies that can be freely and indefinitely exchanged for other foreign currencies and international payment instruments, in any form and in all kinds of operations. (Avdokushin, E., 1996, p. 21)

During the period of the so-called gold standard a currency could be considered convertible if it could be exchanged freely for gold. After the abolition of the gold content of currencies and their gold parities in the early '70s convertibility started to be understood as the ability to freely being bought and sold, being exchanged at the current exchange rate and used to create various types of financial assets.

International Monetary Fund approves and consents to the use of this or that currency as convertible. This means that the hard currency can be used in all types of international banking and financial transactions by both residents and non-residents. The good examples of hard currencies are U.S. dollar, euro, Japanese yen, Swiss franc and British pound.

The degree of currency convertibility is directly dependent on the economic potential of the country, the scope of its foreign trade, domestic monetary stability, the degree of development of national commodity and money markets and capital markets. In addition, a prerequisite for the maintenance of convertibility of the national currency is permanent participation of the central bank in the foreign exchange interventions for the sake of keeping the national currency at the optimal level to US dollar, euro or to the basket of foreign currencies.

Partially convertible currency - is a national currency which convertibility is limited, to a certain extent, for some holders, as well as for certain types of exchange operations. This kind of currency is exchanged only into some foreign currencies and can not be used in all international trade transactions. This group includes the currencies of most developing countries. The degree of convertibility is defined by the state in special legislation. The law establishes the procedure and the list of foreign currencies that may be exchanged by the national currency, as well as a quantitative expression of this exchange that allows buying and selling currency in the foreign exchange markets, indicates the range of subjects for such transactions (i.e., residents, non-residents, or certain enterprises, banks,

international organizations, etc.). The law also regulates the terms and extent of restrictions for foreign exchange transactions, conditions and procedures for their implementation. This is especially true of foreign trade transactions, purchase and sale of foreign currency, opening of foreign currency accounts, etc. (Avdokushin, E., 1996, pp.23 - 25)

There is also the concept of internal convertibility of the national currency, by which is meant an opportunity for individuals and organizations of the country to make the purchase of foreign currency to pay for foreign trade transactions without limitation. Without a solid investment in foreign currency, especially at the initial stage of implementation, internal convertibility is not possible. For example, the internal convertibility of the Polish zloty was introduced due to significant monetary assistance of foreign countries.

Nonconvertible currency is a national currency that operates within a single country and can not be exchanged for other foreign currencies. These are the currencies of the countries that establish various restrictions and prohibitions on the purchase and sale of foreign exchange, on import and export of national and foreign currency, as well as use other measures of monetary regulation. The main for currency restrictions are the lack of currency, the pressure of foreign debt, severe balance of payments. It should be noted that in the majority of member countries of the International Monetary Fund currency restrictions are primarily used in international payments on current account, as well as in the movement of investments. First of all, it concerns countries that joined the IMF during recent years, the countries of the CIS. (Avdokushin, E., 1996, p. 26)

3.2.3 By functional role of currency.

While carrying out foreign exchange transactions (foreign trade contracts, foreign currency loans, buying and selling of currencies, liabilities, bilateral transactions between countries - clearing and others.) it became necessary to define certain terms describing the position and role of this or that currency used in such operations. Therefore, the following terms were introduced: the currency of price, the currency of payment, the currency of credit, currency of loan repayment, currency of promissory notes, currency of clearing and others.

Currency of price (also, currency of the transaction) is one of the conditions, in addition to the currency of payment, which is usually agreed upon between the exporter and importer, is recorded in the foreign trade contract and represents the monetary unit, which is

used to nominate the price of goods in that very contract, or to fix the amount provided by the international credit. As a currency of price, the currency of the exporter or importer, the lender or the borrower, as well as currencies of third countries may be used. The agreement on the currency of price of the contract is carried out for the purpose of insuring the risks of changes in exchange rates of the currency of payment during the fulfillment of the contract. (Tarasov, V. 2005 p.466)

Currency of payment is the currency in which the actual payment for goods in foreign trade or settlement of international credit is accomplished. (Tarasov, V. 2005 p. 469) In such cases it can be any currency agreed upon between the parties. For the purpose of payments in the trade and economic relations with the developed Western countries the national currencies of these countries tend to be used. In the trade between developing countries using currencies of the developed countries prevail.

The currency of payment may coincide with the currency of the transaction, but it may also differ from the latter. In this case, the contract provides for the procedure for determining the conversion rate of the transaction into the currency of payment, specifying:

- 1) The date of conversion (the day of payment, or on the day preceding the day of payment);
- 2) Foreign exchange market quotations which are taken as a basis;
- 3) The average rate between the bid and ask price (or one of them). (Tarasov, V. 2005 p. 470 – 471)

Currency of loan indicates currency in which export credits are provided. As a rule, they are provided in national currencies of the exporter or importer, but in recent years, loans have become available in the currencies of the third countries or in international units of account too. Of course, the choice of currency of the loan in export-import operations is the subject of negotiations. State of the currency of loan has a direct impact on the level of interest rates on loans and the cost of the transaction. This is due to the existence of the so-called "strong" and "weak" currencies. If the loan is provided in the "weak" currencies (Zimbabwean dollar, CIS countries currencies etc.) whose exchange rates often have a common downward trend, the creditors bear the risk of devaluation of the debt and, consequently, of certain losses. If the loan is provided in the "strong" currencies (U.S. dollars, euro or Japanese yen) whose exchange rates are rising or remain more or less stable, the risk of losses is loaded on the borrowers.

Currency of Clearing is used during the implementation of the intergovernmental agreements on compulsory set-off of claims and liabilities arising from the equity value of commodities and services supplied (clearing). (Tarasov, V. 2005 p. 485) In such cases currency of clearing is the same as the currency of payment. Russia currently provides clearing agreements with India, Afghanistan, Iran, Egypt, Syria, and Cuba. Currency clearing system provides for a number of mandatory elements, mutually agreed upon by the sides in intergovernmental agreements: the system of clearing accounts, the amount of clearing currency, clearing system of equalization of payments, the scheme of the final repayment after the expiry of interstate clearing agreement with the transition to calculations in a freely convertible currency.

Promissory notes is a monetary unit, which displays the bill. Typically, the internal circulation bills are nominated in the currency of that country and in the international turnover - in the currency of the debtor, the creditor or a third country. Bill is one of the kinds of securities, meaning a written promissory note - in modern conditions is one of the most important instruments of payment and credit, used in international trade. In accordance with the Geneva Convention on Bills 1930, a bill should have some mandatory requisites:

- Promissory note label - the name "bill" in the text; unconditional order, or the obligation to pay a certain amount;
- Name of the payer and the first holder;
- Time and place of payment;
- Date and place of the document;
- Signature of the drawer.

3.3 Currency rate

Establishment of foreign currency exchange rate in the national currency (or vice versa) is the currency rate. In modern conditions the quotations are carried out by state (national) and large commercial banks. There are two methods of quotation: direct and indirect. (Raizberg, B. 1997 p. 496)

In direct quotations adopted in most countries of the world 1,100 or 1,000 monetary units of foreign currency are expressed in national currencies. There are rates of sale and

purchase, the difference between them is the bank's profit on currency transactions. Selling rate is the rate at which banks sell foreign currency for the national one. Purchase rate is the rate at which banks buy foreign currency for the national currency.

The rate of the buyer. At this rate, the bank buys currency. For example, the rate of 78,4 rubles per \$ 1 means that the bank is ready to buy a certain amount of dollars at the price of 78,4 per unit of US currency. This ratio may stay more or less stable for a relatively long time, but depending on the financial situation and it can be varied during a short period of time quite considerably.

The bid. At this rate, the bank sells the currency. For example, the bid 78,37 rubles for 1 dollar means that the bank is ready to sell the customer the requested amount of US \$ 78,37 rubles per each unit of American currency. The bid rate is always higher than the rate of the buyer. The difference between the bid and the buyer makes a profit rate of the bank in exchange operations. Availability of this profit is due to the fact that banks actually take on the foreign exchange markets monopoly position in relation to the vast number of companies and individuals, and taking advantage of this situation, try to sell foreign currency at a higher rate, and buy it at a lower rate.

The average rate is the average exchange rate for the buyer and seller. The average exchange rate is used for economic analysis for a certain period of time, as well as in foreign trade contracts for the establishment of exchange rates or the methods for their conversion. The average exchange rate is also used by dealers in foreign exchange markets.

Cross rate is the ratio between the two currencies, which is determined by their rates with to some other currency. Since the late 50s. of the last century, the third currency is usually the US dollar. For example, if a Russian bank wants to get the cross-rate of the Czech crown to the Belarusian ruble, he will proceed from the exchange of traditional rate of both of these currencies against the US dollar. Today, for 1 US dollar in the currency market yield 23,67 CZK 17485,01, and the Belarusian ruble. Taking into account these data, the rate of the Czech crown to the Belarussian ruble exchange rate set by the proportion of $23,67 / 17485,01$. In other words, for 10 CZK Russian bank in the foreign exchange market can get 7386,99 Belarussian rubles.

Spot rate is the currency of price of one country, expressed in the currency of another country fixed at the time of the transaction, subject to the condition that the currency exchange between the counterparty banks is taking place on the second business day

following the date of the transaction. Spot rate reflects how high the national currency is valued at the time of the transaction outside the country. (Mirkin.ru, 2015)

International economic transactions are connected with the exchange of national currencies. This exchange takes place at a certain ratio. The ratio between the currencies of different countries, that is, the price of the currency of one country, nominated in the currency of another country (or in an international monetary unit) is called the exchange rate. Exchange rate - this is not just a technical conversion factor, but the "price" of the monetary unit of the country, nominated in foreign currency or international currency units. The exchange rate is necessary for the international foreign exchange, for settlement of credit and financial transactions. For example, the exporter has to exchange the foreign currency received for the national currency, as due to the local legislation foreign currencies are not used on the territory of that State. Or the importer buys foreign currency to pay for goods purchased abroad. The cost basis of the exchange rate is purchasing power parity, i.e. currency ratio of their purchasing power. Purchasing power expresses, the national average prices for goods, services and investments. If there is a free exchange of banknotes for gold and freedom of circulation of gold between the countries, the exchange rate may just slightly deviate from the purchasing power parity as a result of the mechanism of the gold points. The mechanism of the gold points beyond the deviation of the exchange rate of the monetary parity (usually less than 1%): lower (at which begins the outflow of gold from the country) and the upper (begins its inflow). Monetary parity ratio of the weight content of gold in monetary units (coins) in different countries. In terms of circulation of "paper" money the exchange rates may significantly deviate from purchasing power parity.

In many developing countries and countries with transitional economies, the exchange rate of the national currencies is 2- 4 times lower than the purchasing power parity. The deviation of the exchange rate from purchasing power parity is influenced by supply and demand for foreign currency, which in their own turn depend on various factors. Exchange rates are published in the press. Typically, the current information contains quotes for the previous two days and short-term forecasts.

3 U.S Dollar and Euro

3.4.1 Dollar – the international currency of the XX century.

Dollar holds a special place in the world economy, being, in fact, the first truly international currency.

First world monetary system spontaneously formed in the XIX century after the industrial revolution on the basis of gold monometallic in the form of gold coin standard. Legally, it was framed by the intergovernmental agreement at the Paris Conference in 1867, which recognized gold to be the only form of world money. This system included the dollar since 1837 when it has received the gold content. Currency were freely convertible into gold. Gold was used as the recognized world money. Gradually the gold standard (in the form of gold coins) has become obsolete, because it did not match the scale of the increased economic ties and conditions of regulated market economy. The First World War was marked by the crisis of the world monetary system. Gold standard ceased to function as a monetary and foreign exchange system.

The second world monetary system was legally framed by the intergovernmental agreement reached at the Genoa International Economic Conference in 1922. Its foundation was formed by gold and the motto - foreign currency. Currency conversion into gold started to be carried out not only directly (the United States, France, United Kingdom), but also indirectly through foreign currencies (Germany and another 30 countries whose monetary system was based on the gold exchange standard). National credit money was used as international payment and reserve funds. However, in the interwar period, the status of the reserve currency has not been formalized one single currency and the pound of sterling and the US dollar both challenged the leadership in this area. The Great Depression of 1929 - 1933 sharply devalued the dollar, its gold content dropped by more than 40%.

The Second World War led to a deepening of the crisis of the Genoese currency system. English and American experts since 1941, rejecting the idea of returning to the gold standard, seeking the ways of working out principles of a new world monetary system capable of ensuring economic growth and limiting the negative economic and social consequences of economic crises. The US drive to consolidate the dominant position of the dollar in the global monetary system was reflected in the plan of G.D. White and served as the basis of the so-called Bretton Woods monetary system, which was the third the world

monetary system. Gold exchange standard was introduced, based on gold and the two reserve currencies - the US dollar and, to a much lesser extent, the pound of sterling.

Based on its increased monetary and economic potential and gold reserves, the USA equated the dollar to gold, to secure its status as the major reserve currency. For this purpose, the US Treasury continued to exchange dollars for gold to foreign central banks and government agencies at the official price set in 1934, based on the gold content of its currency (\$ 35 per 1 troy ounce equal to 31,1035 grams). This exchange was applied only to the member states of the International Monetary Fund (IMF) on behalf of their central banks.

Regulation of currency relations between the countries (except the socialist ones) was carried out the IMF. Rate ratio of currencies and their convertibility began to be regulated on the basis of fixed currency parities, expressed in dollars. The devaluation of over 10% was allowed only with the permission of the IMF. The regime of fixed exchange rates was introduced: the market exchange rate could deviate from the parity of the dollar within a narrow range ($\pm 1\%$ in accordance with the Charter of the IMF and $\pm 0,75\%$ according to the European Monetary Agreement (EMU)). To comply with the limits of fluctuations in exchange rates, central banks were obliged to carry out currency interventions with dollars.

For the normal functioning of the gold standard the constant increase in reserves was required to comply with the requirements of the expanding economic relations and, accordingly, to provide for the payment in the conditions of world economic growth and the maintenance of balance between gold and currency (dollar) reserves, so that the price of gold remained an equilibrium. Failure to comply with these conditions could by all means lead to the collapse of the Bretton Woods monetary system. Lack of reserve assets (dollars, pounds of sterling, gold) led to a deceleration in world trade and their excess -to the destabilization of the system of fixed exchange rates. High rates of growth in foreign exchange reserves, compared with the growth rate of the gold reserves gradually undermined the ability of the USA to maintain the convertibility of the dollar in the reserves of central banks at officially set price. In the 60-ies.the dollar practically monopolized the sphere of international payments, which was reflected in the growth of its share in the foreign exchange reserves of all the countries from 9% in 1950 to 75% in 1970.

3.4.2 The crisis of the Bretton Woods monetary system

In the 60-ies of the twentieth century the crisis began, which led to the collapse of the Bretton Woods monetary system. At the beginning of this period, the current account deficit in the USA has led to a significant reduction in gold reserves. At the same time there was an increase of external debt of the USA. The reasons for the collapse of the Bretton Woods system were the exclusive power of the dollar as a reserve currency and its related claims for the status of world money. The failure of the claims of the dollar for such a role stems from the fact that no national currency of a single country, no matter how powerful it may be from political or economic point of view, could not at that time become the world money: flow of dollars into the international payment turnover was due to the bottoming of US balance of payments rather than the real needs of international payments. The negative balance of payments surplus was due to the relative decrease in the competitiveness of the American economy with the 70-ies. The deficit of the US balance of payment was actively repaid with dollars rather than with gold.

In 1970 in the United States the interest rates were sharply reduced that generated the strongest ever crisis of the dollar. In a short time, there started a massive outflow of capital from the US to Europe, where interest rates were much higher.

When the reserves of dollars in international reserves exceeded the US gold reserves by several times, the other countries began to demand the exchange of dollar reserves for gold. All this, together with the continuing increase in the balance of payments deficit of the United States forced President Richard Nixon in 1971 to suspend the convertibility of dollars into gold. This measure has undermined the stability of the currency. It was for the first time since 1934 that the dollar was devaluated. The so-called: "Runaway from the dollar" began.

A little later, in Washington, the last attempt to save the Bretton Woods system was taken. Interval deviations of exchange rates from parity were increased up to $\pm 4,5\%$. However, it proved to be extremely difficult to keep the boundaries of the interval. For example, the German Bundesbank had intervened with the amount of 5 billion dollars, which was a huge sum at the time, but it did not bring success. Foreign exchange markets in Europe and Japan had to temporarily shut down, and the US announced the devaluation of the dollar by 10%.

During the economic recession in 1980 - 1982 foreign capital was attracted in to the American economy by maintaining excessively high interest rates of commercial banks. In

the following decades, the dynamics of the dollar exchange rate was significantly increased by the influence of foreign capital inflows, which since 1983 considerably exceed the outflow of capital from the United States. The share of private investors in the inflow of foreign assets into the US economy in those years reached 90%. As a result, in 1983 the US turned from a net exporter to a net importer of capital. In 1985, commitments exceeded US assets, and the country became a net international debtor with acute dependence on steady inflow of foreign capital. The dollar was maintained by high interest rate, and later - by high economic growth called the "Reaganomics". By 1985, the growth of the dollar against major currencies has reached maximum values.

High interest rates, attracting capital into the US economy and the overvalued dollar caused negative reaction from the side of US partners. In 1985, five countries (the UK, Germany, the USA, France and Japan) adopted so-called Plaza agreement. The agreement acknowledged that the dollar does not fully reflect the fundamental changes in the economy. The United States were recommended to reduce the budget deficit and to take measures for increasing the demand for Japanese goods to reduce the trade deficit. This was followed by massive interventions by central banks to purchase Deutschmark and the yen, which reduced the exchange rate of dollar.

Huge trade and federal budget deficits in the USA in 1987 resulted in a decrease in demand of private investors for corporate securities, therefore mass dumping of US Treasury Bonds started with consequent pressure on the dollar. In October 1987, after 4 years of rise a nearly 30% fall in share prices on the New York Stock Exchange happened. Fearing the emergence of the global economic crisis and trying to stabilize the exchange rates, the central banks of the US partners-members of the so-called "big seven" have made a major foreign exchange intervention in the market of short-term US Treasury bills and lowered their interest rates.

In 1988 - 1990 the central banks of the seven leading countries implemented a whole series of massive stabilizing foreign exchange transactions in order to hold dollar exchange rate fluctuations within a narrow range against most major currencies.

The period from the end of 1991 to the beginning of 1993 is considered the most serious and widespread crisis in currency markets since the collapse of the Bretton Woods monetary system. The mechanism that gave rise to the crisis was created in 1972 by the European countries, especially Germany. Initially, it was a mode of maintaining the mutual

exchange rate movements (for every currency pair) in a certain range, and the joint currency float in the EU countries also should not have exceeded the set value against the dollar.

By the middle of the 90-ies globalization of finance has reached an extremely high level, and international capital flows were also increasing at an accelerating rate. The US economy turned out to be the best prepared for the conditions created by the crisis, and the United States became the main recipient of international financial resources. Since 1996 began a long rise of the dollar against other major currencies under the influence of the stable growth of the US economy and the increasing inflow of foreign capital, whose structure and motivation were undergoing changes.

The increase in the dollar against major currencies was determined by several factors. Firstly, by differences in the phases of the economic cycle: the United States were on the rise after a decline in 1990 - 1991, while the economies of many Western European countries and Japan were experiencing serious problems. Secondly, since 1995 large-scale capital inflows to the United States were observed, particularly in the securities markets with fixed income.

The US became a financial intermediary, providing for distribution of global resources. A key factor in the massive capital inflows into the USA and the strengthening of the dollar was the difference in interest rates between the US, Germany and Japan. The interest rates remained low and even declined throughout Europe and Japan, while in the US they were held in 1995 - 1998 on the same level, and by 2000 have even risen.

Generally speaking, in 1996 - 2002 the dollar was gradually rising. Then began the dollar's decline against the euro, which, quite probably, was due to the irrational economic policies of George. W. Bush.

It should be noted also that changes in the US dollar rates, as well as rates of any other currency are affected by a number of external and internal factors, including the dynamics of export / import of goods, services and capital, the state of trade and balance of payments, economic growth, the national monetary policy. Besides, the exchange rate of the dollar fluctuates under the influence of changes in the economies of other countries, primarily in Western Europe and Japan, and thus currency fluctuations of euro and the yen. During some periods huge influence on the major foreign exchange markets was exerted by agreed decisions and actions of the central banks of the "Big Seven" countries.

3.4.3 Euro – currency of the XXI century.

The main purpose of European monetary integration was and still is to provide a system of multilateral settlements, as economic ties in Europe have always been multilateral and the national economies were closely intertwined. Already in the late 50s of the twentieth century all members of the newly formed European Economic Community sent and received from the partner countries from 30 up to 50% of exported/imported goods.

The basis for the foundation of the European Monetary Union in 1999, was the theory of Robert Mundell. According to the theory, the following factors are needed to create the optimal currency area:

- The existence of strong political will. For half a century the EU countries have gone in the field of monetary cooperation arduous path from the closed non-convertible national currency units to the common currency that could challenge the dollar in the world markets;
- The mobility of the factors of production (goods, services, capital and labor forces) between the countries. In Western Europe, the Government have always paid special attention to maintaining high dynamics of mutual trade and economic cooperation, pursuing policy of liberalization of trade relations, creating favorable conditions for the flow of capital and labor resources;
- Active use of national currencies in mutual trade and economic relations and the availability of advanced currency markets with high degree of liquidity. In Western Europe, the bilateral trade was mainly carried out in national currencies;

Long-term stability of exchange rates of the participating countries in relation to each other provided by mechanisms of mutual restrictions fluctuations. Western European countries were moving towards solving this problem for 25 years, first in the frames of the so-called "currency snake" and then using the exchange rate mechanism of the European Monetary System and, finally, in the format of the monetary union.

The path to the creation of the euro began after the collapse of the Bretton Woods system. Firmly fixed currency parities and narrow course fluctuations of exchange rates around them collapsed. In 1972, the world monetary system has moved to floating exchange rates. After the collapse of the Bretton Woods system the search for new principles of

functioning of the world monetary system began. Such principles were adopted in 1976 in Jamaica.

It was announced that gold was no longer the world money and that there was no need to indicate the gold content in any national currency. The Jamaican currency system provides for a gradual deprivation of the dollar's monopoly role not only in fulfilling functions of the means for exchange and payment in the world market, but also as the means for accumulation of foreign exchange reserves by central banks in different countries. The stake was made on the SDR, a representative value of this currency being determined by the "basket" of currencies of 16, and then, of 5 member countries of the IMF.

Since the share of the dollar in the SDR was 42%, this new international monetary unit was still, in fact, presented by the dollar.

In addition, the floating exchange rates were practically legitimized. The principle of "floating" did not exclude possible government interventions into the market mechanism of regulating exchange rates of national currencies.

A little later, the EU decided to establish a regional European Monetary System (the EMS). Preparations for the establishment of the EMS were started by the EU countries during the crisis of the Bretton Woods monetary system, but the decision came into force almost simultaneously with the commencement of the Jamaican system.

The creation of the EMU was carried out according to the so-called Werner plan in three phases.

In 1971 - 1973 - Coordination of fiscal, monetary and exchange rate policies, liberalization of capital movements and the creation of the European Monetary Cooperation Fund;

In 1974 - 1979 – Creation of some supra-national authorities having wide rights in the field of financial, monetary and exchange rate policies;

In 1980 - Introduction of the single currency and the creation of the European federal monetary system.

The Werner's plan served as the basis for monetary integration, and although it was not fulfilled in the above-mentioned stages, his principal ideas were implemented later during the creation of the euro.

The next attempt to oust the dollar was the Delors plan. It was launched in 1990, simultaneously with the introduction of liberalization of capital movements. And it was not

by chance: the formation of the European internal market was practically completed, the differences in macroeconomic indices of various countries were gradually levelling, and harmonization of financial and regional policy was achieved. In 1994, the agreement on economic cooperation and creation of the European central bank (the ECB) was signed. The European Monetary Institute was founded for purpose of coordinating monetary policy of the European countries, strengthening the role of the ECU and preparation for the establishment of the ECB.

Finally, a number of important economic competencies of national authorities had to be handed over to the European Union, which was associated with the transition to fixed exchange rate and then to the single European currency, which, in fact, took place 1 January 1999.

Introduction of the euro took place in two stages. In the first stage, the euro was tied to the national currency exchange rate, and for three years denomination was made, all financial and other assets, both inside the Monetary Union and beyond, were recalculated. For a while the euro was used only in cashless transactions, and cash circulation was still carried out in national currencies of the member countries of the European Monetary Union. In 2002, the euro started to be used in cash circulation and the national currencies ceased to exist. The common economic space with its central bank working out common monetary policy and with the single European currency was formed.

3.4.4 Significance of creation of the euro.

To determine the role of the euro in the global monetary system, it is necessary to take into account the processes taking place in the sphere of money circulation under the influence of objective economic laws not only inside some country, but also in the global economy.

Introduction of the euro at the beginning of 1999 was one of the most significant events during the whole history of the international monetary system. In terms of importance this event is comparable to the transformation of the international system in the early 70-ies of the XX century from the system of fixed exchange rates into the one where countries could freely choose a mode of national currency functioning. But in fact, the significance of this event is much deeper.

The collapse of the Bretton Woods agreements did not really change the very status of the US dollar as the main international currency. Both before and after the crisis of the system, the dollar remained the world's dominant currency. Introduction of the euro has significantly changed the configuration of the world system and has become the most important event in the development of the world monetary system since the US dollar replaced the pound sterling as the dominant global currency.

But the dollar had also a weak side that was primarily in that its issue was carried out in the United States and the newly-issued dollars were admitted to the global turnover on the basis of the US balance of payments, not in accordance with the requirements of global payment transactions. As a result, supply and demand for dollars were not balanced and this was reflected in its exchange rate against other currencies.

As for the euro, the European Central Bank is endowed with the function of issuing of the European currency in the territory of the EMU member countries in accordance with the laws of monetary circulation, and that is where the fundamental difference between the euro and the dollar lies.

An important feature of the new global monetary system, with which the world has entered the XXI century is that for the first time another international currency was created, because before that the world monetary system was characterized by the interaction of a number of national currencies with each other with a predominance of one of them over all the others.

3.5 Foreign exchange interventions

A monetary policy tool with the help of which a central bank takes an active participatory role in influencing the monetary funds transfer rate of the national currency. (Moiseyev, S., Pantina, I. 2009 p. 44)

Goals of the foreign exchange intervention are changing the level of the exchange rate, the balance of assets and liabilities in different currencies or expectations of the market players. Actually the mechanism of currency interventions is similar to the mechanism of commodity interventions. In order to increase the rate of national currency, the central bank must sell foreign currencies and buy the national currency, thus, reducing the demand for foreign currency and, consequently, increasing the national currency rate. In order to reduce

the rate of national currency, the central bank sells the national currency by buying foreign one. This leads to an increase in foreign currency rates and the depreciation of the national currency. (Moiseyev, S., Pantina, I. 2009 p. 46)

The interventions in the international currency markets are widely used by the central banks of different countries with the purpose of building their currency reserves and stabilizing the exchange rates of their national currencies. Of course, the result of such interventions depends on how efficiently the central bank eliminates the possible negative impact of such interventions and on what economic policy is carried out by the government of that country.

For interventions the official foreign exchange reserves are generally used, and changes in their levels can be an indicator of the extent of government intervention in the formation of exchange rates. The scale of intervention of the central bank is, as a rule, classified information that reflects a desire of the authorities to maintain the confidentiality of their actions in order to ensure the effectiveness of interventions. However, much of the data on the amount of foreign exchange interventions are often published in the press.

Official interventions can be performed by various methods - on the stock exchanges (public) or in the interbank market (in confidence), through brokers or directly through transactions with banks, for a certain term or with immediate execution. Aside from official reserves, the source of funds for intervention may be short-term borrowings and "swap" operations. The specific intervention strategy is determined by the overall economic strategy of the government as well as the peculiarities of the position of the central bank in the foreign exchange market. (Moiseyev, S., Pantina, I. 2009 p. 47 - 49)

In addition, the official foreign exchange interventions are divided into "sterilized" and "unsterilized". The purchase or sale of foreign currency by a central bank to influence the exchange value of the domestic currency, without changing the monetary base. Sterilized intervention involves two separate transactions: firstly, the sale or purchase of foreign currency assets, and secondly, an open market operation involving the purchase or sale of government securities (in the same size as the first transaction). The open market operation effectively offsets or sterilizes the impact of the intervention on the monetary base. If the sale or purchase of the foreign currency is not accompanied by an open market operation, it would amount to an unsterilized intervention. Empirical evidence suggests that sterilized intervention is generally incapable of altering exchange rates. (Staff, I. 2003)

Foreign exchange interventions can be direct or indirect. For direct intervention the central bank on its behalf conducts operations in the foreign exchange market, with later news reports about that event by news agencies specifying the amount and the date of the transaction. When indirect intervention operations are carried out, a number of commercial banks do it on behalf of the central bank. (Fatum, R. 2000 p.82). Such interventions are more common in the Forex market and often they have a greater effect than direct intervention because of their unexpectedness.

In order to reach the desired result with foreign exchange interventions in the long term perspective, the following is necessary:

- Availability of the required amount of reserves at the central bank for foreign exchange intervention;
- Confidence of market participants in the long-term policy of the central bank;
- Changes in economic fundamentals such as economic growth, inflation, changes in the rate of increase in the money supply, and others.

As a rule, the intervention takes place against the background of excessive rise or fall of the national currency due to the activities of speculative investors. However, the strong depreciation of the currency has the following disadvantages:

- The price of imported goods and services increases, which contributes to the growth of inflation. In this case, the Central bank has to raise interest rates, which is likely to have adverse consequences for stock markets and economic growth in general. It can also lead to a decrease in the exchange rate. An example is the movement of the euro in the summer and fall of 2000.
- Perhaps the increase in the deficit of balance of payments (this is due to the fact that the volume of imports of goods and services exceed exports). But funding of this deficit will depend on the inflow of foreign investment, which may not be sufficient. In this case, a certain increase in interest rates is needed to stimulate the growth of the exchange rate, which could have a negative impact on economic growth too.
- This leads to higher prices for currencies of countries - trading partners, which in its own turn leads to higher prices for their exports goods and services in the global market. It will also lead to a serious economic slowdown, especially in

countries with export-oriented economies. An example would be an increase in exchange rates in the South East Asia in 1997 against the US dollar.

Foreign exchange interventions can take place in the foreign exchange market, the Bank of Japan, Bank of England and European Central Bank. The Bank of England may decide to sell the pound against the euro, as the British industry benefits from the fact that British goods are exported to the countries of the Eurozone, becoming cheaper, as they account for over 60% of UK exports. The huge foreign exchange reserves of the Bank of Japan and the solid experience of achieving stability of the yen in the markets makes it a likely candidate for the commission of intervention and prevent the growth of the yen. (Moiseyev, S., Pantina, I. 2009 pp. 53 – 55)

Summing up, the currency interventions may be considered as a significant one-time purposeful influence of the Central Bank on the currency market and exchange rates, carried out through the sale and purchase of large amounts of various currencies by the bank.

3.5.1 The forms of currency interventions

An intervention in the foreign exchange market can be performed in several ways and has several forms:

- Verbal intervention
- Operating intervention
- Coordinated Intervention
- Sterilized Intervention

Verbal intervention:

This means that the officials of the Ministry of Finance (Treasury), the Central Bank or other authorities increase (or decrease) the rate of exchange by means of oral expression of their negative (or positive) assessment of the economic situation. They either threaten with physical intervention (actual purchase or sale of currency), or simply note that the currency is overvalued or undervalued. (cbr.ru, 2015) This is the cheapest and the simplest form of intervention, as it does not involve the use of foreign exchange reserves. However,

this method is not always effective. Verbal intervention is more effective in countries where the central bank already has experience of frequent and effective interventions in the past.

Operating intervention:

It is the purchase or sale of currency by the Central Bank, usually on behalf of the Ministry of Finance. (Raizberg, B. 1997 p.522)

Coordinated intervention:

This implies concerted action of several countries to increase or decrease the rate of a certain currency using its reserves. The success of such an intervention depends on the number of countries involved in it and on its depth (the cost of intervention in dollars). Coordinated intervention can also be verbal, when officials of several countries jointly express concern about the ever-growing (or declining) currency. (cbr.ru, 2015)

Sterilized intervention:

It occurs when the central bank sterilizes intervention compensating these actions by means of monetary policy (open market operations or changes in the interest rates). Central banks usually sterilize intervention, so as not to jeopardize their domestic monetary policies by exceedingly increasing (or decreasing) their currencies. (Mirkin.ru, 2015) Intervention in the foreign exchange market is conducted without sterilization (or with a partial sterilization), when this action in the currency market is consistent with their monetary and exchange rate policy.

3.6 Efficiency of foreign exchange market intervention.

Intervention in the foreign exchange market is the purchase or sale of foreign currency by the Central Bank for the purpose of partial or full control over the exchange rate of the domestic currency. The central banks of almost all countries in the world have to intervene in the foreign exchange market, regardless of the exchange rate regime. (Investopedia.com, 2015)

In the case of a fixed exchange rate the Central Bank is obliged to intervene to keep the exchange rate within the limits (at the level) installed. In the case of the floating exchange rate the Central Bank uses interventions in order to achieve macroeconomic stabilization by manipulating the exchange rate. (Investopedia.com, 2015)

The ways for achieving macroeconomic stabilization by influencing the exchange rate in different countries and in different periods of their history may be diametrically opposite:

- In some countries central banks resort to active purchases in the foreign exchange market to make the domestic currency weaker. The most glaring example is Japan, where the main concern of the monetary authorities is to support competitive exports by Japanese firms.
- In other countries, central banks try to strengthen the domestic currency, considering that strong domestic currency is the key to the prosperity of domestic consumers, who thus may pay for imported goods less. In this case, the Central Bank should sell foreign currency on the market.

The Central Bank carries out foreign exchange interventions with its reserves. It is known that operations with foreign exchange reserves lead to fluctuations in the monetary base of the country: the purchase of foreign currency by the Central Bank leads to the expansion of the monetary base, the sale of currency leads to the contraction of the monetary base in the country. The correlation of such kind between money and foreign exchange markets is not that simple as it may seem:

(+) On the one hand, this relationship enhances the effect of the actions by the Central Bank. For example, if the Central Bank actively purchases foreign currency, extra money entering the economy begin to push interest rates down, which may lead to the outflow of the capital abroad (if it is possible from the point of view of the country's legislation). As a result, additional pressure on the appreciation of foreign currency is exerted and the rate of the national currency decreases, as was planned by the Central Bank.

(-) On the other hand, the extra money can get to the real markets, which will put pressure on prices, leading to activation of the inflation process. The foreign exchange market can create problems in the money market. For example, Russia faced the problem of that kind in 2000 - 2003.

Before speaking about the factors that determine success of an intervention in the currency market, it is important to define what may be considered to be "success" in this case. For example, if the central bank has spent about \$ 5 billion (not a very big intervention) and managed to raise the exchange rate of the domestic currency to other major currencies

by 2% within 30 minutes, then it was a successful intervention. However, even if the currency loses some points scored during the next two sessions, the Bank's ability to "move" the market provides the Bank with a certain degree of confidence for the next time, when it tries to resort to a verbal intervention.

The scale of intervention is generally proportional to the movement of currency as a result. Central banks with substantial foreign currency reserves (usually in US dollars) usually play a key role in the foreign exchange interventions.

The success of the intervention in the currency market is also based on the correct choice of time for its implementation. The higher is the degree of surprise of the intervention, the greater the chance will be to catch traders off guard because of the large influx of orders. On the other hand, when the intervention is expected, it is easier to handle with the shock.

For the "time" factor to be more efficient, it is better to intervene at a time when the currency is already moving in the desired direction. The huge volume of trading in the Forex market (\$ 1,5 trillion per day) is able to just overshadow any intervention in the amount of \$ 3 - 5 billion. Thus, central banks should avoid making interventions against the market trend, waiting for a more convenient time. As a rule, fertile soil is prepared with the help of verbal intervention, which sets the tone for more fruitful results.

Sterilization takes place when the central banks monetary policy includes in their monetary policy certain measures to compensate for their own actions in the foreign exchange market. Unsterilized interventions would lead to more prolonged changes in exchange rates, because their effect is not limited to the actions of the Central Bank in the foreign exchange markets. (Moiseyev, S. 2009 p. 53) Thus, sterilized intervention affects the exchange rates much less than ordinary unsterilized interventions.

Exchange rates affect the well-being of consumers and businesses; the level of exchange rates is a subject of special attention of the creators of economy. Therefore, from time to time, central banks carry out currency intervention. There are different ways to stabilize the economy through the impact on the exchange rate: the purchase or sale of foreign currency, which in its own turn is the foreign exchange intervention in the currency markets.

4. Analytical part

In the first chapter of the analytical part there are explained the factors and events that had an impact on the Russian Central Bank interventions. The second part of research is dedicated to correlation of crude oil price and EUR / RUB foreign exchange rate. Main consequences of intervention are analyzed there. In the third part, the author determines the correlation of Russian ruble and the foreign trade with the EU.

The second chapter of the analytical part describing decisions of the Czech National Bank and the correlation between GDP per capita of the Czech Republic in EUR and the foreign exchange rate EUR / CZK. The second part explains relationship between the trade balance and EUR / CZK foreign exchange rate. Firstly, the author wanted to determine problems of Czech economy and reasons for the intervention. Secondly, the author analyzed impacts of the CNB's interventions on foreign trade.

In the third chapter the relationship EUR / USD was analyzed. For all these purposes the author used Microsoft Excel 2016 and Gretl software, as it proves to be a useful tool to analyze these relationships. All data were collected from the Czech statistical office database, the European Central Bank, the Russian Central Bank and the FED; currency exchange values were collected from the database at investing.com and ecb.europa.eu. Data used for this analysis are collected in the appendix section of the thesis.

4.1 Factors and events that had an impact on the RCB interventions

Euro / Russian ruble (RUB)

Latest (19 February 2016): **EUR 1 = RUB 85.1924 1.7152 (2.1%)**

Change from 1 April 2005 to 20 February 2016
Minimum (24 March 2006): 33.3360 - Maximum (21 January 2016): 91.7660 -
Average: 43.1468

Picture 1: Exchange rate EUR / RUB 2005 - 2016



Source: ECB: www.ecb.europa.eu

Since the year 1999 the Central bank of Russia (CBR) carried out the exchange rate policy under the regime of managed floating exchange rate, which allowed to smooth out the impact of changes in foreign trade conditions on the Russian financial markets and the economy as a whole. At the same time the main goal of the Central bank of Russia has been a consistent reduction of interference with the process of market exchange rate and preparation for the transition to a floating exchange rate which was necessary for the

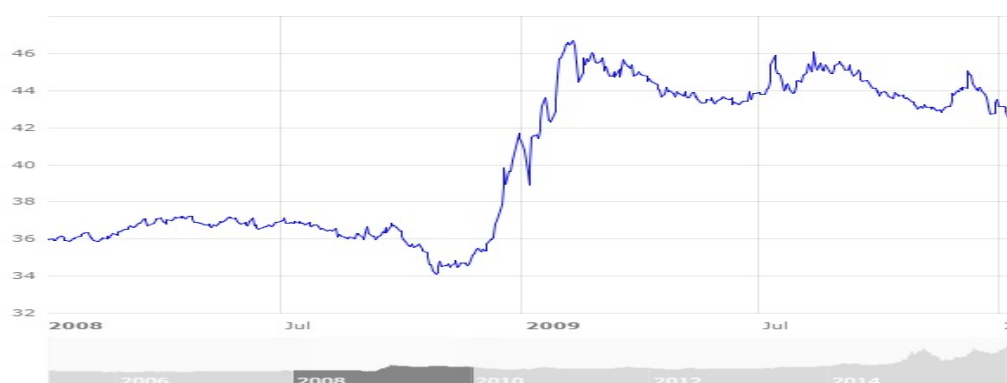
implementation of an independent monetary policy, focused on providing internal price stability by interest rate policy measures.

Since 2005, the Bank of Russia as an operational benchmark for exchange rate policy started to use the ruble value of the bi-currency basket consisting of US dollar and Euro; up to 2005, the Bank of Russia's currency interventions were provided only in the segment of RUR / USD. For this reason, we will not consider events before 2005, related to the interventions of the Central Bank of Russia in RUR / EUR segment.

In modern Russia, devaluation was carried out twice. The first time it was in 1998 after the announcement of the default, when in a few months, the ruble exchange rate against the dollar has fallen by 246% - from 6,5 to 22,5 rubles per dollar. The second time the devaluation took place at the end of the year 2008. During the autumn the exchange rate fluctuated within the limits 26 - 27,60 rubles per dollar and 34,09 - 35,49 rubles per euro. In the end of December, the exchange rate has been on the maximum point, i.e. 41,69 rubles per euro. But the historical maximum of 46,84 rubles per euro was registered on February 6, 2009. Thus, since December 2008, the national currency weakened by more than 30%.

Two times the main reason for the devaluation was decreasing in the balance of trade, which was due to the fall in oil prices on world markets. But, if in 1998 the devaluation took place spontaneously in the conditions of public default, then in 2008 – it was planned, and for the purpose of its implementation at least \$ 150 billion were spent. (Banki.ru, 2016)

Picture 2: Exchange rate EUR / RUB 2008 - 2009



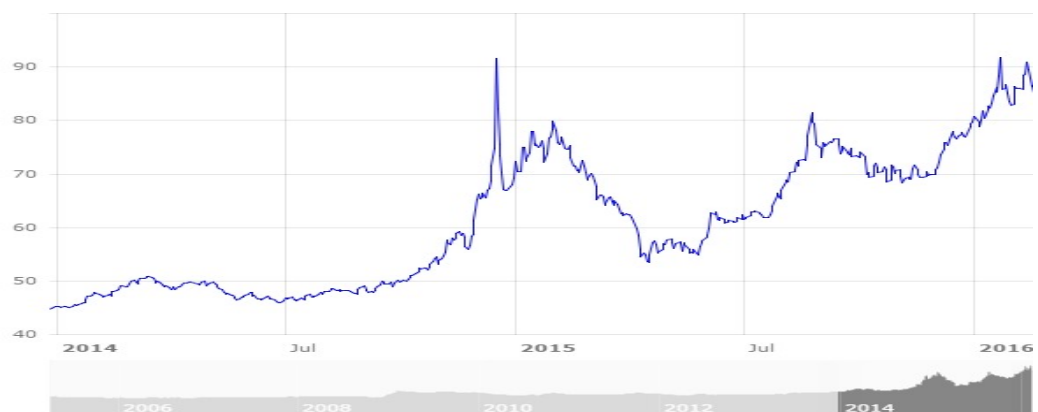
Source: ECB: www.ecb.europa.eu

How we can see on graph, during the period of 2008 - 2009 the ruble exchange rate has also repeatedly dropped in connection with the global financial crisis. This was preceded

by a sharp decrease in the most important indicator of business activity in the US - Dow Jones index, the reduction in the European Union's leading stock markets and the collapse of the Russian financial market. So the growth of the Russian economy slowed down sharply. The graph shows, that in 2009, several shocks of the official euro exchange rate against the ruble were recorded: twice by 9,5% in the period of 10 - 19 December 2008 (from 36 to 39,78 rubles) and from 24 January to 5 February 2009 (from 42,4 to 46,84 rubles).

The most likely causes of these shocks were worsening of the world financial crisis and growing fears that the world economy was entering into recession. Also the devaluation of ruble was evoked by the fall in world oil prices. Also, the strengthening of the dollar and euro was to a great extent promoted by the policy of the Central Bank of Russia directed at the weakening of ruble against the currency basket, with the result of repeatedly increased costs. This way the Central bank of Russia was trying to smooth the depreciation of the national currency, avoiding sharp collapse.

Picture 3: Exchange rate EUR / RUB 2014 - 2015



Source: ECB: www.ecb.europa.eu

November 10, 2014 the Central Bank of Russia announced the completion of the transition to a floating exchange rate on the background of serious falling of the national currency - by November 7, ruble exchange rate in during just one working day on the Moscow stock exchange reached 48 rubles per dollar and 60 rubles per euro. In response to the continuing devaluation of the Russian currency in December the Central Bank raised its key interest rate twice - on December 11 from 9,5 to 10,5% and on December 16 at its emergency meeting, from 10,5 to 17% per annum.

The sharp drop in the ruble exchange rate occurred December 16, 2014. Then the ruble at auction fell to 80,1 rubles per dollar and 100,74 rubles per euro. The ruble rapidly became cheaper despite the emergency night raising of the key rate from 10,5 to 17% conducted by the Central Bank.

March 13, 2015 the key rate has been reduced to 14%, April 30 - down to 12.5% per annum. The Russian currency started to strengthen against the euro on February 20, 2015 from the point of 70,2 rubles per euro, significantly adding to the value on March 5, 2015 down to 67,61 rubles per euro.

April 15, the euro for the first time became cheaper than 55 rubles since the beginning of the year: the euro dropped against the ruble exchange rate from 70,2 to 53,611 rubles per euro. Since the beginning of February 2015 until 25 April, the ruble strengthened against the dollar by 29,5%, and against the euro - by 35%. The sharp rise of the Russian currency has transformed ruble from an outsider into one of the most growing currencies in the world in the first quarter of the year 2015. The CBR explained the strengthening of ruble by stabilization of world oil prices, as well as the completion of the peak of payments on country's external debt. 25 May the cost of euro was 54,87 rubles.

Strengthening of the national currency happened against the background of recovery in oil prices: since the beginning of the year 2015, the cost of Brent crude oil rose by more than 35% and WTI crude oil added to the price by more than 22%. The price of Brent crude oil for June 3 - \$ 64 per barrel compared to \$ 110 per barrel in the summer of 2014. (Tass.ru, 2015)

The second wave of falling down.

In early June, due to the instability of the situation in the Ukraine foreign currencies have increased in price. From 27 June the US dollar has returned to a level of above 50 rubles – 50,32 rubles. On June 5th euro once again started to cost more than 60 rubles – 61,95 rubles.

Since the beginning of June until the middle of July, oil prices were stable. The US dollar fluctuated at the level of 52 - 55 rubles, and the euro – 60 - 62 rubles. However, the subsequent drop in oil prices caused by fears of investors about the oversupply of its offer in the market led to the weakening of the Russian currency.

On August 11 the Central Bank set the dollar exchange rate at 64,45 rubles. Euro for the first time since March, has become more expensive than 70 rubles – 70,75 rubles per euro (an increase from the minimum of the European currency in April – 17,85 rubles, or 33,7%).

The sharp drop in the ruble exchange rate was on August 24 after a decrease of Brent oil quotations below \$ 50 per barrel. For the first time since December 2014, dollar exchange rate exceeded the border of 71 rubles (a minimum drop from the spring to 21,82 rubles, or 44,3%), while the euro - 81 rubles (28,1 rubles fall, or 53%).

This falling of the ruble took place after the decrease in oil prices. The price of futures for Brent crude oil with delivery in January 2016 on the ICE exchange in London on December 7 has fallen by 5,6% to \$ 40,6 per barrel, which was the lowest point since February 2009.

The pressure on the Russian currency strengthened at the beginning of 2016, when oil prices fell sharply during the New Year's holidays. January 11, 2016 at the opening of trades the dollar-ruble exchange rate exceeded the level 76 rubles for the first time since December 16, 2014. The euro soared by 3,35 rubles to the level of 83,97 rubles. The cost of futures for Brent oil fell by 3,07% to \$ 32,52 per barrel.

January 21 during the trades on the Moscow stock exchange, the euro reached the level of 92 rubles and the US dollar rose to 84 rubles. We could see such an expensive dollar only when the denomination of ruble in 1998 took place. The Central bank exchange rate on December 30, 1997 of USD / RUB was 5960 rub per dollar. (Tass.ru, 2015)

4.1.1 Correlation of crude oil price and Russian ruble.

The peculiarity of the Russian economy and policies once initiated by a Russian Finance Minister Alexei Kudrin consisted in that all the surplus from expensive raw materials should be removed from the internal circulation. Due to the growing crude oil prices, huge amounts of petrodollars were flowing into the Russian economy, driving domestic demand, without increasing domestic supply. As a result, the economy received the acceleration of inflation, rather than growth of real wealth.

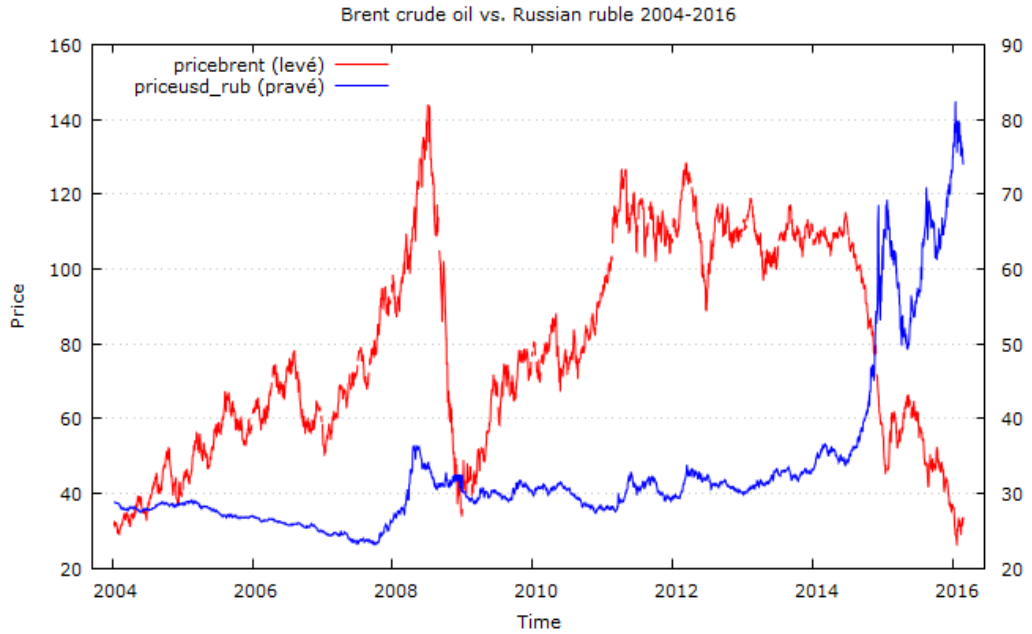
Therefore, Mr. Kudrin has decided to withdraw the surplus of exports out of the economy, by means of creating the country's foreign exchange reserves denominated in

foreign currency and assets. That means that “extra” money actually were not allowed to enter the ruble zone and stayed abroad. So the Russian ruble, despite that fantastic rise in commodity prices for more than 10 years has remained stable at a level of 30 rubles per dollar without realizing its potential for growth. Besides, it should be mentioned that huge amounts of money entering the Russian economy did not stay there for long. Dynamics of the capital outflow from the country directly depends on the volume of profits, which in its turn, depends on revenues from natural resources. Also the corruption plays very important role in the capital outflow: the more money is in the economy – the greater is the volume of the shadow capital that most likely will leave the country, because nobody wants to keep such kind of money in the country. As a result, the ruble has not realized its potential for growth over the past decade (10 years). Almost everything that could help the Russian ruble was deposited in the form of huge foreign exchange reserves and capitals of Russian residents abroad.

In this thesis daily price of crude oil (Brent) in US dollars and USD / RUB exchange rate were used. The choice of the currency pair dollar / ruble can be explained by the fact that major part of exports from Russia are commodities with prices denominated in US dollars; moreover, this tool is the most liquid in the Moscow stock exchange currency market. Data were collected for the period from 2004 to 2016 and processed in software Gretl and Excel.

On the graph we can see dynamic changes of price of Brent crude oil and Russian ruble:

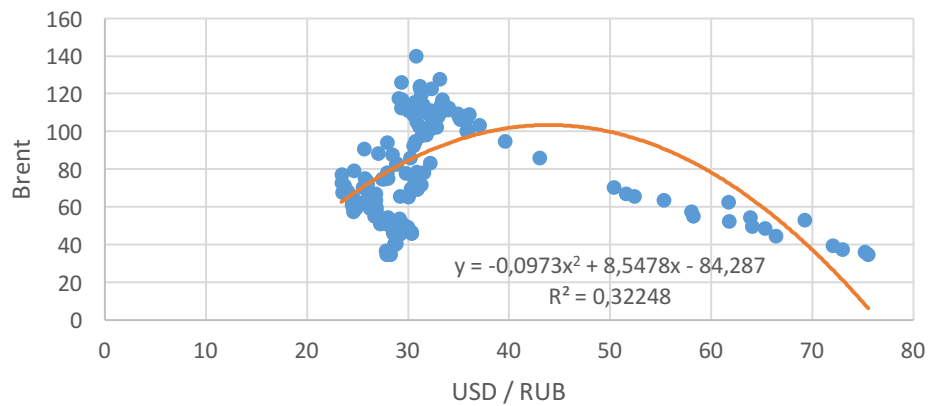
Graph 1: Brent crude oil vs. Russian ruble 2004 - 2016



Source: own calculations, data from: investing.com

From the graph we can conclude that there might be some kind of correlation between USD / RUB exchange rate and the price of Brent crude oil. But for more sharp results the graph below was used:

Graph 2: USD / Brent crude oil 2004 - 2016



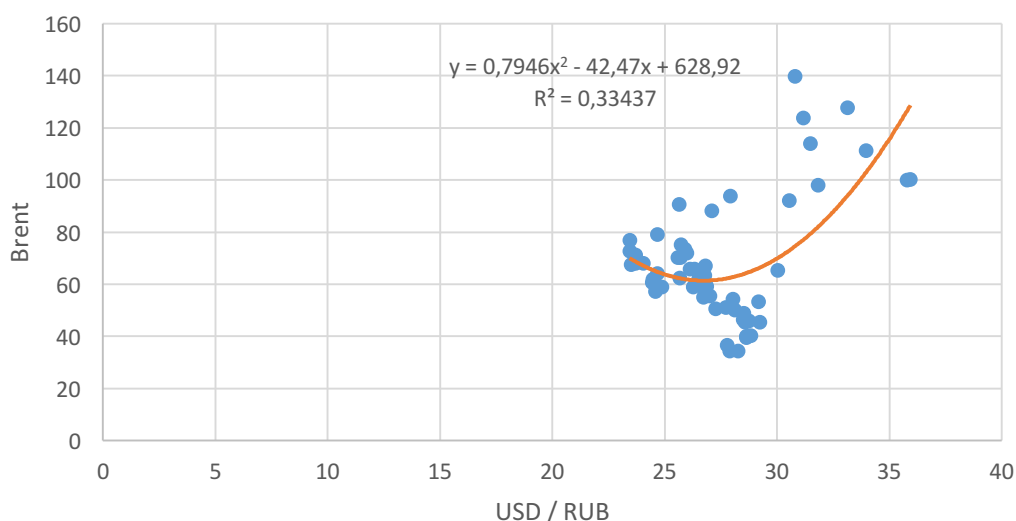
Source: own calculations, data from: investing.com

The polynomial function was used to see the trend, because of the highest R^2 in comparison with the other trend functions.

This graph informs us that there is actually no correlation between variables in the long term period. The ruble exchange rate in the long term, is not directly dependent on the resource prices, but directly depends on the policy of the Russian authorities and the financial volume of funds seized from the ruble zone. Therefore, there is no direct correlation with the price of raw materials (in our case the price of Brent crude oil) and USD / RUB exchange rate.

But on the first graph it was clearly visible that there might be some correlation, therefore during the analysis, short-term periods were also verified for possible existence of correlation.

Graph 3: USD / Brent crude oil 2004 - 2008

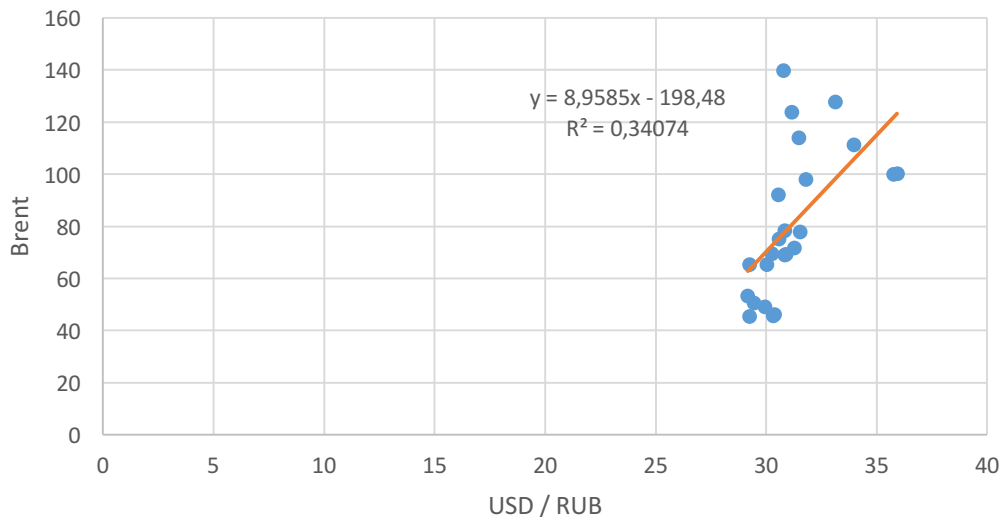


Source: own calculations, data from: investing.com

The polynomial function was used to see the trend, because of the highest R^2 in comparison with the other trend functions. But there is no correlation between the observed variables. Profits from oil and gas exports increased sharply in 2004 - 2008 almost exclusively due to the speculative rise in prices in the global stock markets. It should be emphasized that in the years 2004 - 2008 oil and gas exports from Russia has not increased, but decreased as a result of falling production volumes and geologic exploration neglect. Therefore, it is just logical to conclude that there was not even a small contribution of the

Government or management of oil and gas companies in gaining of excess profit and Russia's GDP growth in 2004 - 2008 was not the result of social and economic policy of the Government of the Russian Federation, but the result of the external economic environment.

Graph 4: USD / RUB – Brent crude oil 2008 - 2009

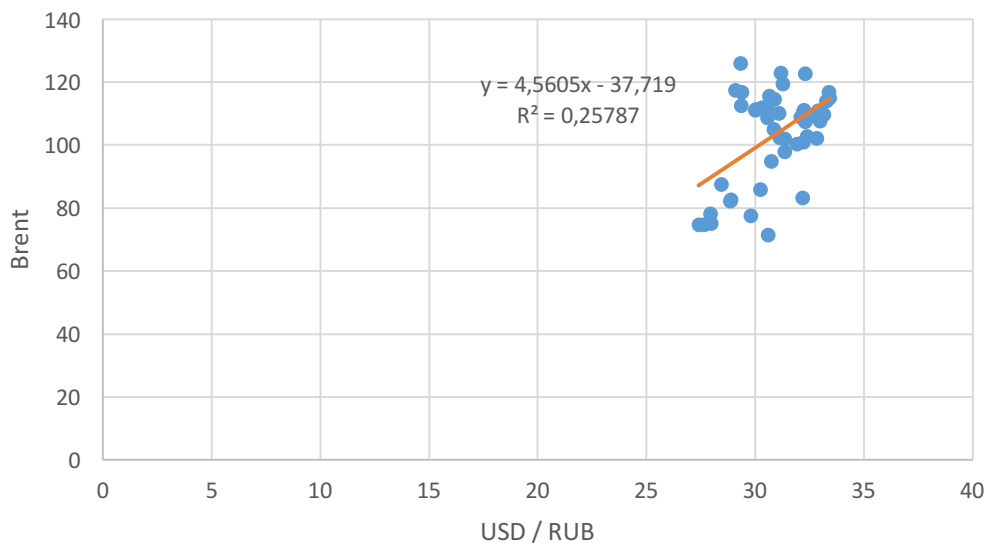


Source: own calculations, data from: investing.com

The government announces smooth devaluation of the ruble against the currency basket. By the end of 2008, the ruble exchange rate against the dollar fell by 11%. The government actually recognized the existence of a crisis in the Russian economy, and forced the Central Bank to expand the currency band due to lack of cash.

In 2008 it was a managed float, and the Central Bank managed to somehow keep the ruble exchange rate even after the oil prices collapsed. Its belief in the US dollar was great - the Central Bank spent about \$ 130 billion of reserves during only one quarter for the sake of dollar's support. At the end interest rates were soared, which lead to a sharp decline in production.

Graph 5: USD / RUB – Brent crude oil 2010 - 2013



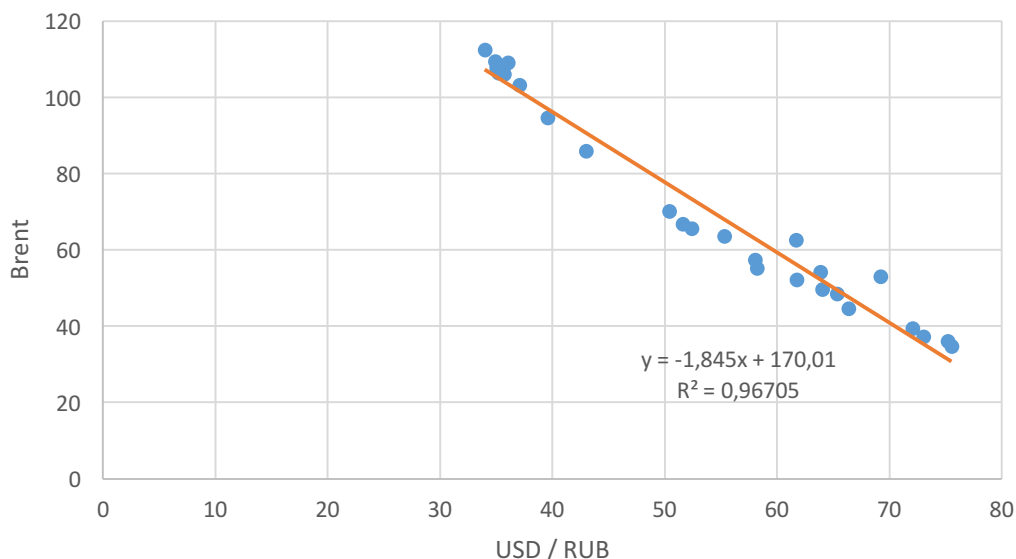
Source: own calculations, data from: investing.com

At this graph the linear function was used, and there is no correlation between the observations: USD / RUB and the crude oil Brent.

Anti-crisis governmental action required considerable expenses. As of July 1, 2009, the foreign exchange reserves of the Central Bank amounted to \$ 412,6 billion, a decrease of 27,5% compared to July 1, 2008 (\$ 569 billion).

In 2010, Russia's GDP growth was 4,5%. Russia took the 6th place among the countries of the world in terms of GDP. During the year 2011: oil prices increased, net exports increased, but at the same time export of capital from the private sector sharply increased too, so that the excess supply of foreign currency was low. In contrast, revenue growth and contraction of the budget allowed the Central Bank to absorb and sterilize the money issued for the purchase of currency. So the volatility of the ruble against the dollar remained within 15% during 2010 – 2014. The result is a tight monetary restriction, which had braking effect on the growth of the economy.

Graph 6: USD / RUB – Brent crude oil 2014 - 2016



Source: own calculations, data from: investing.com

November 10, 2014 the Central Bank let the ruble float freely, canceling the corridor of the currency basket and regular intervention on its borders. Since then, the Russian currency became fundamentally dependent on the dynamics of oil prices. So, if during the period from 2010 to the first half of 2014 the average annual fluctuation of the ruble to the dollar remained within 15%, so after the panic in the market in December 2014 the fluctuations of exchange rate by 60% and even more were observed, which continues till nowadays.

However, paradoxically, the ruble has become at the same time much more predictable. The fact is that it is practically not influenced anymore by such non market factors as, for example, the Central Bank foreign exchange interventions. So, it allows to predict development of exchange rate in short-term period in terms of correlation of the price of crude oil and USD / RUB, with certain amendments, of course, taking into account the influence of other factors, such as the inflation rate and geopolitical aspects. (RBC.ru, 2015)

Basing on the identified relationship we can make a forecast of USD / RUB exchange rate until the end of the year 2016. For that purpose, we should operate with the probable price level of crude oil for this period.

According to the short-term outlook of the US Department of Energy at the end of the current year the price of a barrel of WTI crude oil will be \$ 43. Thus, considering the current price difference between the major brands of oil, the price for a barrel of Brent respectively will be about \$ 45 by the end of the year. The graph USD / Brent 2014 – 2016 clearly shows us that if the price of Brent crude oil will be at the level of \$ 45 per barrel, then the price of 1 USD will be about 68 rubles.

The next thing is to take in account the other factors not related with the dynamics of oil prices, but which may affect the exchange rate. It is these factors that, to a great extent, determine the actual deviation of the observed values from the trend line.

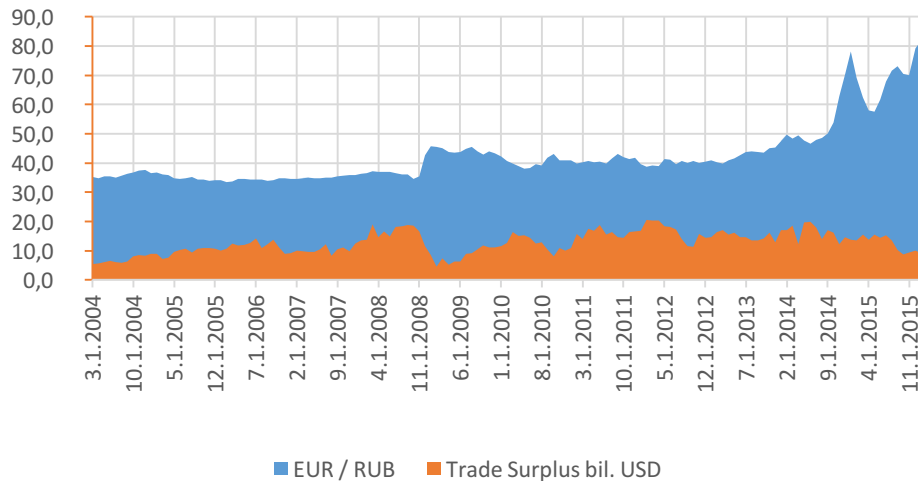
First of all, we should consider the influence of inflation rate. Based on a forecast of the Central Bank of the Russian Federation, as well as on the market changes we should add about 8% or about 5,5 rubles. Thus, adjusted for inflation the forecast for the end of the year should be 73,5 rubles per dollar.

Secondly, the geopolitical factors, which are hardly predictable. In other words, it is necessary to consider certain political troubles, such as: the current level of tension between Russia and Western countries being at the highest level over the past three decades, conflicts in the Ukraine and Syria, falling of the value of ruble assets by 5 - 15 %. But we could predict that it will not be worse. So if taking into account the gradual escalation of the conflicts in Ukraine and Syria, we can assume the double reduction of the discount. Thus we get the final forecast value of the Russian currency at the end of the year – a little bit more than 66 rubles per one US dollar.

Of course, this forecast does not take into account many factors, especially those about the appearance of which we do not suspect. As well as the risks that many of our assumptions are far from reality. For example, could sharply grow some political risks in connection with a new round of tension in Ukraine and the Middle East. The main thing for the forecast is keeping of this very basic correlation between the ruble and the level of oil prices. As has been shown by the experience of 2015 and the beginning of 2016, it is completely dependent on the actions of the Central Bank of Russia in the domestic market, to be more precise, on its further persistence in pursuing this inactive policy in the future.

4.1.2 Correlation of Russian ruble and foreign trade with EU.

Graph 7: Trade Surplus in bil. USD vs. EUR / RUB 2004 - 2016



Source: own calculations, data from: investing.com

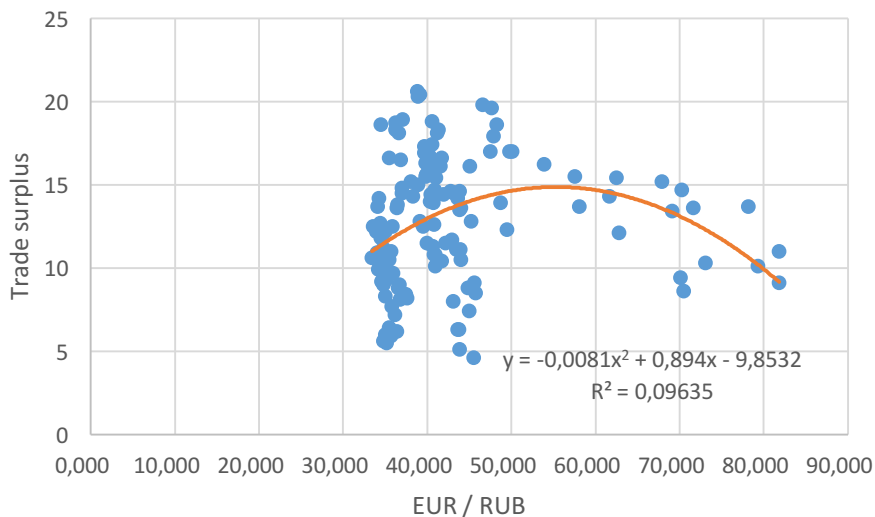
Russia is the EU's third largest trade partner; the EU is Russia's main trading partner. Until the middle of 2008 the trade turnover between the two sides demonstrated high growth rates, but the trend was interrupted by the crisis and the subsequent measures adopted by Russia in response to the western sanctions. This, by all means, affected the trade relations between the EU and Russia.

Bilateral trade declined from 338 billion euros in 2012 to 284 billion euros in 2014. In 2014, the EU exports to Russia amounted 103,3 billion euros, while EU imports from Russia totaled 181,3 billion euros. However, the economic crisis in Russia in 2015 and 2016 had a negative impact on the volume of trade between Russia and the EU countries and the world trade as a whole.

The EU exports to Russia is dominated by machinery and transport equipment (45% of total exports), chemical products (18% of total exports), medicine and agricultural products. Russia exports to the EU mainly raw materials, in particular oil and gas (87% of total imports into the EU in 2014). One of the main goals of Russia's joining the WTO was

to reduce import duties on goods exported all over the world, including Europe. (RBC.ru, 2015)

Graph 8: Trade Surplus – EUR / RUB 2004 - 2016

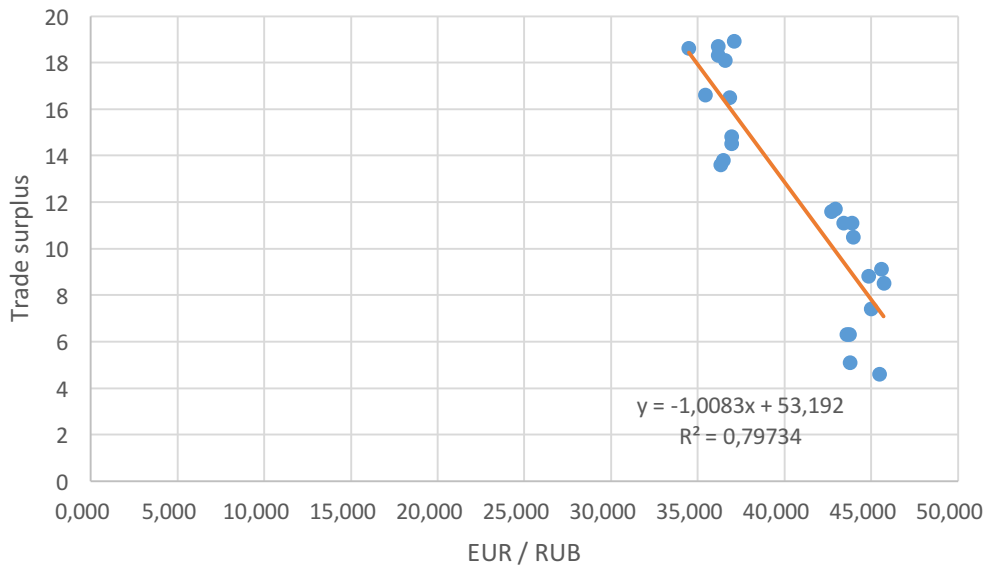


Source: own calculations, data from: investing.com

No direct correlation in long term period between Trade surplus and the exchange rate EUR / RUB can be observed in the Graf in such a long interval. The relationship between the variables can be observed only in short intervals and it often appears at the time when certain problems for both partners arise - be that the crisis of 2008 - 2010, or reciprocal sanctions between Russia and western countries or tense geopolitical situation (Ukraine, Syria).

Therefore, let's examine the following graph for the time period 2008 - 2009.

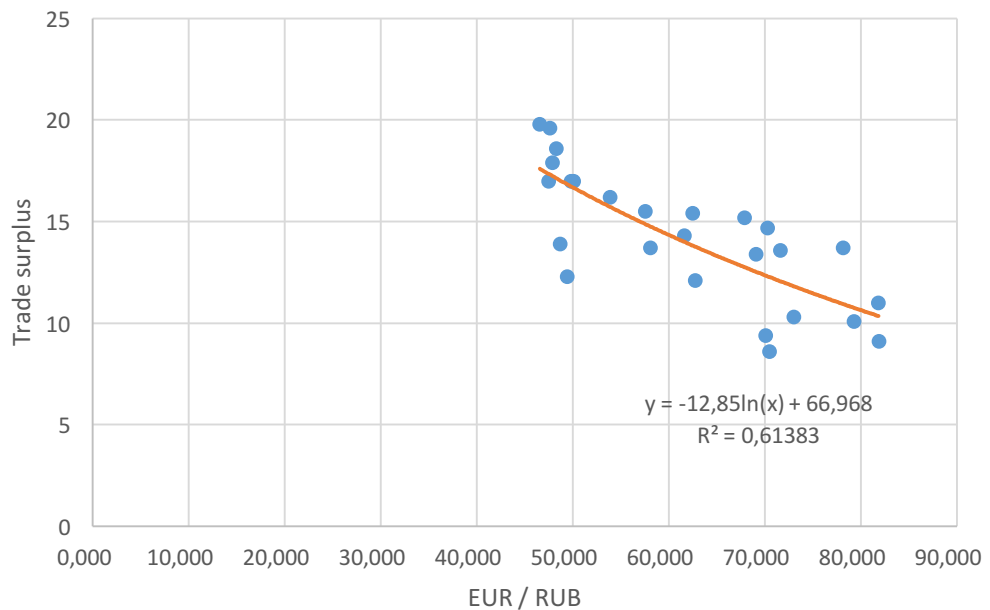
Graph 9: Trade Surplus – EUR / RUB 2008 - 2009



Source: own calculations, data from: investing.com

In Russia, as well as in other countries, foreign trade was seriously affected by the financial crisis of 2008 - 2009. However, the volume of imports and exports restored fairly quickly to the previous level, and very soon it broke new record highs.

Graph 10: Trade Surplus – EUR / RUB 2014 - 2016



Source: own calculations, data from: investing.com

So as we can see, foreign currency intervention is one of the instruments widely used in various countries throughout the world. It may be quite efficient in the hands of professionals who are able to clearly formulate the final goal they would like to reach and are ready to use currency interventions together with the whole range of other economic measures. As it was in the case of the Czech Republic as we will see in the next chapter.

On the contrary, it may turn out to be useless and even harmful if it is used by the authorities that have somewhat obscure vision of the future development of their country and who evidently do not have any economic policy at all. Unfortunately, this can be fully applied to the Russian government and the Central Bank of Russia. As many economists say, and this is my personal view too, that the Russian authorities until now-though the country lives in the gripes of crisis for several years already-failed to work out any program for future economic development. They are able just to react on the events that happen, be that western sanctions or drop of oil prices. And their reaction is, as a rule, spontaneous, impulsive and, therefore, in many cases not well-grounded.

So foreign currency interventions are just one of the financial instruments and their efficiency fully depends on those who resort to them, on the level of their professionalism and competence.

4.2 Foreign exchange intervention of CNB.

Euro / Czech koruna (CZK)

Latest (19 February 2016): **EUR 1 = CZK 27.023 -0.007 (-0.0%)**

Change from 27 December 1999 to 20 February 2016
Minimum (21 July 2008): **22.968** - Maximum (10 May 2000): **37.202** - Average: **28.571**

Picture 4: EUR / CZK 2000 - 2016



Source: ECB: www.ecb.europa.eu

The decision to conduct foreign exchange interventions was made on the 7th of November, 2013. As we know, before that such interventions were used by the Czech National Bank eleven years ago, i.e. in the year of 2002. This time the CNB took such a decision with the goal of improving financial situation in the country, making the Czech crown more stable, supporting stability in prices, maintaining growth in economy and, of course, preventing the growing threat of deflation.

During just one day the Czech National Bank conducted operations for selling Czech crowns and buying euros in the amount of 200 billion CZK. As a result, by the end of the

day the exchange rate of the Czech crown lowered from 25,80 CZK/1 Euro to 26,95 CZK/1 Euro. As was said the target of the CNB was to keep the crown at the level around 27 CZK/1 Euro until the year of 2016. As was stated by the Czech National Bank inflation report (2013): "...the weaker exchange rate will support Czech exports and the profitability of corporations and their willingness to invest. The recovery in production will then contribute to a rise in employment and wages, which will increase the purchasing power of households. The above impacts of exchange rate changes on the Czech economy are quite well mapped from the CNB's point of view."

Miroslav Singer, CNB's governor said that they were ready to make interventions in such amounts and for so long as it would be necessary in order to reach the desired level of the crown.

Now a few words should be said about the reasons and goals of foreign exchange interventions in 2013. One should understand that the Czech national economy did not grow since the year of 2011. Of course, in a such situation the most logical way out would have been just to low interest rates, but, unfortunately, this was practically excluded, because the interest rates already reached the so-called "technical zero" level. It is easier to prevent deflation than fight it when it has already come.

The second reason for foreign exchange interventions was to raise domestic demand, stimulating households to buy more goods and services, not to limit the consumption trying to delay it for the better times.

Another reason for interventions was that the level of inflation in the Czech Republic was lower than it was expected by the CNB, growth of economy here was lower than in the neighbor countries, unemployment was constantly increasing, wages were growing very slowly, especially in the private sector, fixed assets investments drastically declined. (Cnb.cz. 2016)

From my point of view, the foreign exchange interventions of the CNB in 2013 were highly effective, because the desired level the Czech crown was achieved by the Bank very quickly and at a reasonable price if compared, for example, with the late interventions of the Russian Central Bank - all those very huge amounts of money were just thrown into the oven and the effect was null.

It should be noted that the spectrum of opinions evaluating the results of the CNB interventions is very wide. Roughly speaking, the winners in such a situation would be

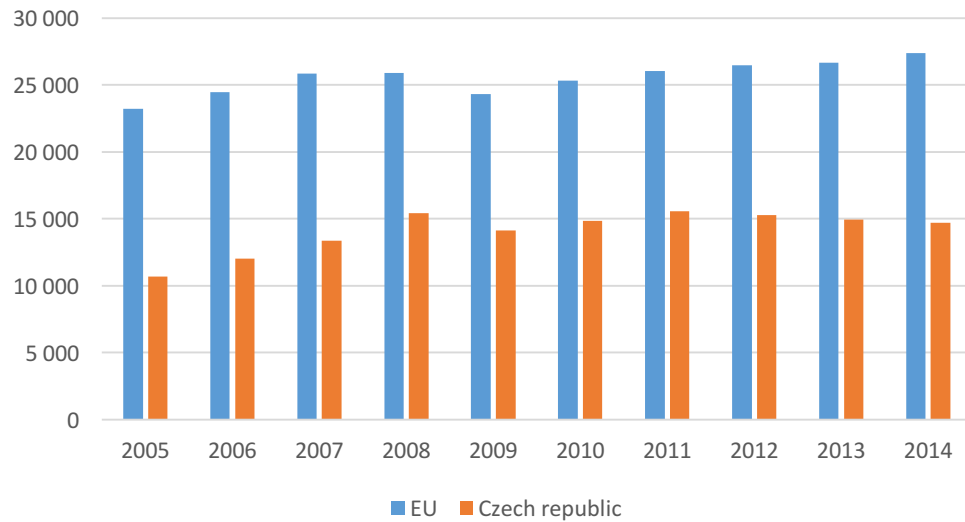
exporters, importers will lose, because in order to preserve prices for imported goods on a competitive level the importing companies have to decrease their costs, reducing the number of employees and their wages. Besides, more expensive imported goods undermine purchasing power of the households lowering living standards of the population. In addition to that here in the Czech Republic they assemble lots of products and also a great number of local producers depend on imported raw materials.

Still many experts evaluate the results of the CNB interventions in a positive way. From their point of view this measure will, most probably, help the economy of the country for the years to come. The lower exchange rate of the crown will surely support the Czech exporters and that is a thing of primary importance, because the Czech Republic is an export oriented economy. The "cheaper" crown will also help local producers of various goods and services. No doubt that the CNB interventions will support to the domestic agriculture in their competition with the numerous suppliers from the other countries.

And, of course, we should not forget about one more thing: exchange rates of the other main foreign currencies were also decreased for a long period of time. This may apply to the US dollar, Japanese yen or British pound. Therefore, the CNB interventions may also be regarded as some adjustment of the CZK exchange rate to those of the other currencies.

4.2.1 Correlation of GDP per capita and EUR / CZK

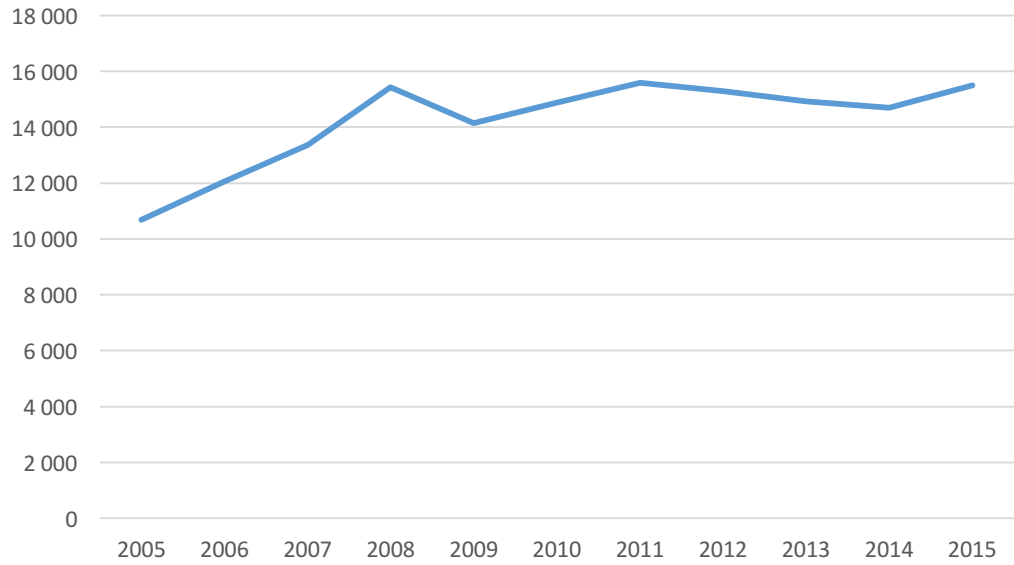
Graph 11: GDP per capita EU / GDP per capita Czech Republic 2003 – 2014 in EUR



Source: own calculations, data from: World Bank: data.worldbank.org

The Czech Republic is a small export oriented economy. When CZK is depreciated, the total GDP rises due to the increased level of export. From the results of the research due to the exchange rate change, the GDP will increase. The CNB also confirms that the GDP will increase its values.

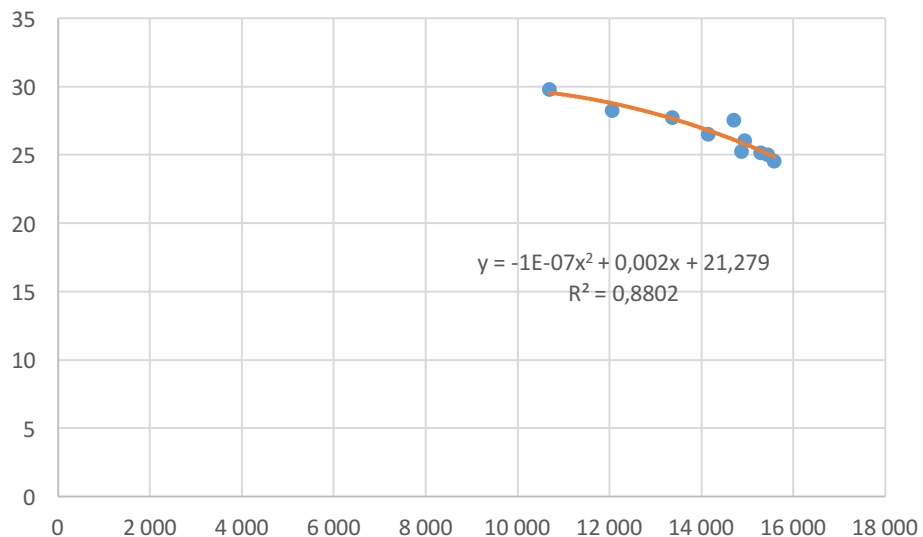
Graph 12: GDP per capita Czech Republic in EUR



Source: own calculations, data from: World Bank: data.worldbank.org

The graph GDP per capita shows, that firstly from the beginning of the year 2013 GDP slowly goes down, but after the year of intervention policies of the CNB, the GDP actually slightly increases. And continue to increase till the end of 2015.

Graph 13: GDP per capita Czech Republic – EUR / CZK



Source: own calculations, data from: World Bank: data.worldbank.org

The GDP and the value of the exchange rate are closely related. The polynomial trend function was used to show the correlation of the observed variables: GDP per capita in Czech Republic and the foreign exchange rate EUR / CZK. The correlation here is significant, according to R^2 it equals to 0,88. As it was already said Czech economy is export oriented country, thus, when CZK exchange rate decreases the volume of Czech export rises, which contributes to the increase of GDP of the country. (Ec.europa.eu. 2016)

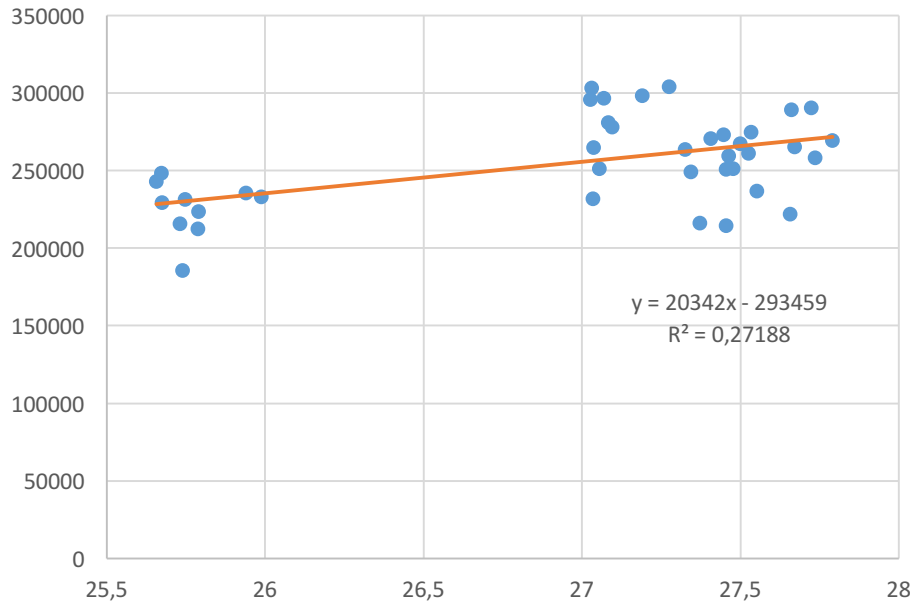
4.2.2 Correlation of Trade balance of CR and EUR / CZK

Business decisions on export and import of goods and services are significantly affected by movements in the exchange rate. The exchange rate effects prices of goods and services, which is reflected in total costs and revenue from foreign trade. The exchange rate has gained its primary importance for the Czech Republic with the growing openness of its economy and due to the fact that the economy of the country is export orientated. The exchange rate volatility is a significant source of risk for business, because wrong decisions may, more often than not, have quite serious results for economic and social situation in the country.

Appreciation and depreciation of the national currency affect future competitiveness of domestic exports to foreign markets and determine the cost of imported goods.

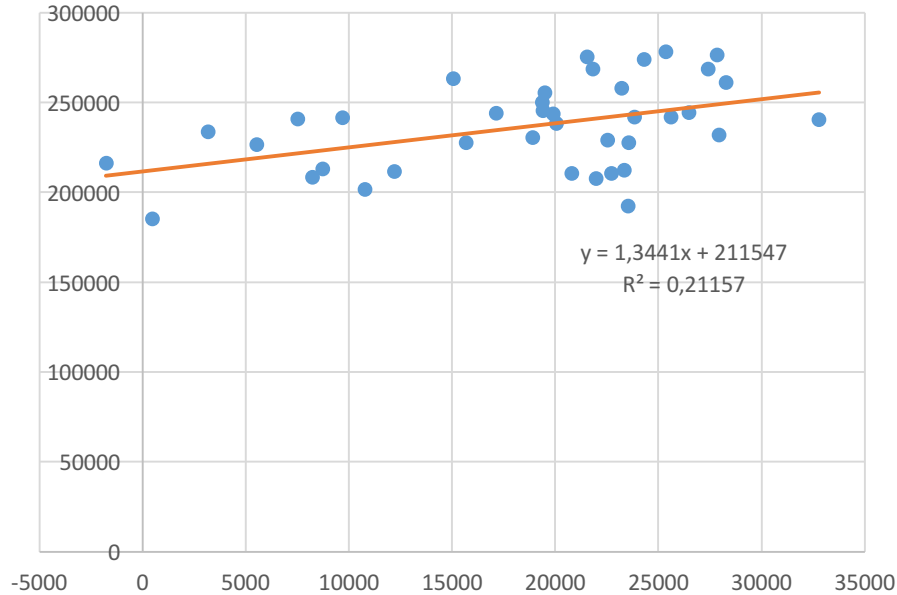
Net exports (i.e. the difference between exports and imports) shows a slightly positive balance in recent years, which proves to be rather favorable for any economy. While significant deficits or surpluses usually bring a negative impact.

Graph 14: Export of Czech Republic – EUR / CZK 2013 - 2016



Source: own calculations, data from: Czech Statistical Office: www.czso.cz

Graph 15: Import of Czech Republic – EUR / CZK 2013 - 2016

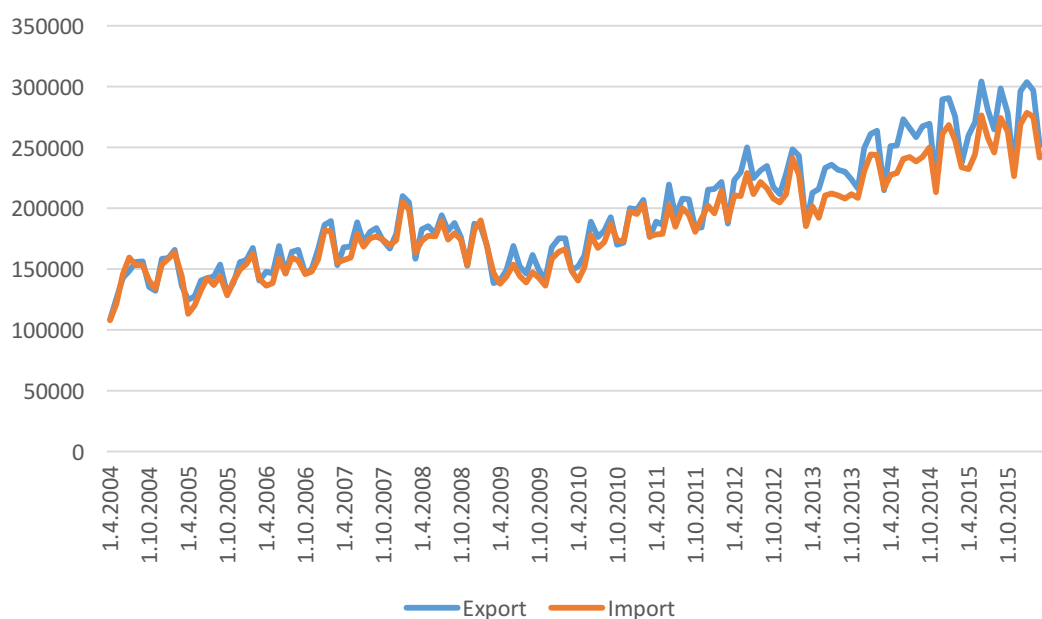


Source: own calculations, data from: Czech Statistical Office: www.czso.cz

As it is shown in the graphs, correlation data of export and import and the exchange rate EUR / CZK is approximately 0,2 – 0,27. That means that there is no correlation between the observed variables. The reason for that is the Czech National bank interventions,

provided during the observed period. Actually the amount of export increases and the foreign exchange rate is kept on a certain level - 27 CZK per 1 Euro. Thus, if some longer period of development of this relationship was analyzed, for example, the years 2006 – 2012, the existence of such correlation could, most probably, be found, because of greater volatility of the exchange rate. This simplified empirical analysis confirms the consistency of real data used for the Czech Republic with the theory.

Graph 16: Trade Balance of Czech Republic 2004 - 2016



Source: own calculations, data from: Czech Statistical Office: www.czso.cz

Having a well-balanced current account balance and, if it is possible, with a slight surplus corresponds to the interests of any country, because it guarantees the stable economic development with relatively mild fluctuations. And as the chart shows, it is just the case with the Czech Republic.

The difference between exports and imports in the Czech Republic is small. Until 2012 it was slightly negative sometimes and starting from 2013 it is slightly, but permanently surplus. This development can be evaluated positively in the context of an obviously growing foreign trade, which only confirms the Czech economy's ability to compete in an increasingly unified world trade without borders.

4.3 Dynamic of the foreign exchange rate EUR / USD

Euro / US dollar (USD)

Latest (15 March 2016): **EUR 1 = USD 1.1109 -0.0010 (-0.1%)**

Change from 3 October 2002 to 16 March 2016

Minimum (18 October 2002): **0.9735** - Maximum (15 July 2008): **1.5990** -

Average: **1.2900**

Picture 5: EUR / USD 2002 - 2016



Source: ECB: www.ecb.europa.eu

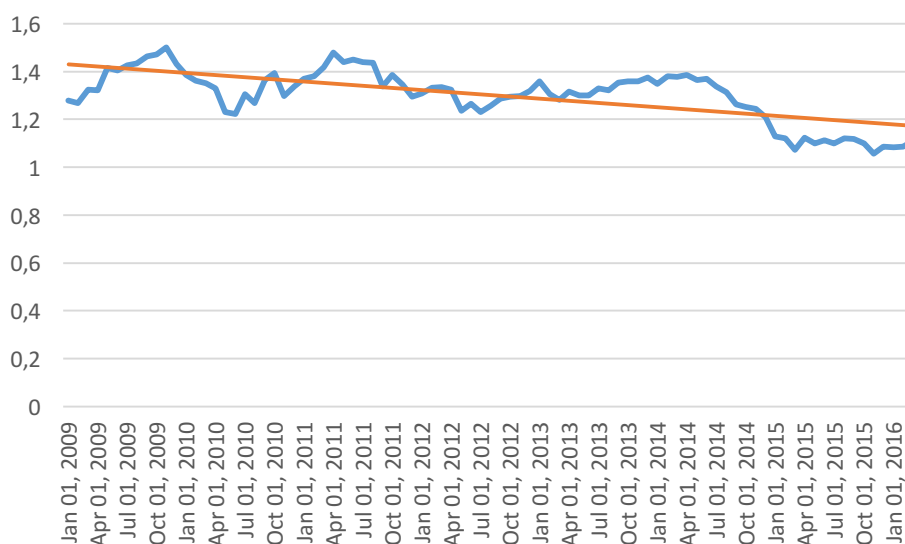
In order to accurately analyze why the euro falls it must be understood, what kind of currency it is. In contrast to the others the euro is not the currency of a particular country but of a group of countries. All these countries are combined by the concept of the euro zone and each of them in varying degrees affects the euro.

Countries belonging to the euro area have a different level of economic development, a different balance of payments, different macroeconomic indicators, that is, each of them has its own factors that influence the exchange rate. Among these countries

are those with fairly strong and developed economies taking the leading positions in the world (Germany and France), and also the countries that are in a very tight economic situation being on the verge of debt default (Greece, Cyprus). At the same time, the euro currency is managed centrally: key decisions about monetary policy are taken by the European Central Bank, located in Frankfurt am Main in Germany. The ECB is at the head of the European System of Central Banks (ESCB), which includes the central banks of the Eurozone countries.

Let's look at the dynamic of the foreign exchange rate EUR / USD in the last years.

Graph 17: EUR / USD 2009 - 2016



Source: own calculations, data from: ECB: www.ecb.europa.eu

Since 2008, the euro falls: long-term trend has begun to drop, which can be seen in the permanent medium-term trend is down, then up. Since the beginning of 2008 to the current moment - the euro against the dollar has fallen by about 34% (from 1.60 to 1.05). However, only from July 2014 to March 2015 fell by 23% (from 1.37 to 1.05). But it never fell to their absolute minimums that were recorded in 2000 - 2001 at the level of 0.82 - 0.83.

Euro falls not only against the dollar but also against other world currencies: the Swiss franc, Japanese yen, British pound sterling, and so on. And this dynamic has long been a trend.

4.3.1 Reasons for the devaluation of the Euro

With confidence we can say that the reasons for the devaluation of the euro are fundamentally different from the reasons for the devaluation of the ruble: a completely different country, a completely different currency, completely different reaction of markets, completely different ways to resolve the the situation. Also, the reaction of the residents of the EU about the drop of the Euro is quite different.

Stagnation and deflation of the EU economy. It can be said that the economy of the leading EU countries is already over-developed, developed so much that in conditions of the global financial crisis can not continue to develop. In these countries it is already quite high main macroeconomic indicator - GDP, but it does not show further dynamics, and even predisposed to decrease.

ECB policy. The European Central Bank sees this problem and tries to solve it. Market-based instruments, such as lowering interest rates or foreign exchange intervention in this case is not effective, so the ECB went on an extreme measure, and began the Eurozone's first ever program of quantitative easing. In other words, enabled a printing press to reduce the cost of financial resources, and therefore to increase investment in the economy and stimulate economic growth. In addition, cheap euro is beneficial to European exporters - as their products become more competitive on foreign markets, therefore production growth is stimulated.

The Greek crisis. Speaking about why the euro is falling, it is necessary to mention the situation in Greece. Greece - the weakest element of the Eurozone, which is close to default, has a huge foreign debt against the European Central Bank and other European banks requires further funding to avoid default. Thus, Greece can be called as a problem asset, i.e. funds that have already been invested in this country, and those that are still possible to invest, may not be returned. Naturally, this has a negative impact on the assets of the ECB and other European banks - Greece's creditors. Therefore, it affects the euro.

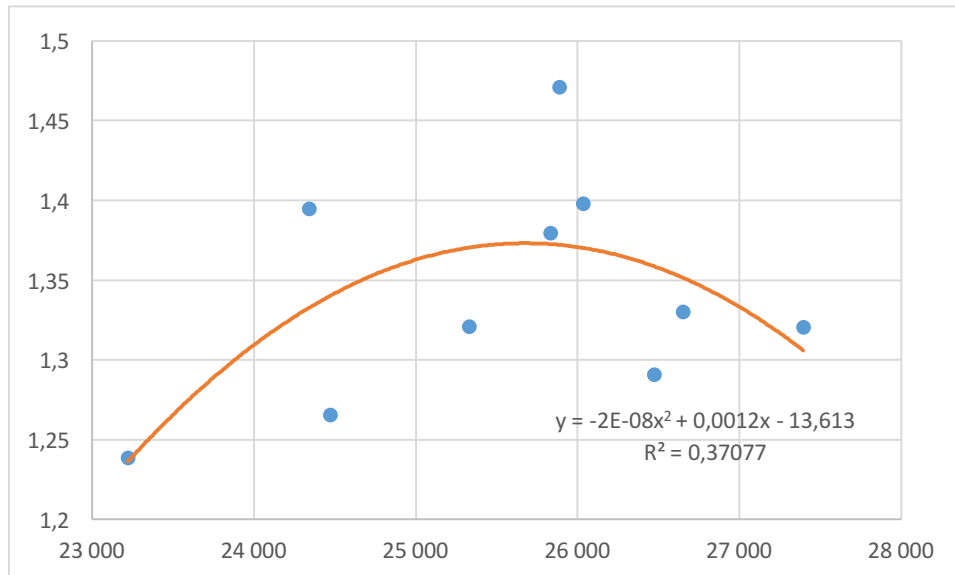
The negative impact of the sanctions. Among the reasons for the fall of the euro is necessary to mention the European Union imposed sanctions against Russia, as well as the response Russian sanctions. All these measures have narrowed the market for European goods and services, have led to many commodity prices to fall, that is even more stimulated GDP decline and deflation.

However, we should not exaggerate the role of sanctions in the fall of euro. Yes, they have a negative effect on the European economy, but it is only an extra, but not the main cause of the economic downturn. As mentioned above, the stagnation of the EU economy and the decline of the euro started in 2008, long before the imposition of sanctions, and the sanctions are now only strengthened this trend.

The growth and global strengthening of the dollar. Speaking about why the euro falls, should be noted the global rise of the dollar against the background of the completion of the US program of Quantitative Easing (QE). The euro and the dollar are the major world currencies, which are inversely related to each other. That is, when the US dollar rises - Euro falls, and vice versa. Never before in the world market was not observed the growth or fall of the euro and the dollar at the same time. In recent years, the US economy is well-entrenched, therefore the dollar rose to all currencies, including the euro. (Fingeniy.com. 2016).

4.3.2 Correlation of GDP per capita, Trade Balance of EU and EUR / USD

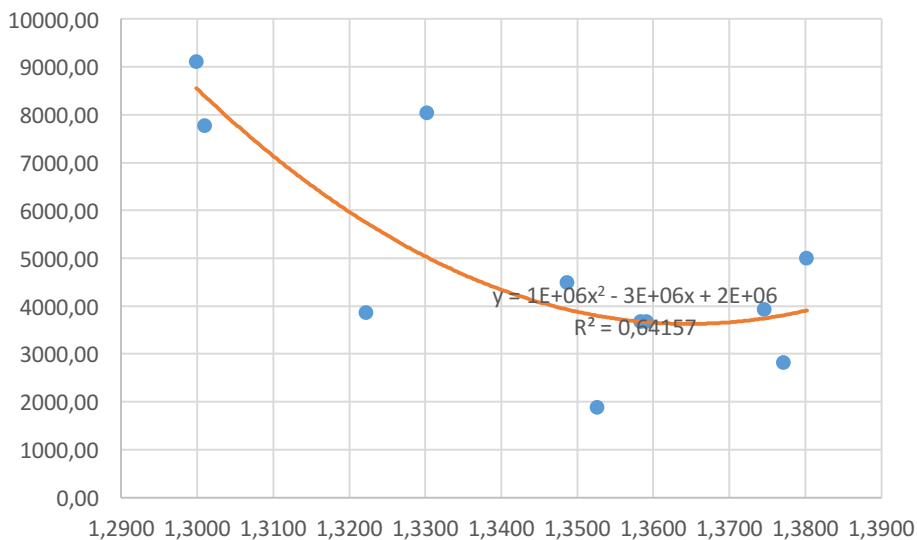
Graph 18: GDP per capita of EU – EUR / USD



Source: own calculations, data from: Eurostat: ec.europa.eu

The polynomial function was used to show the correlation between GDP per capita in European Union and EUR / USD exchange rate. As it could be seen, there is no correlation at all.

Graph 19: Trade Balance of EU – EUR / USD 2013 - 2014



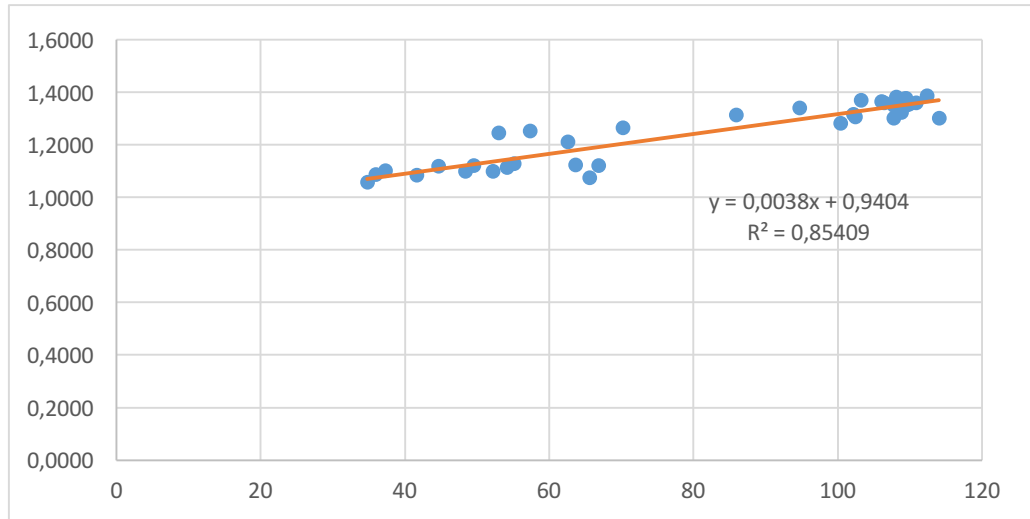
Source: own calculations, data from: ECB: www.ecb.europa.eu, Eurostat: ec.europa.eu

As it could be seen, there is medium-strong correlation between Trade balance of European Union and the foreign exchange rate EUR / USD in the period 2013 – 2014. The polynomial function was used to show the trend, because of the highest possible R^2 .

Let's look at the relationship of prices of crude oil Brent and the exchange rate EUR / USD in years 2013 – 2016. As it is known, the price of crude oil falls down from the year 2014 in certain reasons. Also the exchange rate EUR / USD falls down, which were lead to deflation in Eurozone area.

4.3.3 Correlation of crude oil price and EUR / USD

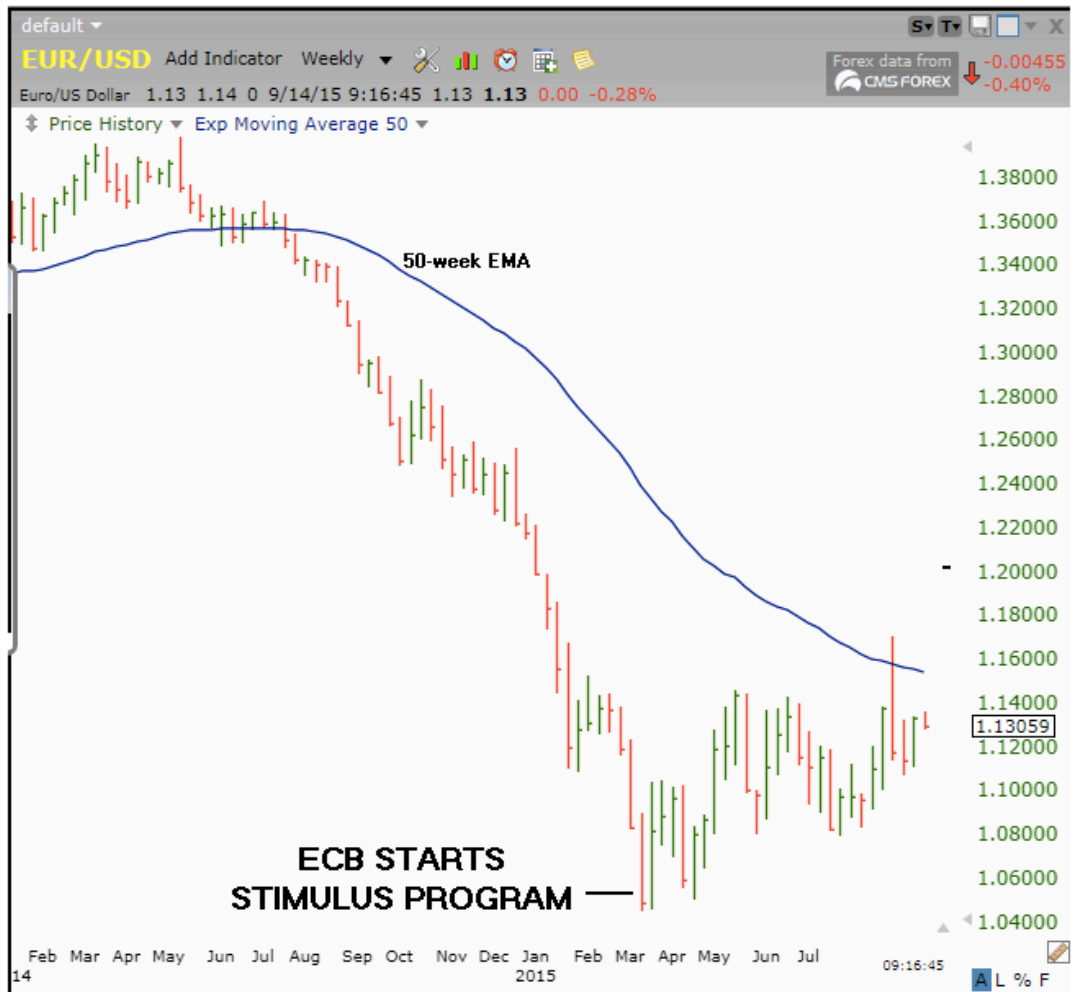
Graph 20: Brent crude oil – EUR / USD 2013 - 2016



Source: own calculations, data from: ECB: www.ecb.europa.eu, investing.com

The graph of correlation of prices on crude oil Brent and EUR / USD exchange rate, shows, that there is a high correlation between observations. What is possible to explain because of a rapid decline in crude oil prices, which lead to a deflationary scare in the Eurozone after local consumer price indices turned to a negative value at the end of the year 2014. Exerting pressure on the European Central Bank at the beginning of 2015 caused a great incentive to implement the monetary policy program for stopping deflation. They started with purchasing of bonds on the first week of March 2015, that is how the European version of Quantitative easing (QE) began. (Farley, A. 2015)

Picture 6: Brent crude oil – EUR / USD (dynamic)



Source: investopedia.com

A strong correlation with the decrease in oil prices can be easily seen from the graph below. The currency pair EUR / USD reached maximum in March 2014, only three months in advance the crude oil prices started a slight decrease, which were speeded-up to the downside direction in the fourth quarter. At the same time the price of the crude oil falls down. Pressure on the Euro continued till the end of March 2015, and at the same time European Central Bank has started its monetary stimulus program.

As for the perspectives for the currency pair EUR / USD for the near future, say until the end of 2016, it should be noted that the forecasts differ very much. For example, the SAXOBANK awaits the breaking of the shocking level 1,20 EUR / USD or, maybe, testing of the point 1,23 EUR / USD.

On the contrary, experts of the DEUTSCHE BANK think that the level of around 0,95 EUR / USD by the end of the 2016 is also highly probable. So, as we can see, the viewpoints of various specialists drastically differ and it is easily understandable, because too many different factors may influence that index in an absolutely unpredictable way. Still many experts consider it more probable that in the coming months until the end of 2016 the euro will be slightly strengthening up to the level of 1,15 - 1,20 USD / EUR.

5. Conclusion

This thesis is devoted to one of the most important things in our life, without which the mere existence of the modern civilization would be simply impossible. This thing is called money.

That is the reason why modern people should understand what currencies are, what functions they fulfil, how currencies should be managed. Without such kind of knowledge, it is impossible to work, to create business, to build international relations, improve technologies, raise living standards, etc.

The main goal of the thesis was to give a definition of currencies, their exchange rates, the ways of using currencies for solving economic problems and, of course, the currency interventions as one of the most widely used instruments of the monetary policy around the world.

The currency interventions are used by various countries with the purpose of increasing their currency reserves, stabilizing the exchange rate of their national currency, stimulating economic growth, etc. There are quite a lot of examples of currency interventions brilliantly performed by the Bank of England, the Bank of Japan and so on. Unfortunately, a large number of interventions cannot in any way be considered as successful. Indeed, this tool may be quite effective in the hands of professionals who have a pragmatic and sober-minded approach to the ways of solving economic problems, who have a clearly formulated strategy for future development of the country and who also understand that the currency interventions, however effective they can be, are just one of numerous tools for influencing the economy and that they should be accompanied by the whole range of other economic measures.

The late intervention of the Czech National Bank in 2013 may be considered as a success, because as a result they managed to solve at least such major problems as to stimulate economic growth – 4,3% in 2014, the second result in the EU, after Ireland, and the increase of exports - for such an export-oriented economy as the Czech Republic it is of primary importance.

Unfortunately, the opposite result was demonstrated by Russia. Those huge amounts of money were wasted without result. And the reason for that dramatic failure was not that the Central Bank of Russia lacks professionals. From my point of view, it is a symbol of failure of the whole system of power in Russia, where the main problem remains

the same as it was during the soviet times. The problem is that politics are still ahead of the economy, ambitions prevail over sober-mindedness and that until now no program for future development has been worked out by the authorities.

In the conclusion it must be stressed once again that foreign currency interventions are, indeed, one of the most powerful financial instruments and their efficiency fully depends on those who resort to them, on the level of their competence and professionalism.

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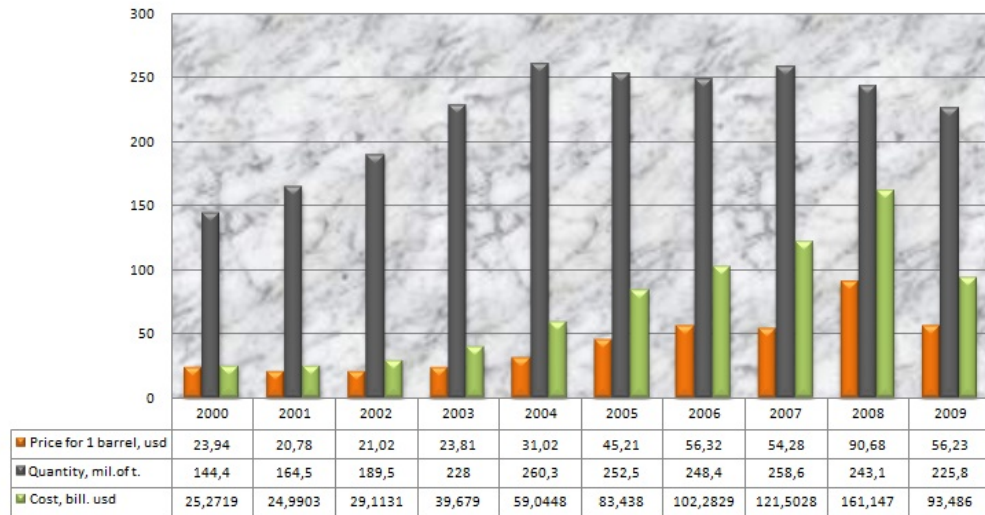
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7. Appendices

Figure 1: Export of crude oil from the Russian Federation 2000 - 2009



Source: investopedia.com

Table 1: price of Brent crude oil (in USD per barrel) and exchange rates EUR / USD, EUR / CZK, EUR / RUB

Brent, EUR / USD, EUR / CZK, EUR / RUB				
TIME	Brent	EUR/USD	EUR / CZK	EUR / RUB
01.03.04	36,58	1,2315	32,592	34,753
01.04.04	34,5	1,1982	31,6765	35,327
01.05.04	40,03	1,2186	31,9025	35,431
01.06.04	39,61	1,2187	31,6825	34,978
01.07.04	46,38	1,2020	31,8515	35,662
01.08.04	48,98	1,2188	31,5515	36,336
01.09.04	45,51	1,2432	31,4825	36,751
01.10.04	40,46	1,2785	31,033	37,39
01.11.04	45,92	1,3293	30,4125	37,586
01.12.04	50,06	1,3558	30,119	36,516
01.01.05	54,29	1,3034	29,668	36,643
01.02.05	51,09	1,3237	30,068	36,135
01.03.05	50,73	1,2963	30,536	35,763
01.04.05	55,58	1,2873	30,354	34,76

01.05.05	59,37	1,2310	30,082	34,649
01.06.05	67,02	1,2102	30,187	34,706
01.07.05	63,48	1,2130	29,3585	35,169
01.08.05	58,1	1,2344	29,6	34,278
01.09.05	55,05	1,2030	29,632	34,233
01.10.05	58,98	1,1988	28,942	33,965
01.11.05	65,99	1,1789	29,09	34,037
01.12.05	61,76	1,1843	28,361	34,183
01.01.06	65,91	1,2155	28,335	33,413
01.02.06	72,02	1,1922	28,465	33,574
01.03.06	70,41	1,2119	28,506	34,438
01.04.06	73,51	1,2637	28,2755	34,604
01.05.06	75,15	1,2812	28,481	34,347
01.06.06	70,25	1,2789	28,4965	34,223
01.07.06	62,48	1,2764	28,2325	34,259
01.08.06	59,03	1,2807	28,275	33,956
01.09.06	64,26	1,2672	28,077	34,094
01.10.06	60,86	1,2763	27,85	34,77
01.11.06	57,4	1,3241	27,504	34,752
01.12.06	61,89	1,3199	28,1285	34,499
01.01.07	68,1	1,3034	28,2335	34,557
01.02.07	67,65	1,3235	28,011	34,712
01.03.07	68,04	1,3358	28,1925	35,065
01.04.07	71,41	1,3646	28,2785	34,825
01.05.07	77,05	1,3453	28,7645	34,823
01.06.07	72,69	1,3541	28,079	34,976
01.07.07	79,17	1,3673	27,6965	34,967
01.08.07	90,63	1,3630	27,514	35,479
01.09.07	88,26	1,4272	26,959	35,705
01.10.07	93,85	1,4481	26,2375	35,87
01.11.07	92,21	1,4632	26,521	35,856
01.12.07	100,1	1,4590	26,0315	36,32
01.01.08	100,3	1,4866	25,1095	36,459
01.02.08	111,36	1,5181	25,259	37,08
01.03.08	127,78	1,5774	25,262	36,933
01.04.08	139,83	1,5617	25,0415	36,844
01.05.08	123,98	1,5554	23,894	36,943
01.06.08	114,05	1,5756	23,954	36,562
01.07.08	98,17	1,5601	24,8065	36,168
01.08.08	65,32	1,4674	24,4985	36,169

01.09.08	53,49	1,4104	24,045	34,48
01.10.08	45,59	1,2733	25,365	35,45
01.11.08	45,88	1,2697	26,854	42,723
01.12.08	46,35	1,3980	27,8795	45,72
01.01.09	49,23	1,2783	28,114	45,486
01.02.09	50,8	1,2669	27,3645	44,996
01.03.09	65,52	1,3251	26,7645	43,783
01.04.09	69,3	1,3227	26,9465	43,575
01.05.09	71,7	1,4154	25,931	43,735
01.06.09	69,65	1,4036	25,5405	44,836
01.07.09	69,07	1,4250	25,462	45,575
01.08.09	75,2	1,4330	25,2315	43,962
01.09.09	78,47	1,4636	26,5295	42,919
01.10.09	77,93	1,4718	26,149	43,87
01.11.09	71,46	1,5009	26,388	43,403
01.12.09	77,59	1,4318	26,2125	42,105
01.01.10	82,7	1,3863	25,9255	40,78
01.02.10	87,44	1,3626	25,399	39,78
01.03.10	74,65	1,3512	25,6345	38,868
01.04.10	75,01	1,3298	25,5065	38,01
01.05.10	78,18	1,2306	25,6975	38,259
01.06.10	74,64	1,2236	24,7795	39,49
01.07.10	82,31	1,3048	24,74	39,112
01.08.10	83,15	1,2687	24,6075	41,698
01.09.10	85,92	1,3633	24,635	43,033
01.10.10	94,75	1,3950	24,9515	40,937
01.11.10	101,01	1,2980	25,0415	40,906
01.12.10	111,8	1,3379	24,1925	40,799
01.01.11	117,36	1,3686	24,3515	39,844
01.02.11	125,89	1,3802	24,5415	40,299
01.03.11	116,73	1,4166	24,104	40,568
01.04.11	112,48	1,4802	24,5575	40,265
01.05.11	116,74	1,4396	24,3465	40,509
01.06.11	114,85	1,4506	24,1795	39,788
01.07.11	102,76	1,4396	24,113	41,472
01.08.11	109,56	1,4379	24,6815	43,095
01.09.11	110,52	1,3386	24,8805	41,894
01.10.11	107,38	1,3858	25,2865	41,302
01.11.11	110,98	1,3443	25,5685	41,677
01.12.11	122,66	1,2948	25,318	39,636

01.01.12	122,88	1,3078	24,8965	38,763
01.02.12	119,47	1,3326	24,8035	39,124
01.03.12	101,87	1,3344	24,92	38,886
01.04.12	97,8	1,3240	25,7225	41,496
01.05.12	104,92	1,2358	25,513	41,012
01.06.12	114,57	1,2660	25,325	39,619
01.07.12	112,39	1,2304	24,8645	40,571
01.08.12	108,7	1,2577	25,127	39,964
01.09.12	111,23	1,2858	25,0935	40,62
01.10.12	111,11	1,2960	25,2495	40,086
01.11.12	115,55	1,2986	25,088	40,325
01.12.12	111,38	1,3196	25,6715	40,881
01.01.13	110,02	1,3579	25,657	40,039
01.02.13	102,37	1,3056	25,739	39,843
01.03.13	100,39	1,2820	25,7865	40,986
01.04.13	102,16	1,3167	25,7305	41,496
01.05.13	107,7	1,2999	25,9875	42,718
01.06.13	114,01	1,3010	25,94	43,845
01.07.13	108,37	1,3302	25,7465	43,99
01.08.13	108,84	1,3222	25,674	43,82
01.09.13	109,69	1,3526	25,7895	43,583
01.10.13	110,8	1,3584	27,372	45,051
01.11.13	106,4	1,3591	27,3425	45,217
01.12.13	109,07	1,3746	27,525	47,442
01.01.14	107,76	1,3487	27,3245	49,758
01.02.14	108,07	1,3802	27,455	48,264
01.03.14	109,41	1,3771	27,455	49,415
01.04.14	112,36	1,3867	27,476	47,599
01.05.14	106,02	1,3631	27,446	46,536
01.06.14	103,19	1,3692	27,6695	47,832
01.07.14	94,67	1,3389	27,7355	48,666
01.08.14	85,86	1,3133	27,499	50,027
01.09.14	70,15	1,2632	27,7905	53,871
01.10.14	57,33	1,2525	27,656	62,739
01.11.14	52,99	1,2452	27,6595	70,229
01.12.14	62,58	1,2099	27,7235	78,155
01.01.15	55,11	1,1288	27,534	69,082
01.02.15	66,78	1,1196	27,5515	62,465
01.03.15	65,56	1,0731	27,463	58,045
01.04.15	63,59	1,1224	27,406	57,55

01.05.15	52,21	1,0988	27,275	61,596
01.06.15	54,15	1,1138	27,083	67,847
01.07.15	48,37	1,0988	27,036	71,619
01.08.15	49,56	1,1215	27,1905	73,015
01.09.15	44,61	1,1177	27,0945	70,49
01.10.15	37,28	1,1005	27,0345	70,095
01.11.15	34,74	1,0564	27,025	79,281
01.12.15	35,97	1,0860	27,0305	81,839
01.01.16	41,65	1,0837	27,0675	81,825

Source: investing.com

Table 2: Trade Balance of EU (in mil. EUR), Trade Balance of CR (in mil. EUR), Export and Import of CR

Trade Balance of EU (mil. Eur), Trade Balance of CR (mil.Eur)				
TIME	Balance of Trade EU	Balance of Trade CR	Export CR	Import CR
01.03.04	-5581,90	122	108066	107944
01.04.04	-4213,60	4681	125848	121167
01.05.04	-4362,00	-3120	142673	145793
01.06.04	-7799,60	-10661	148454	159115
01.07.04	-4316,00	2383,2	155378,2	152995
01.08.04	-5921,60	3189,8	156309,4	153119,6
01.09.04	-5461,60	-5424,1	135167,4	140591,5
01.10.04	-7405,70	-1657,4	132084,8	133742,2
01.11.04	-8930,60	4386,8	158002,4	153615,6
01.12.04	-9573,00	296,6	158621,8	158325,2
01.01.05	-9233,00	2415,5	165860,5	163445
01.02.05	-6622,70	-7731,9	136190,6	143922,5
01.03.05	-6428,40	11492,1	124362	112869,9
01.04.05	-8965,40	7654	127299,4	119645,4
01.05.05	-10629,50	7885,7	140230	132344,3
01.06.05	-9576,80	-431,2	142257,1	142688,3
01.07.05	-8579,10	7175,7	143639,8	136464,1
01.08.05	-8330,90	9434,2	153459,4	144025,2
01.09.05	-11307,20	1115,4	129334,5	128219,1
01.10.05	-12406,50	-1383,9	138738,4	140122,3
01.11.05	-12179,50	5973,2	155419,9	149446,7

01.12.05	-13815,60	3330,1	157320	153989,9
01.01.06	-15681,50	4725,2	167318	162592,8
01.02.06	-16989,10	-1746,3	140411,5	142157,8
01.03.06	-15985,30	11478,6	147547,6	136069
01.04.06	-17294,50	7512,7	146005,1	138492,4
01.05.06	-17762,60	10737,7	168821,6	158083,9
01.06.06	-18475,40	152,7	146301,8	146149,1
01.07.06	-19051,80	5242,4	164279,1	159036,7
01.08.06	-21066,30	8851,7	165558,3	156706,6
01.09.06	-19925,00	729,9	146252,2	145522,3
01.10.06	-20763,10	2161	149860,3	147699,3
01.11.06	-15524,60	8454,3	166280,2	157825,9
01.12.06	-15089,90	4787,4	186265	181477,6
01.01.07	-13012,80	8217,6	189162,8	180945,2
01.02.07	-14622,10	-2365,5	152717,9	155083,4
01.03.07	-15402,00	10137,7	167476,2	157338,5
01.04.07	-19760,30	9034,5	168317,3	159282,8
01.05.07	-16048,10	9413,9	188174,3	178760,4
01.06.07	-17108,40	3829,6	171893	168063,4
01.07.07	-17368,80	5385,7	180368,3	174982,6
01.08.07	-14805,10	7199	183698,8	176499,8
01.09.07	-19760,90	-50,4	173755,7	173806,1
01.10.07	-15570,30	-2814,6	166728,3	169542,9
01.11.07	-16876,10	5584,9	178891,8	173306,9
01.12.07	-17174,70	4712,3	209897,6	205185,3
01.01.08	-18665,60	5899,8	204511,5	198611,7
01.02.08	-23106,10	-4979	158445,2	163424,2
01.03.08	-21010,40	9098,9	182316,9	173218
01.04.08	-16394,00	7515,6	184935,4	177419,8
01.05.08	-23923,50	1965,8	178514	176548,2
01.06.08	-20225,30	4497,8	194005,2	189507,4
01.07.08	-25377,90	7030,3	181212,5	174182,2
01.08.08	-25580,90	8674,4	187798,7	179124,3
01.09.08	-29582,60	2164	175971,9	173807,9
01.10.08	-26399,40	-167,9	152613,8	152781,7
01.11.08	-22873,50	5049	187141,9	182092,9
01.12.08	-19741,40	-5402,3	184388,9	189791,2
01.01.09	-22104,80	869,1	168641,7	167772,6
01.02.09	-16304,50	-8396,6	138309	146705,6
01.03.09	-21176,90	2822,8	140430,1	137607,3

01.04.09	-16530,60	5159,2	148801,7	143642,5
01.05.09	-16038,90	15506,7	169021,5	153514,8
01.06.09	-12868,00	8007,8	152059,3	144051,5
01.07.09	-9254,70	7308,3	146000,6	138692,3
01.08.09	-7795,40	14467	161465,5	146998,5
01.09.09	-5999,00	6166,4	148578,5	142412,1
01.10.09	-10857,60	5619,6	141720,1	136100,5
01.11.09	-12506,20	9930,3	167910,9	157980,6
01.12.09	-10773,50	10966,9	175144,2	164177,3
01.01.10	-9921,60	8866,7	175045,9	166179,2
01.02.10	-9600,40	524,3	148673,6	148149,3
01.03.10	-15226,90	11735,2	152038	140302,8
01.04.10	-9740,70	9694,3	161060,2	151365,9
01.05.10	-13114,70	11245,7	188822,4	177576,7
01.06.10	-14789,90	9156,3	176148,3	166992
01.07.10	-17463,70	9318	181303,2	171985,2
01.08.10	-16485,50	6282,2	192715,8	186433,6
01.09.10	-14549,90	-4109,2	169578,3	173687,5
01.10.10	-15256,10	-1120,1	171596,7	172716,8
01.11.10	-14504,40	2669,4	199775,5	197106,1
01.12.10	-12359,80	3816,8	198907,7	195090,9
01.01.11	-17068,70	3089	206869,9	203780,9
01.02.11	-17241,30	-862,6	176025,9	176888,5
01.03.11	-14299,10	10902,7	188996,7	178094
01.04.11	-12188,60	7211,1	186127,3	178916,2
01.05.11	-16412,00	16929,4	219195,6	202266,2
01.06.11	-17024,30	9086,6	193395,3	184308,7
01.07.11	-15651,90	7773,3	207608,9	199835,6
01.08.11	-17949,20	12375,1	206969,4	194594,3
01.09.11	-18811,60	2786	183280,4	180494,4
01.10.11	-17165,20	-7335,6	183958	191293,6
01.11.11	-12379,10	13076,4	215211,9	202135,5
01.12.11	-12815,50	19933,2	215593	195659,8
01.01.12	-10873,00	7319,2	221253,3	213934,1
01.02.12	-5784,60	-2156,9	187352,4	189509,3
01.03.12	-10144,00	12707	223226	210519
01.04.12	-13160,40	19163	229080	209917
01.05.12	-12221,80	20857	249895	229038
01.06.12	-12487,90	13029	224568	211539
01.07.12	-8938,70	9075	230693	221618

01.08.12	-7040,40	18571	234720	216149
01.09.12	-7127,40	9547	217028	207481
01.10.12	-6908,50	6958	211421	204463
01.11.12	-6562,90	16881	228113	211232
01.12.12	-7852,90	7509	248374	240865
01.01.13	-4160,80	15688	243049	227361
01.02.13	-5012,40	487	185676	185189
01.03.13	-2178,30	10786	212330	201544
01.04.13	-1142,00	23520	215645	192125
01.05.13	9107,10	22720	233258	210538
01.06.13	7775,20	23347	235539	212192
01.07.13	8036,40	20808	231406	210598
01.08.13	3859,10	21992	229599	207607
01.09.13	1882,30	12202	223787	211585
01.10.13	3679,00	8236	216391	208155
01.11.13	3674,60	18918	249160	230242
01.12.13	3924,60	17142	261161	244019
01.01.14	4487,60	19907	263538	243631
01.02.14	5000,60	-1772	214416	216188
01.03.14	2813,70	23552	251002	227450
01.04.14	2770,43	22522	251391	228869
01.05.14	4556,82	32781	273254	240473
01.06.14	3323,77	23829	265533	241704
01.07.14	2922,23	20065	258124	238059
01.08.14	3288,98	25603	267324	241721
01.09.14	4467,45	19365	269298	249933
01.10.14	5115,15	8739	221805	213066
01.11.14	6793,40	28281	289345	261064
01.12.14	6997,70	21808	290333	268525
01.01.15	3260,90	19504	274883	255379
01.02.15	4307,00	3178	236906	233728
01.03.15	2987,10	27946	259741	231795
01.04.15	6047,90	26468	270607	244139
01.05.15	6415,60	27830	304062	276232
01.06.15	4312,00	23204	281125	257921
01.07.15	6453,70	19390	264851	245461
01.08.15	5933,00	24300	298253	273953
01.09.15	5193,50	15044	278031	262987
01.10.15	2952,10	5534	231954	226420
01.11.15	5664,70	27423	296029	268606

01.12.15	11643,30	25348	303409	278061
01.01.16	11989,35	21537	296700	275163

Source: Eurostat: ec.europa.eu

Table 3: GDP per capita EU – 28, GDP per capita CR and EUR / CZK exchange rate

GDP per capita Eur (annualy) for EU-28 and CR, exchange rate EUR / CZK (annualy), GDP per capita of CR in CZK				
Years	European Union	Czech Republic	EUR / CZK	GDP in czk
2005	23 221	10 689	29,803	3503499
2006	24 471	12 053	28,238	3751211
2007	25 833	13 369	27,717	3958072
2008	25 888	15 433	25,011	4058574
2009	24 340	14 141	26,525	3867803
2010	25 329	14 868	25,261	3950607
2011	26 034	15 584	24,567	4028554
2012	26 472	15 292	25,16	3995394
2013	26 652	14 931	26,036	3974114
2014	27 394	14 702	27,557	4052809

Source: Eurostat: ec.europa.eu, ECB: www.ecb.europa.eu