

Czech University of Life Sciences Prague

Faculty of Economics and Management

Department of Economics



Bachelor Thesis

European central bank (ECB) monetary policies analysis

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BACHELOR THESIS ASSIGNMENT

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Business Administration

Thesis title

European central bank (ECB) monetary policies analysis

Objectives of thesis

The presented diploma thesis is devoted to the research of issues related to the European central bank, the creation of this entity and organization of its activities. The sub objective is to show organizational structure of object, goals, tasks and principles of organizational activity, instruments of monetary policy and operations. Also to evaluate the advantages and disadvantages of European central bank, to define its role in global financial systém. More over to define current problems of functioning of euro and dollar, basing on available public sources and bring the possible solution. To summarize the research of organizations, activities and actual tasks of central banks at the present stage and perspectives for further development.

Methodology

The following thesis will be divided in two parts.

1) Theoretical part. Consists of the following methods:

- a) Collection and accumulation of information, extraction.
- b) Induction, where we would summarize by actual, psychological or mathematical representations, or deduction method, where we would strongly summarize by logic conclusion.
- c) Research of literature data and archival materials and
- d) Method of synthesis.

2) Practical part. Consists of the following methods of research:

- a) Methods of control, measurement and data processing (basic methods of descriptive statistics, using SAS Enterprise guide, mathematical, graphical, tabular methods).
- b) Monitoring the situation in the market and the activities of organizations that are going to be investigated.
- c) The detection of problems and possible ways of their solving.

The proposed extent of the thesis

40 – 60 pages

Keywords

Monetary policy, Strategic interaction, Inflation, Core inflation, Interest rate, Exchange rate, Employment, Macroeconomics, European Central Bank, Euro integration, Quantitative easing, Open market operation

Recommended information sources

Friedman M. (2003). Money, Inflation and the Constitutional Position of the Central Bank
Choudhry M., Landuyt G. (2010). The Future of Finance: A New Model for Banking and Investment
Sauert D. (2009). The Monetary policy of the European Central Bank
Scheller K. H. (2006). The European Central Bank: History, Role and Functions

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Declaration

I declare that the following bachelor thesis titled “European central bank (ECB) monetary policies analysis” has been created by me as a result of my own research. Where I have quoted from the work of others, the source is always given. With the exception of such quotes, the thesis is entirely my own work. As the author of the bachelor thesis, I declare that the thesis does not break copyrights of any other person.

In Prague on

Nikita Ereemeev

Acknowledgement

I dedicate the thesis to my mother Elena and my father Oleg, who gave me an opportunity to study abroad and supported me in time of success and failure within the whole period of study.

I'm very grateful to Ing. Petr Procházka, MSC, Ph.D., who supervised my bachelor thesis and gave me an extensive knowledge in economy and investment.

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In additional, I express my gratitude to the European Central Bank staff and Mr. Jonathan Yiangou, Counsel to the Executive Board, for the complicity.

Thank you

European central bank (ECB) monetary policies analysis

Summary

The following thesis expands theories and assumptions of merited economists, considers facts about researched institutes and authors own investigations.

Literary publications clearly show all necessary aspects. It involves banking, economics and statistics. Particular literature explains the changing of credit market behavior under an impact of factors. It introduces meaningful knowledge about organizational structure, goals, tasks and operations. Strengths and weaknesses of structure were detected and clearly explained. Current problems of euro and dollar was identified and bring the possible solution. Was created a database of monitoring the behavior of institute, which was collected by personal research. Afterwards, all data was researched and explained on the basis of early notions described in the theoretical part of this work.

Author had researched economists works, dedicated to monetary policy regulation in the Eurozone. There are: Goodhart, Scheller, Hogermann, Sauert, Stiehle, McCaughrin, Gray, Chailloux, Nanto, Choudhry, Landuyt, Langin, Weinstein, Angeloni, Brenton, Woodford, Issing, McAdam, Ferguson, Edervin. An interview of the ECB representative, in face of the Counsel to the Executive Mr. Jonathan Yiangou was taken for the following research.

The following bachelor thesis could be used in future teaching within the banking problems observation.

Key words: Monetary policy, Strategic interaction, Inflation, Interest rate, Exchange rate, European Central Bank, Euro integration, Quantitative easing, OMO, TARGET2.

Analýza Evropské centrální banky (ECB) pro měnovou politiku

Souhrn

Tato bakalářská práce rozšiřuje teorii a předpoklady významných ekonomů, uvádí fakta významných institucí a vlastní názory autora.

Literární rešerše představuje všechny potřebné aspekty v oblasti bankovníctví, ekonomie a statistiky. Odborná literatura vysvětluje změnu chování na úvěrovém trhu pod vlivem faktorů a představuje významné znalosti o organizační struktuře, cílech, úkolech a operacích. Zjišťuje a vysvětluje silné a slabé stránky struktury. Identifikuje současné problémy eura a dolaru a navrhuje možná řešení. Na základě těchto údajů byla vytvořena databáze sledující chování institucí, která je obsahem vlastního výzkumu. Dále, všechna data byla zkoumána a vysvětlena na základě pojmů, popsaných v teoretické části této práce.

Autor zkoumal práci ekonomů, zaměřených na problematiku regulace měnové politiky v eurozóně. Jsou to: Goodhart, Scheller, Hogermann, Sauert, Stiehle, McCaughrin, Gray, Chailloux, Nanto, Choudhry, Landuyt, Langin, Weinstein, Angeloni, Brenton, Woodford, Issing, McAdam, Ferguson, Edervin. Následující výzkum zahrnuje rozhovor s zástupcem ECB, výkonné rady Mr. Jonathan Yiangou.

Tato bakalářská práce může být použita při budoucí výuce v rámci zkoumání bankovních problémů.

Klíčová slova: Měnová politika, strategické interakce, inflace, úroková sazba, směnný kurz, Evropská centrální banka, Euro integrace, kvantitativní uvolňování, OMO, TARGET2.

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List of abbreviations and symbols

€	Euro
ALM	Asset-liability management
CB	Central Bank
CLO	Collateralized loan obligation
CPI	Consumer Price Index
ECB	European Central Bank
ECU	European Currency Unit
EEC	European Economic Community
EMS	European Monetary System
EMU	European Economic Monetary Union
ESCB	European System of Central Banks
EU	European Union
EUR	Euro currency
FED	Federal Reserve System
FOMC	Federal Open Market Committee
FRB	Federal Reserve Board
GB	Great Britain
GDP	Gross Domestic Product
HICP	Harmonized Index of Consumer Prices
NOW	Negotiable Order of Withdrawal
OCA	Optimal Currency Area
OMO	Open Market Operations
OMT	Outright Monetary Transactions
ROC	Return on Capital
SNB	Swiss National Bank
TARGET	Trans-European Automated Real-time Gross Settlement Express Transfer System
USA	United States of America

1. Introduction

If the economy of country is a single body, then the bank sector is its blood system; it provides the flow of investments and monetary capital turnover. Fails in its work is fraught with the formation of “thrombus”.

The credit sphere is significance for each country. The economic prosperity depends on the “health” of bank system – its stability and smooth functioning. Even the problems of small monetary institutes attract an attention and painfully perceived by society. That is why, one of the main goal of economy is to provide stable development of bank system, without crisis. The Central Bank plays a significant role in solving this task. It is a general state monopolistic component of the monetary system for each country. One of the duties of that institute is to react on any essential changes on the market and make it stable. A set of tools as open market operations¹, the refinancing of banks², reserve requirements³ will help with it.

The European Central Bank and the Federal Reserve provide functions of the central bank in developed countries with a top level economy. They are unique central banks, because of its independency and structure. These banks had solved difficult tasks and also failed. At the very begin of existing, FED was criticized a lot, because it is semi-secret institute and closed for society. Critics affirm, that FED publishes its solutions with a big delay. Discussions of Federal Reserve about operations on the open market publishes only after the next meeting of community. Declarations of FED between Congresses are generalized too much (Peter Conti-Brown, 2016). The European Central Bank claims: “Today, most central banks, including the ECB, consider transparency as crucial”. The ECB gives a high priority to communicating effectively with the public. And there are no reasons not to trust them, except one. The opacity of central banks is explained by the principle “getting money needs a serious confidence”. FED and ECB are the keepers of this trust. Money could be just a piece of paper or just a record in computer. That is why the value of money is not included in themselves. The value of money depends on a wish of society to get them as a tool of payment.

¹ Open market operations - refers to the buying and selling of government securities in the open market in order to expand or contract the amount of money in the banking system (Staff, Investopedia. "Open Market Operations - OMO." Investopedia, 23 Jan. 2014).

² Refinancing of banks - the old loan is paid off and replaced with a new loan offering different terms (Staff, Investopedia. "Refinance." Investopedia, 14 Feb. 2014)

³ Reserve requirements - requirements regarding the amount of cash a bank must hold in reserve against deposits made by customers (Staff, Investopedia. "Reserve requirements." Investopedia, 3 Nov. 2014).

The main goal of the following analysis is to reach this transparency. Different aspects of central banks activity attract a high level interest in this way. The particular thesis introduces banking, it's modern status and development. Role and operations of CB, its functions are considered in detail. Should be noted a high level of research problem development in the particular literature.

2. Thesis objectives and methodology

The following thesis was written using below-described objectives and methodology.

2.1. Objectives

The goal of the presented thesis is an analysis of principles of organization, activity features of the European Central Bank and monetary policy.

Logic of research is in analysis of currency integration in Europe and the ECB monetary policy, observation of mechanisms in context of world experience in monetary policy regulation, and detection of general economic results and perspectives of unite monetary policy development.

The following tasks were solved during the implementation:

- Study an organizational structure of institute;
- Find out goals and tasks;
- Identify instruments of monetary policy;
- Consider operations;
- Reveal current problems of euro and dollar;
- Find out advantages and disadvantages of the system.

Object of research is the European Central Bank. Subjects of research are the activities of institute.

2.2. Methodology

The methodological basis for the work writing are the scientific methods that are based on the requirements of the objective and comprehensive factor analysis of the financial status of the organization. The research was carried out using a combination of scientific cognition methods. The abstract logical method allowed to reveal the theoretical aspects of financial status evaluation and financial stability evaluation, to determine the main characteristics of the processes and phenomena that are occurring in this sphere.

The system-structural method is used to analyse the financial status and to identify structural changes.

The application of economic and statistical methods allowed to determine the tendencies of organization and relationship between influencing factors, to evaluate their

dynamics, to reveal disproportions and contradictions, to predict their further development and suggest methods of increasing financial stability of the organization.

At the presented work, the following instruments of research were used: monitoring, methods of data collection and accumulation of information: the study of scientific, legislative and educational literature, archival materials, personal interview of the ECB Counsel; methods of determining of facts, events and processes, methods of control, measurement and data processing: statistical, graphical and tabular. For the relationship proof the SAS Enterprise Guide was used.

3. Theoretical part

Literature review as a theoretical part was done using articles, books, research papers, authors personal research, his knowledge and interview with Counsel to the Executive Board of the ECB, Mr. Jonathan Yiangou. Chosen literature disposes the research topic within the context of previous academic findings and sets the background for further studies.

3.1. What is Central Bank?

A central bank is a public institution that manages the currency of a country or group of countries and controls the money supply⁴ – literally, the amount of money in circulation. The main objective of many central banks is a price stability. In some countries, central banks are also required by law to act in support of full employment (Goodhart, 1995).

One of the main tools of any central bank is setting interest rates⁵ – the “cost of money” – as part of its monetary policy. A central bank is not a commercial bank. An individual cannot open an account at a central bank or ask it for a loan and, as a public body (Adolph, 2013).

It does act as a bank for the commercial banks and this is how it influences the flow of money in the economy to achieve stable prices. Commercial banks can turn to a central bank to borrow money, usually to cover very short-term needs. They have to give collateral – an asset like a government bond or a corporate bond that has a value and acts as a guarantee that they will repay the money, to borrow from the central bank (Friedman, 2003).

Central Banks can face “liquidity” problems – a situation where they have the money to repay a debt but not the ability to turn it into cash quickly, because commercial banks might lend long-term against short-term deposits. This is where a central bank can step in as a “lender of last resort.” (Adolph, 2013). This helps keep the financial system stable. Central banks can have a wide range of tasks besides monetary policy. They usually issue banknotes and coins, often ensure the smooth functioning of payment systems for banks and traded financial instruments, manage foreign reserves, and play a role in informing the public about the economy. Many central banks also contribute to the stability of the financial system by

⁴ Money supply - the entire stock of currency and other liquid instruments circulating in a country's economy as of a particular time. Also referred to as money stock, money supply includes safe assets, such as cash, coins, and balances held in checking and savings accounts that businesses and individuals can use to make payments or hold as short-term investments (Staff, Investopedia. "Money Supply." Investopedia”).

⁵ Interest rate - Interest rate is the amount charged, expressed as a percentage of principal, by a lender to a borrower for the use of assets (Staff, Investopedia. "Interest rate." Investopedia”).

supervising the commercial banks to make sure the lenders are not taking too many risks (Goodhart,1995).

All of the central bank actions, currency board or other regulatory committee that determine the size and rate of growth of the money supply, which in turn affects interest rates are monetary policy, that is maintained through actions such as modifying the interest rate, buying or selling government bonds⁶, and changing the amount of money, that banks are required to keep in the bank reserve (Brigo, Mercurio 2013).

The central banking based on special principles, that are main rules of its functioning as a monetary institute and provide its aims and goals realization. Principles are coordination of activities with the objectives of national economic policy, regulation of activities in accordance with available resources, using of predominantly economic methods to promote the production and circulation of the product, unity of monetary policy, division of emission and lending activities. (Gray, Chailloux, McCaughrin, 2008)

Central banks have several methods of controlling monetary policy, but the three most basic and widely used tools are short-term target rates⁷, open market operations, and capital requirements⁸.

Short-term rate changes are the most publicly followed central bank actions. Entities with a fiat currency (a currency backed by the full faith of issuer) can loan as much money to banks as they want. The lower the rate, the more banks want to borrow in order to lend to consumers. Thus, by changing the short-term rate target a central bank can influence the amount of lending and borrowing in a country (InvestingAnswers.com, 2017).

Open market operations are another key economic influence. With this method, the central bank either buys or sells Treasury bonds. Buying Treasuries puts money into circulation and selling Treasuries removes it - thereby increasing or decreasing the supply of money in an economy (InvestingAnswers.com, 2017).

The last tool is the use of capital requirements. Commercial banks take in deposits and then loan it out at higher interest rates. But they don't necessarily loan out one dollar for every dollar they take in; banks are required to keep a certain amount of capital on hand in order to safely cover a surge in withdrawals from customers. Increasing this capital requirement

⁶ Government bond - debt security issued by a government to support government spending (Staff, Investopedia. "Government bond." Investopedia”).

⁷ Short-term rate - Interest rates on loan contracts-or debt instruments such as Treasury bills, bank certificates of deposit or commercial paper-having maturities of less than one year. ("Short-Term Interest Rates". TheFreeDictionary.com).

⁸ Capital requirement - the standardized requirement in place for banks and other depository institutions that determines how much liquidity is required to be held for a certain level of assets (Staff, Investopedia. "Capital requirements." Investopedia”).

results in less money being available for lending -- thus potentially slowing an economy. Likewise, lowering the capital requirement leads to a greater amount of funds being available for borrowing (InvestingAnswers.com, 2017).

3.1.1. Importance of banking

Banking has a long and honorable history. Today it encompasses a wide range of activities of varying degrees of complexity. Whatever the precise business, the common denominators of all banking activities are those of risk, return and the bringing together of the providers of capital. Return on capital⁹ is the focus of all banking activity. The co-ordination of all banking activity could be said to be the focus of asset-liability management, although some practitioners will give ALM a narrower focus (Choudhry, Landuyt 2010). Either way, we need to be familiar with the wide-ranging nature of banking business. This then acts as a guide for what follows.

3.2. Market makers

Investing in different financial instruments is an investment foundation. Buy cheap sell high. But what factors influence on changing the price of the currency, precious metals and other investment instruments? First of all, they are market makers.

Market makers are those who influence on the changing price more than other. There are no politicians, there are Central Banks of developed countries: USA, European Union, Switzerland, Great Britain, Japan and Switzerland.

All of them influence on the exchange rate¹⁰ by their activity. Firstly, by the key rate¹¹ or rates that commercial banks are credited by national central banks. At most, their solutions determine how the exchange rate will change (DeRossa, 2009).

⁹ Return on capital - a calculation used to assess a company's efficiency at allocating the capital under its control to profitable investments (Staff, Investopedia. "Return on capital." Investopedia”).

¹⁰ Exchange rate - price of a nation's currency in terms of another currency (Staff, Investopedia. "Exchange rate." Investopedia”).

¹¹ Key rate -the specific interest rate that determines bank lending rates and the cost of credit for borrowers (Staff, Investopedia. "Key rate." Investopedia”).

Table 1. Nations currencies and market makers

Country	Currency	Market maker	Key person
USA	The US Dollar (USD)	Federal Reserve USA	Jannet Yellen
EU	The Euro (Euro)	European Central Bank	Mario Draghi
GB	The Pound Sterling (GBP)	Bank of England	Mark Carney
Japan	The Japanese Jen (JPY)	Bank of Japan	Haruhiko Kuroda
Switzerland	The Swiss Frank (CHF)	National Bank of Switzerland	Thomas Jordan

Source: Data collected from the Central Bank's official web sites, 2017

3.3. Central Banks in developed countries

The central bank in a developing country aims at the promotion and maintenance of a rising level of production, employment and real income in the country.

3.3.1. National Bank of Switzerland

The National Bank of Switzerland began work in Bern and Zurich in 1907. According to Swiss legislative, the SNB is a joint-stock company¹² with a special status. Nevertheless, bank is subordinated to the state authority and there is no full independency. (Pohl, 1994)

3.3.2. Bank of Japan

In 1876 japan banks get rights to release bank notes independently. Growth of money supply for several years brought to a sharp increase of inflation¹³. That is the reason of "Bank of Japan" foundation in 1882. The bank was intended to restrain inflation, to regulate commercial banks and to carry out monetary policy, which is directed to the growth of

¹² Joint- stock company- an organization that falls between the definitions of a partnership and corporation in terms of shareholder liability (Staff, Investopedia. "Joint-stock company." Investopedia").

¹³ Inflation - the rate at which the general level of prices for goods and services is rising and, consequently, the purchasing power of currency is falling (Staff, Investopedia. "Inflation." Investopedia").

economy (Werner, 2015).

Bank of Japan was surprising by their exclusive decisions, which were effective at most situations. Bank of Japan set up a negative key rate in the postwar time. Companies could get a credit on the following conditions and not to overpaid for percent but also must return the sum partially. That was not simple for banking system and treasury, but country had recovered for two years (Werner, 2015.).

3.3.3. Bank of England

Bank of England was founded in 1694. And it is the oldest bank in the world after the Swedish “Rexbank”, created in 1668.

The most important target of the Bank of England is an economic growth. Wherein, it associates with UK Treasure and British financial regulator, to ensure monetary and finance stability. (Clapham, 2008)

3.3.4. European Central Bank

The European Central Bank is a big part of world economy and it has a big impact on. This institution is a strong instrument of the European bank system. The presented bank is a subject of the following research and analysis of its activities that are in the next chapters.

3.3.4.1. What is the European Central Bank?

The European Central Bank is a financial institution that performs the function of the Central Bank for the euro area countries. The ECB Headquarters is located in Germany in Frankfurt city. EU Central Bank determines monetary policy and disposes of the reserves of the European System of Central Banks (ESCB) (“European Central Bank (ECB)”, 2017).

3.3.4.2. Brief history of the ECB and preconditions

The first steps in the creation and implementation of the single European currency have been taken in the post-war years, during the economic boom of the Old World countries. A treaty establishing the European Economic Community was signed, in Rome 1957. It consisted of Germany, France, Italy and the Benelux countries. In 1962, EEC Commission has put forward the idea of the issue and the introduction of its own currency.

There were disagreements over the future functioning of the monetary union between Germany and France, almost 10 years. As a result, within the EEC, a committee was formed, headed by the Prime Minister of Luxembourg Pierre Werner, who presented a plan to create a monetary union with the introduction of a common currency by 1980.

But "Werner Plan" failed, because in 1971 there was a collapse of the Bretton Woods monetary system and the world economy began to rebuild under the new financial model. Another reason for the failure of the "Werner Plan" was the lack of a single European internal market with free movement of capital (Scheller, 2006).

In 1979, the European Monetary System was founded through the efforts of the leaders of Germany and France Helmut Schmidt and Valery Giscard d'Estaing. It was a breakthrough in integration of the European economy. A single European currency was used - the ECU, but for non-cash transactions (Smits, 2003).

The next decade, European economists and financiers made a plan to create a single political community within the framework of the European continent. And in 1992 in the Dutch city of Maastricht the treaty establishing the European Community was signed with the establishment of a uniform basis of socio-economic policy, international relations, justice and home affairs. To join the EU state should meet the following criteria:

1. The budget deficit¹⁴ must be less than 3% of GDP;
2. The public debt must be less than 60% of GDP;
3. The state should support the national currency exchange rate within a predetermined range and to participate in the exchange rate mechanism within 2 years;
4. The inflation rate should be less than 1.5% of the average value of the same period of the three European states with the most stable prices;
5. Long-term interest rates on government bonds should not exceed more than 2% than of the three countries with the lowest inflation (Hogermann, 2012).

EU monetary policy management has been assigned to the European System of Central Banks. The ESCB establishment was planned in some stages and the European Union had to go to their own common currency - the Euro by the 1st January 1999. The European Central Bank was created in June 1998, who's the first president was the Dutchman Wim Duisenberg (Scheller, 2006).

From 1999, The European Union had created and launched the Euro in circulation. The European Central Bank was created in half of the year before. Germany became the

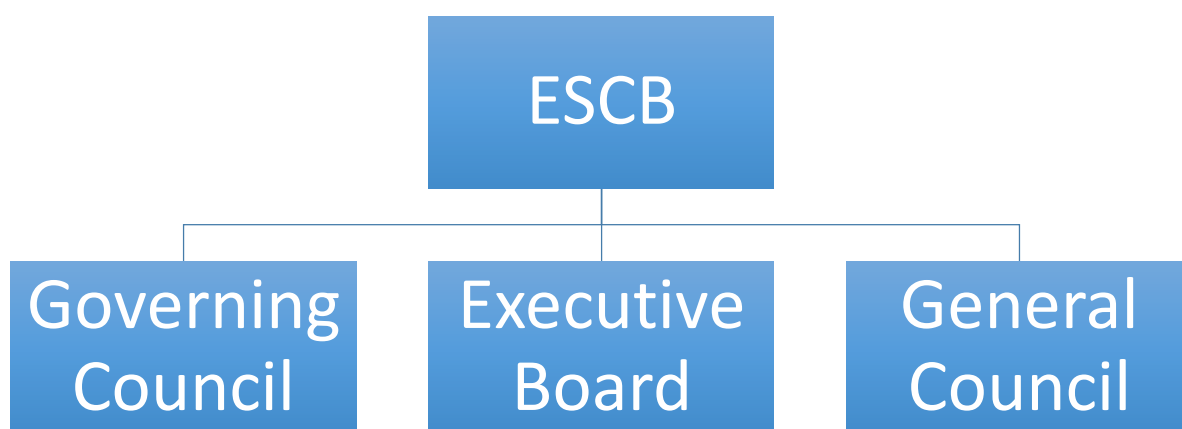
¹⁴ Deficit - the amount by which a resource falls short of a mark, most often used to describe a difference between cash inflows and outflows (Staff, Investopedia. "Deficit." Investopedia”).

largest economy in Eurozone, because the Great Britain had rejected from Euro in favor of pound sterling. (Smits, 2003)

3.3.4.3. Organizational structure of the ESCB decision making bodies

The ECB is absolutely independent from other institutions of EU. European Central Bank is managed by the three governing bodies: the Governing Council, the Executive Board and the General Council.

Figure 1. Organizational structure



Source: "European Central Bank (ECB)" European Union Website, the Official EU Website - European Commission, 2017

The main governing body is the Board of Governors, which consists of 25 people. 6 people are of the ECB Executive Board, while the remaining 19 are heads of national banks outside the euro area. To date, the composition of the euro area includes countries:

Table 2. Countries of the Eurozone

Belgium	Italy	Portugal
Germany	Cyprus	Slovenia
Ireland	Latvia	Slovakia
Greece	Luxemburg	Finland
Spain	Malta	Lithuania
Estonia	Netherlands	
France	Austria	

Source: "The Euro." European Union Website, the Official EU Website - European Commission, 2017

The Governing Council of the ECB manages the reserves of the European System of Central Banks, determines the monetary policy of the Eurozone countries and sets key interest rates.

Meetings of the Board of Governors are held 2 times a month. Decisions are taken by a majority of votes. In case of equality of votes, the decisive factor is the voice of the President of the ECB. For the vote requires the attendance of 2/3 of the Governing Council members (Scheller, 2006).

The functions of Governors are:

- Adaptation of instructions and problem solving, that maintaining the achievement of goals of creating of European System of Central Banks.
- Determine key elements of monetary policy of EMU, i.e. interest rates, size of minimal reserves of national central banks. (Langin, 2011)

The ECB Executive Board consists of 6 persons. They are appointed by the employees of the banking sector of the euro area at a meeting of heads of government. The Executive Board is a body of the ECB's executive branch and it assigned the implementation of decisions taken by the Governing Council. In addition, the Executive Board carries out direct management of the working process of the ECB and prepares the meetings of the Governing Council (Scheller, 2006).

The President of the ECB manages the Executive Board. The Governing Council offers candidacy of the president, after, it must be approved by the European Parliament and the heads of the states belonging to the euro area (Scheller, 2006).

Current members of the European Central Bank's executive board are:

Table 3. Members of the Executive Board

Name	Position	Country of origin
Mario Draghi	President	Italy
Vitor Constancio	Vice President	Portugal
Benoit Ker	Member of the Board	France
Peter Praet	Member of the Board	Belgium
Sabina Lautenschleger	Member of the Board	Germany
Yves Mersch	Member of the Board	Luxembourg

Source: Bank, European Central. "Executive Board.", 2017

The ECB General Council consists of the President and Vice-President of the ECB and the 28 heads of national banks of the European Union countries. Apart from 19 countries representing the euro area at the sessions of the General Council there attend leaders of the National Banks: Denmark, Sweden, England, Bulgaria, Czech Republic, Croatia, Hungary, Poland and Romania (Foster, 2016).

The General Council is a consultative body and its tasks are:

- The ECB's advisory functions;
- The collection of statistical information;
- The preparation of the ECB's annual report;
- The establishment of the necessary rules for standardising the accounting and reporting of operations undertaken by the NCBs;
- The taking of measures relating to the establishment of the key for the ECB's capital subscription other than those laid down in the Treaty;
- The laying-down of the conditions of employment of the members of staff of the ECB;
- The necessary preparations for irrevocably fixing the exchange rates of the currencies of the "EU Member States with a derogation" against the euro (Bank, European Central. "General Council.", 2016.).

4.3.4.4. Targets

The main objectives and tasks of the European Central Bank are defined in the Statute of the European System of Central Banks and of the ECB. It says that the first priority of the ECB is to maintain price stability. (Smith, 2015.) Financial integration is a process that influence on the whole system of world finance. Direction and the level of influence depend on the currency stability and goals and mechanisms of single monetary policy. In the ESCB statute described that the ECB “(...) shall act in accordance with the principle of an open market economy with free competition¹⁵, favouring an efficient allocation of resources (...)” (Smith, 2015).

European Central Bank's strategy must support economic policy direction of the European Community (Douglas- Scott, 2002). The priority objective of the ECB is a maintenance of price stability in the Euro area within the long term.

According to the Article 3 of the Protocol on Statute of the European System of Central Banks and of the European Central Bank the following tasks are determined:

1. To define and implement the monetary policy of the Community;
2. To conduct foreign-exchange operations;
3. To hold and manage the official foreign reserves of the Member States;
4. To promote the smooth operation of payment systems (Protocol on Statute of the European System of Central Banks and of the European Central Bank, 2012).

Monetary policy conducted by the ECB carried out using the same tools that are used by the National Bank before the creation of the EU. It must meet the following principles:

- Equitable treatment for all participants;
- The optimal cost-effectiveness¹⁶;
- Decentralization;
- Appropriate management decisions of the ESCB (Sauert, 2009).

The European System of Central Banks manages the foreign exchange reserves of member countries. In this regard, central banks of the Eurozone countries should transfer 50 billion of Euro to the ECB on the basis of credit funds (Yiangou, 2016).

¹⁵ Free competition - freedom from the initiation of physical force. Free competition is the freedom to produce, and the freedom to trade what one has produced, for ones own self-interest, i.e., in the pursuit of ones own happiness ("What Is Free Competition?" The Capitalism Site.)

¹⁶ Cost effective- something that is a good value, where the benefits and usage are worth at least what is paid for them (“Cost-effective Dictionary Definition | Cost-effective Defined.”).

The contribution of each of the National Bank is determined in accordance with the share in the ECB's capital. According to the proportion of annual income distribution occurs. In the formation of the capital of the ECB 4 National Banks made the greatest contributions.

- Bundesbank - 18.9%;
- Bank of France - 14.2%;
- Bank of Italy - 12.5%;
- Bank of Spain - 8.3%;
- The share of other National Bank varies between 0.1 - 3.9% (Yiangou, 2016).

For the execution of payment transactions¹⁷ 1 January 1999 the ESCB introduced a payment system TARGET (Trans-European Automated Real-time Gross Settlement Express Transfer System).

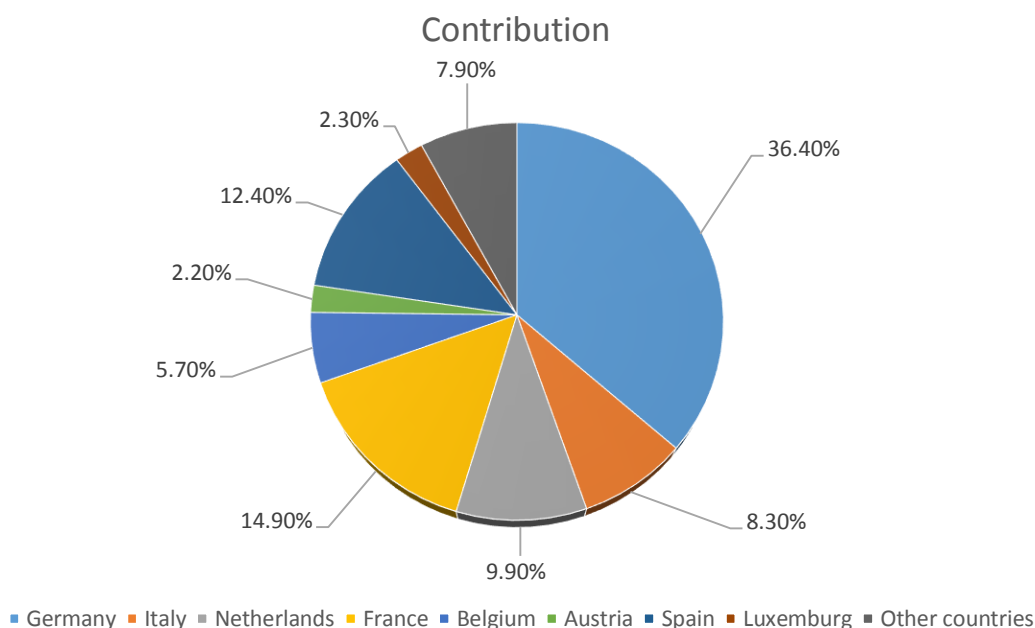
Payment system was created to improve the efficiency of payments among the EU countries. In addition, it ensures the safety of cross-border payments. The first version of TARGET included 16 national payment systems plus the ECB payment system. The second version of the TARGET-2, was entered into service in 2007, which includes payment infrastructure of 26 EU.

Average daily turnover¹⁸ of the TARGET-2 payment system TARGET-2 is about 2.5 trillion euro. "Figure 2. Contribution" shows that the greatest contribution is made by the payment system in Germany RTGSplus - about 36.4%, the French TBF - 14.9%, and the third is Spanish SLBE - 12.2% (Yiangou, 2016).

¹⁷ Transaction- agreement between a buyer and a seller to exchange goods, services or financial instruments (Staff, Investopedia. "Transaction." Investopedia”).

¹⁸ Turnover- Turnover is an accounting term that calculates how quickly a business collects cash from accounts receivable or how fast the company sells its inventory (Staff, Investopedia. "Turnover." Investopedia”).

Figure 2. Contribution



Source: Personal interview with Counsel of the Executive Board J. Yiangou, 2016

4.3.4.5. Functions of the ECB and instruments

As part of the European System of Central Banks activities, the ECB has the following functions:

- Issue of banknotes¹⁹. The European Central Bank is the only institution which has the right to issue the European currency;
- Cooperation in the field of banking supervision. The ECB does not exercise a direct control over the National Bank, because the ESCB is highly decentralized. Therefore, the ECB's role limited to giving advice;
- Consulting. The European Central Bank provides consulting services for the Council of Europe and the Eurozone governments related to banking activities;
- Provision and analysis of statistical information (Scheller, 2006).

The European Central Bank uses the basic tools of monetary policy. One of the main instrument are the open market operations. Open market operations play an important role in steering interest rates, managing the liquidity situation in the market and signalling the monetary policy stance. Five types of financial instrument are available to the Eurosystem for

¹⁹ Banknote- a negotiable promissory note issued by a bank and payable to the bearer on demand (Staff, Investopedia. "Banknote." Investopedia”).

its open market operations. The most important instrument is the reverse transaction²⁰, which may be conducted in the form of a repurchase agreement or as a collateralized loan²¹. The Eurosystem may also make use of outright transactions²², issuance of debt certificates²³, foreign exchange swaps and collection of fixed-term deposits. Open market operations are initiated by the ECB, which decides on the instrument and the terms and conditions. It is possible to execute open market operations on the basis of standard tenders, quick tenders or bilateral procedures (Scheller, 2006). Four types of such operations:

1. Main refinancing operations are conducted with the ECB to provide significant loan funds to various financial institutions. The term of operation functioning is 14 days, while the refinancing carried out at a fixed rate.
2. Long-term refinancing operations are conducted in order to provide counterparties with additional reserves. Loan period is 3 months.
3. Fine tuning operation and structural operations unlike primary and long-term refinancing have several distinguishing features. First of all, there is the opacity of these operations for the financial market. Information about transactions remains closed. Another feature is a limited number of participating credit institutions, as well as high efficiency of operations. These types of operations include:
 - Speed deposit (credit) tender;
 - Definitive transaction;
 - Currency swaps;
 - The issue discount debt obligations.
4. The European Central Bank carries out short-term operations on granting or withdrawal of excess liquidity in addition to open market operations. These operations can be credit and deposit. They enable financial institutions to manage liquidity at the end of the working day.

The other two instruments are:

- Standing facilities - aim to provide and absorb overnight liquidity, signal the general monetary policy stance and bound overnight market interest rates. Two

²⁰ Reverse transaction- An operation whereby the central bank buys or sells assets under a repurchase agreement or conducts credit operations against collateral (Directorate, OECD Statistics. "OECD Glossary of Statistical Terms - Reverse Transaction Definition).

²¹ Collateralized loan obligation- a security backed by a pool of debt, often low-rated corporate loans (Staff, Investopedia. "Collateralized loan obligation." Investopedia”).

²² Outright Monetary Transactions- is a program of the European Central Bank under which the bank makes purchases ("outright transactions") in secondary, sovereign bond markets, under certain conditions, of bonds issued by Eurozone member-states (ECB, 2012)

²³ Debt issue- a fixed corporate or government obligation, such as a bond or debenture (Staff, Investopedia. "Debt issue." Investopedia”).

standing facilities, which are administered in a decentralized manner, are available to eligible counterparties on their own initiative.

- During the anti-inflationary company, the ECB uses the minimum reserves requirements for credit institutions. These requirements serve two interrelated functions: the stabilization of money market interest rates and influence the structure of the banking system liquidity. The mechanism of the minimum reserve requirement contributes the adjusting of liquidity position of banks by market methods on a daily basis, it allows for short-term arbitrage and to maintain the necessary level of profitability. (Yiangou, 2016)

In addition, since 2009 the ECB has implemented several non-standard monetary policy measures, i.e. asset purchase programs, to complement the regular operations of the Eurosystem.

The expanded asset purchase program (APP) adds the asset purchase program for public sector securities to the existing private sector asset purchase program to address the risks of a too prolonged period of low inflation (Yiangou, 2016).

4.3.4.6. The ECB independency

The ECB is a part of an independent system of European Central Banks. According to organization statute, financial institutions representatives of other Eurozone countries or members of EU governments can't interfere the ESCB activity.

The ESB create some statements in statute to limit an outside influence:

- 1) Minimal president term is 5 years;
- 2) Minimal term to be a member of the Executive Board is 8 years;
- 3) Early dismissal is possible only if the candidate is physically unable to continue an activity or if the hard mistakes were made;
- 4) All disputes are solving in the European Court (Smith, 2015).

The European Central Bank is a joint-stock company. The national Eurozone banks are keepers of stocks. That is why the ECB provides a dividend payment each year. The ECB profit is divided the following steps: part of profit (less then 20%) according to Board of Governors, transfers to common reserve fund, the other part of profit is distributed between countries, according to their shares (Yiangou, 2016).

5. Practical part.

Object of research is the European Central Bank activity within the common system of EU international economic integration. Subject of research is a complex of issues, dedicated to the ECB monetary policy realization within the economic and currency union operating and features of unite monetary policy.

According to determined tasks of the presented thesis, the following issues were researched.

5.1. Issue 1

1st Group of issues dedicated to the study of theoretical aspects of the ECB monetary policy and its structure.

Monetary policy is seen as a state policy, according to economists, that is aimed on achieving long-term and short-term goals for economy development by regulating the monetary side. The current regulation of the monetary sector of the economy may take the form of exchange rate targeting, monetary targeting, inflation targeting, price targeting and mixed policy. Basing on the analysis we can conclude that the monetary policy of central bank is an important tool of government regulation, because it allows to regulate the capital market and provides economic grows conditions. Nowadays inflation targeting regulation is the most popular. However, some of the economists think that economic growth may not be associated with inflation targeting policy outcomes, but with influence of other factors, that are not studied yet (Yiangou, 2016). The inflation curbing is one of the central bank objectives, so in order to achieve wider regulatory purposes, the mixed policy used of monetary policy regulation.

The development of Europe integration processes, that carry out with the currency union creation, causes to unite system of monetary policy regulation. The ESCB and the ECB became an agents of regulation.

The main advantages of currency integration are inflation convergence between countries, increasing the credibility of monetary policy, partial release of foreign exchange reserves, reduction of transaction costs within international operations (Yiangou, 2016).

The main objective of the European Central Bank is to ensure price stability in the euro area. The ECB formulating the price stability as an achieving the situation, where the harmonized index of consumer prices will increase less than 2% in the medium and long-term period. Realization of this method is achievable using the ECB monetary policy, that has a

positive influence on economic growth after the long crisis confuse (Figure 8. GDP). Achieving the price stability is the main but not the only one goal of the ECB monetary regulation. Another goals are promotion of sustainable economic growth, high employment, convergence of national economies.

One of the important objectives of the ECB is to remove barriers between highly segmented national markets in previous. Hierarchy of objectives and detailed analysis allows the ECB to carry out the effective economic regulatory policy within the Euro area (Yiangou, 2016).

An analysis of the ECB role in hierarchy, shows that the monetary policy is based on the principles of centralized decision-making and decentralized implementation, that shall allow to take into consideration the economy of certain countries and to ensure the interest of all participating countries. The ESCB has no legally defined status (Smith, 2015). All the powers that transferred to the ESCB, according to European Union Treaty, are executed by European Central Bank and national banks.

The ECB is accountable only to democratically elected EU bodies. On the one hand it ensures a sufficient autonomy in necessary changes and on the other hand there is a monitoring of monetary regulation from the European Union. The European System of Central Banks carried out overall coordination within the monetary policy and consulting. The ECB within the Euro area acts as a coordinator of monetary regulation, providing appropriate infrastructure.

An analysis of creation principles and functioning of the ECB shows its continuity of monetary policy in matters of monetary policy regulation. Thus, one of the tasks was a preparation of national banks of out of the Euro area countries to join the European System of Central Banks after the adoption to European Economic Union and currency union. This ECB function play an important role in process of economic integration development, because of the close economic relations development between countries.

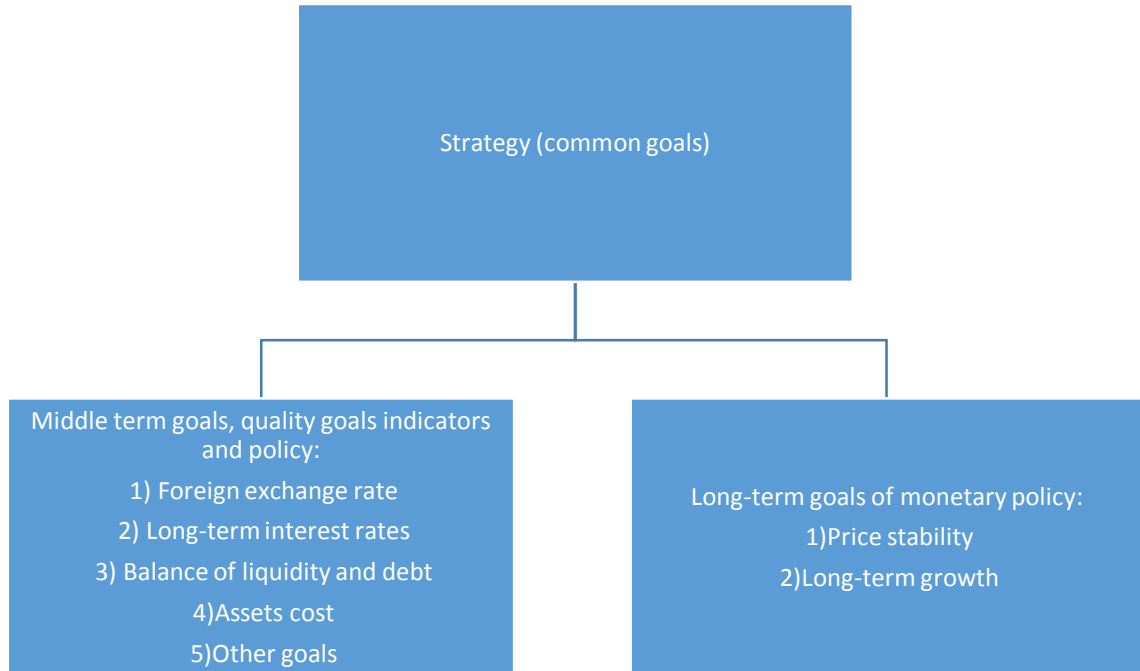
5.2. Issue 2

2nd group of issues is dedicated to the research of mechanisms of monetary regulation within the Euro zone.

Monetary policy of the European Central Bank is based on the multifactor economic model that determines the effect of the interest rates changing on the level of consumer prices. The European Central Bank generates the appropriate business strategy, to accomplish these

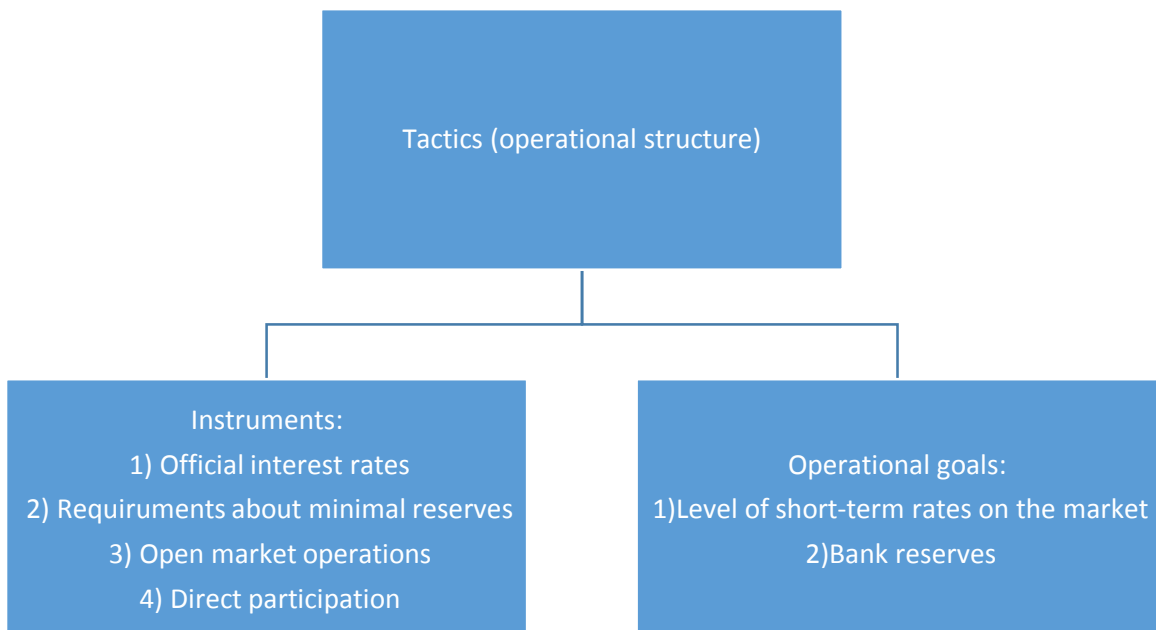
goals. The author suggests the following representation model of the ECBs activity strategy and its mechanisms of implementation (the tactics).

Figure 3. Model of strategy



Source: Own research

Figure 4. Model of strategy implementation



Source: Own research

Strategy of the ECB monetary regulation is about role of money in economy and role of not monetary factors that influence the consumer prices.

According to monetary conception there is a significant relationship between the level of prices²⁴ and the money supply²⁵. Author proofing this statement (Figure 5. Relationship between money supply and level of prices), using statistical data for last 10 years from investing.com, mfd.ru and SAS operation system, where the opportunity of non-relationship is less than first type error. Number of observed variables: 40 and the level of confidence is 95 %. Author took a dependent variable as a level of prices, as a result of money supply.

Figure 5. Relationship between money supply and level of prices

Number of Observations Read	40
Number of Observations Used	40

Analysis of Variance					
Source	DF	Sum of Squares	Mean Square	F Value	Pr > F
Model	1	6.80768	6.80768	5.27	0.0274
Error	38	49.13132	1.29293		
Corrected Total	39	55.93900			

Root MSE	1.13707	R-Square	0.1217
Dependent Mean	1.44500	Adj R-Sq	0.0986
Coeff Var	78.69001		

Parameter Estimates					
Variable	DF	Parameter Estimate	Standard Error	t Value	Pr > t
Intercept	1	0.91471	0.29280	3.12	0.0034
money supply	1	0.12121	0.05282	2.29	0.0274

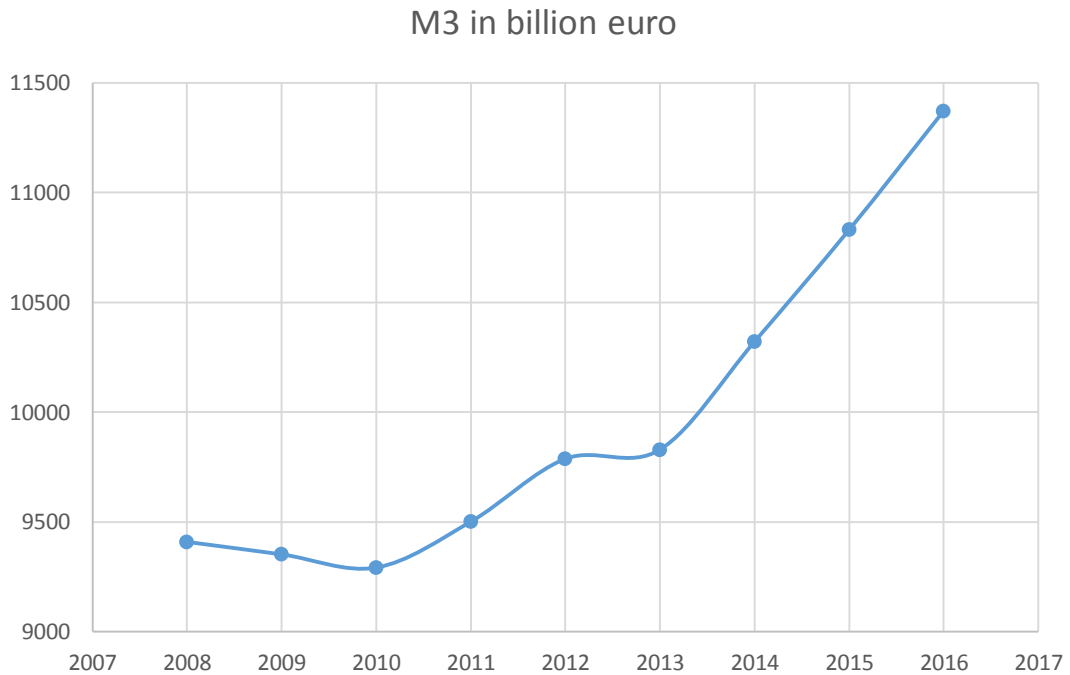
Source: SAS Enterprise Guide processed 10-year data, accumulated from investing.com and mfd.ru, 2017

²⁴ Level of price- the mean of current prices across the entire spectrum of goods and services made in the economy (Staff, Investopedia. "Price level." Investopedia”).

²⁵ Money supply- the entire stock of currency and other liquid tools circulating in a country's economy as in a certain time (Staff, Investopedia. "Money supply." Investopedia”).

That is why the dynamic of monetary aggregate M3²⁶ is used as a guide for future inflation (Figure 6. M3 aggregate).

Figure 6. M3 aggregate



Source: Accumulated data from tradingeconomics.com. Euro Area Money Supply M3 | 1980-2017 | Data | Chart | Calendar | Forecast, 2016

This situation shows increase of money supply and we can conclude that logic consequence should be decreasing of rates (Sylla, Homer, 2013).

Table 4. Interest rate

Year	2011	2012	2013	2014	2015	2016
Rate in %	1	0.75	0.25	0.05	0.05	0

Source: Accumulated data from Bank, European Central. "Official Interest Rates.", 2017

We can observe that the ECB has decreased an interest rate till 0% and saved it after BREXIT. And there would be no opportunity to increase it because of the weak currency situation. The reason is QE program, that was started at 2015, to stimulate national economies. Central Banks use this special instrument of monetary policy, when ordinary

²⁶ M3- sum of currency in circulation and overnight deposits, deposits with an agreed maturity of up to two years and deposits redeemable at notice of up to three months, repurchase agreements, money market fund shares/units and debt securities with a maturity of up to two years (ECB, "Monetary aggregates".)

instruments don't work effective enough. The aim of the program is pretty easy to understand: Central Bank provides an extra emission of non-cash money, to credit states, it's structures, commercial banks or to redeem its long-term debt securities. As a result, an extra fund in economy, decreasing cost of credit resources, increase of production (Appendix 2. Figure 15. Productivity rate), decreasing of unemployment (Appendix 1. Figure 14. Unemployment rate), increasing of purchasing power. All of the statements give an economy growth.

The QE program should cause an inflation growth, but the EU really need it. At that time zero inflation or deflation means an economy stagnation.

“Rising energy prices pushed inflation to 1.8% in January, a near four-year high and up from 1.1% in December” (Walker, 2017). The QE program shows a positive dynamic. The ECB predicts a growth of inflation till 1.3% in average in 2017. But it is still much less then 2%, that is why the QE program is prolonged till the end of 2017 (Draghi, 2017).

Realization of price targeting policy is one of the main ECB goals (Yiangou, 2016). However, the analysis of the ECB policy shows a strong influence of the Bank of Germany monetary conceptions. Respectively, the European Bank monetary policy can be attributed to mixed type policy that combine the neoclassical synthesis and monetarism concepts of regulation (Yiangou, 2016).

The not monetary factors play a significant role for the ECB strategy regulation. There are factors of supply and demand interaction on the market of goods, services and labor. There are also general ways of monetary regulation and economic factors that needs an intervention of ECB.

The ECB strategy is realizing within the certain infrastructure, that may call an operational structure of monetary policy (Figure 4. Model of strategy implementation). There are no single mechanisms and monetary policy instruments only. Firstly, it is an interact and relationship of those mechanisms and instruments, and theoretical part, characterized for ECB policy. For example: Using of two foundations of monetary policy for analysis and inflation regulation.

Operational structure of the ECB consists of the open market operation, standing facilities, accumulation of minimum reserves, made by credit institutions.

The ECB recognizes the open market operations as a main instrument, influencing on economy, because it has the biggest impact on interest rate changing and ensure the needed volume of liquid funds on the market and market informed about ECB position and its strategy for the close period of time. The most important open market operations are the general refinancing operations, that were ensuring 80% liquidity in average, provided by the

ECB, over the last years (Yiangou, 2016). The importance of long-term refinancing operations has raised over the last years. It makes commercial banks easier to regulate the volume of liquid funds for a long period of time.

The European Central Bank has a specific instrument – smoothing of unexpected fluctuations on the market, that allows to increase or decrease the money volume in economy. The another significant instrument is a standing facilities. The ECB uses this instruments to limit the interest rate fluctuations (Yiangou, 2016). Rates within the operations create a „buffer” for market interest rates (from +1% to -1% from the level of general refinancing rates) (Sylla, Homer 2013). Another words it is a proposal of the ECB about the most expensive loans and the lowest deposit interest rate.

From 2004, the ECB began to pay attention on the minimal reserve policy, because it plays a significant role in interest rate management and liquid volume management. Due to using of mandatory reserves, the following tasks are reaching: stabilization of interest rates on the market of capital, decreasing of volume of free liquid funds (Yiangou, 2016).

The first task is completing by the special calculate of mandatory reserve mechanism, that is used by commercial banks. The implementation of the second task promotes the increasing of demand on refinancing, that makes the relationship of credit institutions and the ECB stronger, and makes easier the ECB to regulate interest rates on the capital market by increasing of money volume.

The European Central Bank pays attention on the increasing of number of participants in operations, that makes integration processes stronger within the Eurozone and promotes the stability of capital market.

The ECB participation in TARGET2 payment system development looks important as well. There are principles: decentralization; accounting, reserve management and operations, related to monetary policy are implemented on the national central bank level. TARGET2 provides the realization of payment for all national central banks of Eurozone, but the other countries within the EU area could get an access as well. Also, the payment system was created to automatically regulate the ECB accounts in different countries (Yiangou, 2016). TARGET2 is provided as an effective centralized payment system and as one of the most important finance stability instrument. But in reality, it became a mechanism of one-way capital flow.

Debt of Banca d'Italia € 364 billion or 22% from Italy GDP (Figure 7. Target balances). According to Mediobanca²⁷, € 220 billion leaved Italy from the start of QE program.

Figure 7. Target balance



Source: Accumulated data from "ECB Statistical Data Warehouse." ECB Statistical Data Warehouse, 2017

TARGET2 imbalance is not about accounting features, but about real debt. It means that debt should be paid off in case if Italy would turn back to Lyra (Evans-Pritchard, 2017). Spain's obligations under the TARGET2 system are € 328 billion, which is equivalent to almost 30% of the country's GDP. Portugal and Greece obligations are € 72 billion. Thus, all these countries are either insolvent or dangerously close to this if all these debts are added to existing official obligations.

On the other side of the ledger is the German Bundesbank, which accumulated requirements for TARGET2 at € 796 billion. Luxembourg has a position of € 187 billion that confirms its role as a financial hub. This value is 350% of the country's GDP, and it is 14 times larger than the Luxembourg budget. It means Germany, Netherlands and Luxembourg will lost part of the fund that is already in TARGET2 in case of the Eurozone will fail. However, they should satisfy their own obligations with banks. In other words, Luxembourg's

²⁷ Mediobanca- Italian investment banking company.

central bank may suddenly find itself in debtors with liabilities of 350% of Luxembourg's GDP.

5.2.1. ECB, FED and Bank of Japan in comparison

A comparative analysis of monetary policy mechanisms of the ECB with mechanisms of the USA and Japan, using works of Picker, Giannini and publicly available sources allows to find out that the European Central bank policy is close to the USA and Japan methods. But there are some differences:

1. Operation structure within the monetary policy has some similarities. The ECB activity relies on the experience of other central banks, especially the USA and Japan banks. It has a positive influence on monetary regulation within the Eurozone.
2. The general instrument for all of them is a short-term interest rate, that is used in refinancing operations. The interest rate changing informs markets about bank intentions in market trend changing field.
3. Refinancing operations of the ECB, Bank of Japan and the FED USA have a different duration and periodicity of providing. The FED and Bank of Japan are characterized by the regulation of short-term fluctuations. But the ECB goal is to regulate in the middle-term perspective and long-term achieving of price stability and growth. Within the analysis of short-term changes, the ECB pay attention on the week fluctuations and long-term market tendency. However, all of the banks try to reach similar effects, as a result of open market operations. They are differed in implementation. The FED periodically provides some of the operations on chosen markets, where the Bank of Japan provides operations more often and with the bigger volume. The ECB provides operations each week and its volume doesn't depend on the country's market.
4. All of the banks using the mandatory reserves policy to decrease liquid volume in bank sector.
5. The ECB doesn't use the short-term liquid regulation instruments, that Japan use. But the ECB could provide more flexibility in market trend management, if they will include this instrument.
6. The ECB allows more participants in open market operation and attending facilities unlike the FED and the Bank of Japan. It allows to make integration processes stronger for the Eurozone countries and to increase liquid level of the market and it's stability.

7. The ECB sets the most favorable conditions in potential providing of open market operations and standing facilities. It stimulates the active interact of finance and bank sectors with national central banks. Application of single securities provides should provide more active capital flow between Eurozone countries.

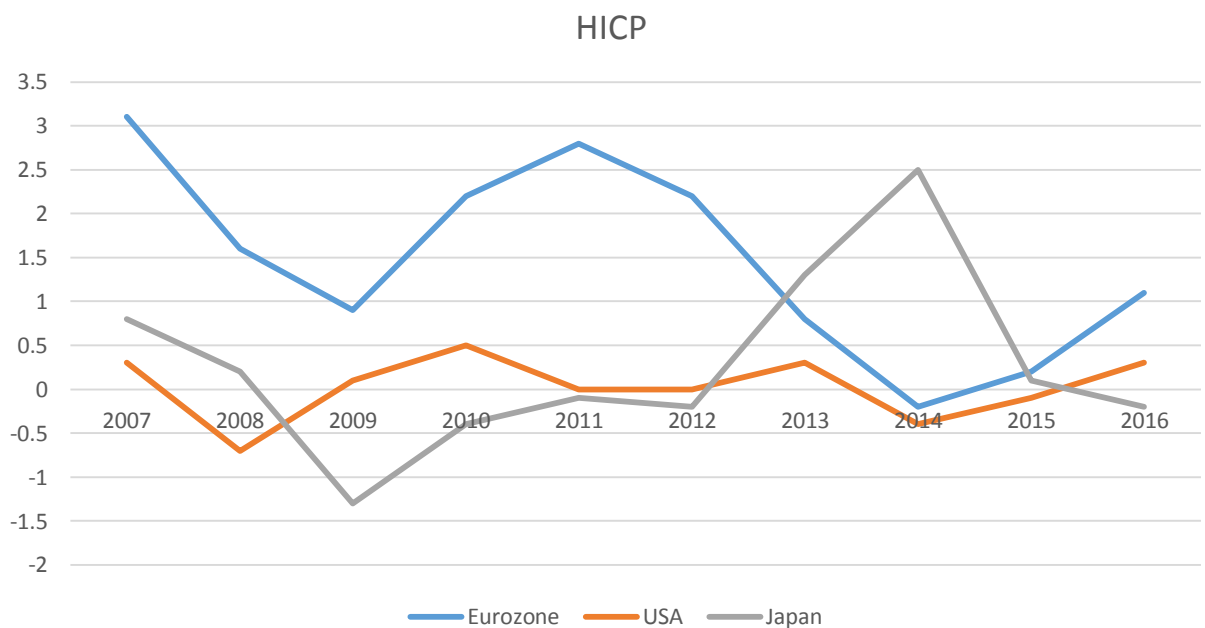
5.3. Issue 3

3rd group of issue dedicated to effectiveness of monetary policy research, development dynamic of monetary policy.

Generally, the ECB monetary regulation become not enough effective in achieving the main goal – price stability in Eurozone. Nowadays the monetary regulation goals – economy competitiveness and the unite payment space within the EU became significant.

However, the ECB became unable to hold back the growth of consumer price on the common level of growth by 2% (Figure 8. CPI)

Figure 8. HICP

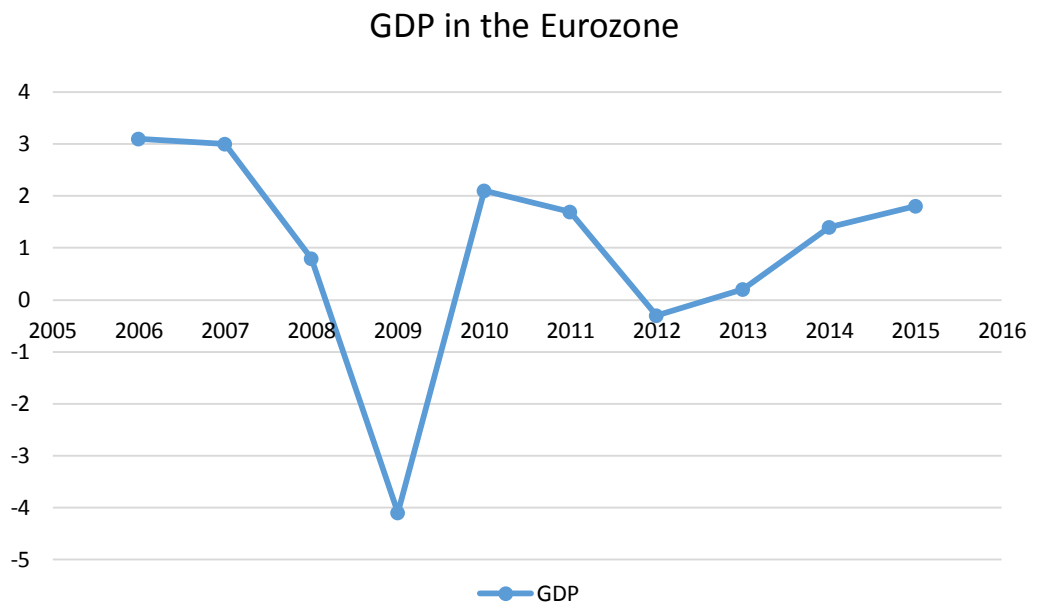


Source: Accumulated data from ECB Statistical Data Warehouse, 2016

Economists consider that the ECB was forced to set aside this goal, because of the macroeconomic factors such as decreasing of world economy growth and regulating the currency exchange rate EUR/USD (Evans-Pritchard, 2016).

This reasons had a negative influence on economy development in the Eurozone. The ECB decided to ensure the GDP growth as the most important effectiveness indicator. At 2009, when economic growth dynamic was slow, because of the European debt crisis, the ECB regulation provided an economy growth over the next years.

Figure 9. GDP



Source: Accumulated data from ECB Statistical Data Warehouse, 2016

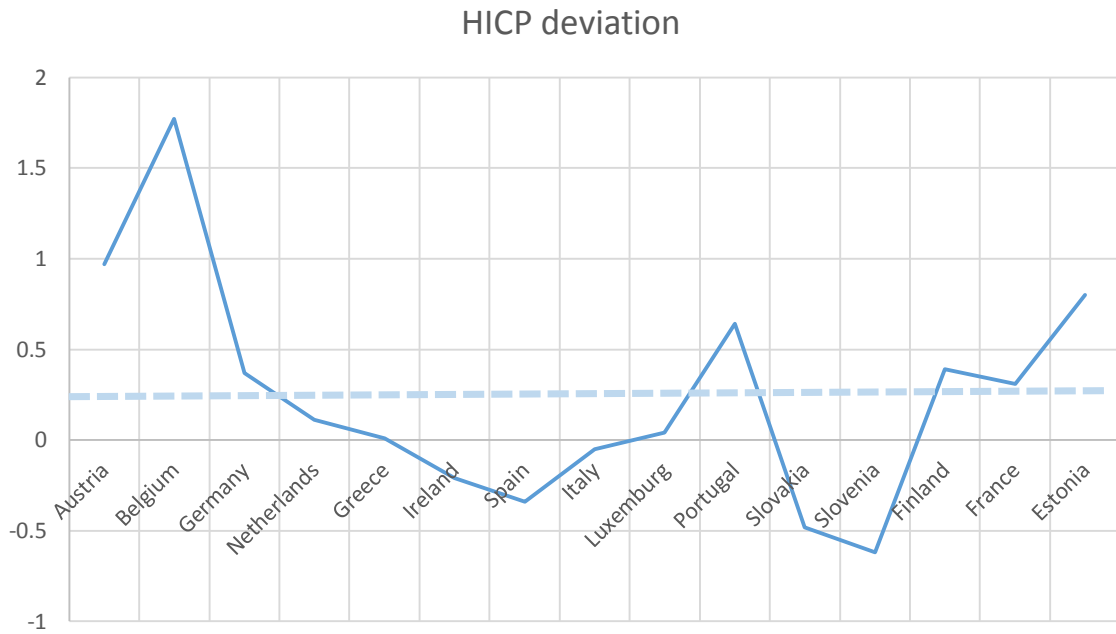
Effective centralized monetary regulation provided a new tendency in the Eurozone countries. The most famous is a euro cash introduction. The most significant result of integration is a removal of currency risks (Yiangou,2016). That was making the integration processes stronger and investment activities wider. The other result of integration is the convergence of security markets in the Eurozone.

Statistical data shows that the Euro provided an increasing of international trade volume to GDP within the Eurozone and the other world. According to World Factbook and the Eurostat the out of the Eurozone countries share increased from 17% in 1997 to 25% in 2015. And the Euro members took the 1st place in international trade.

Due to monetary policy an official goal that was published, is an achieving of inflation pace convergence is provided successfully. According to inflation.eu, in 2016 in 15 the Eurozone countries the average HICP (0.24%) deviation became less then 1 % and 7 countries has deviation less than 0.5% (Figure 10. HICP deviation). However, it is pretty low. It could be explained by raw materials price decreasing. This situation has a tendency of deflation. But at the beginning of 2017 it has a positive dynamic (1.76%). According to

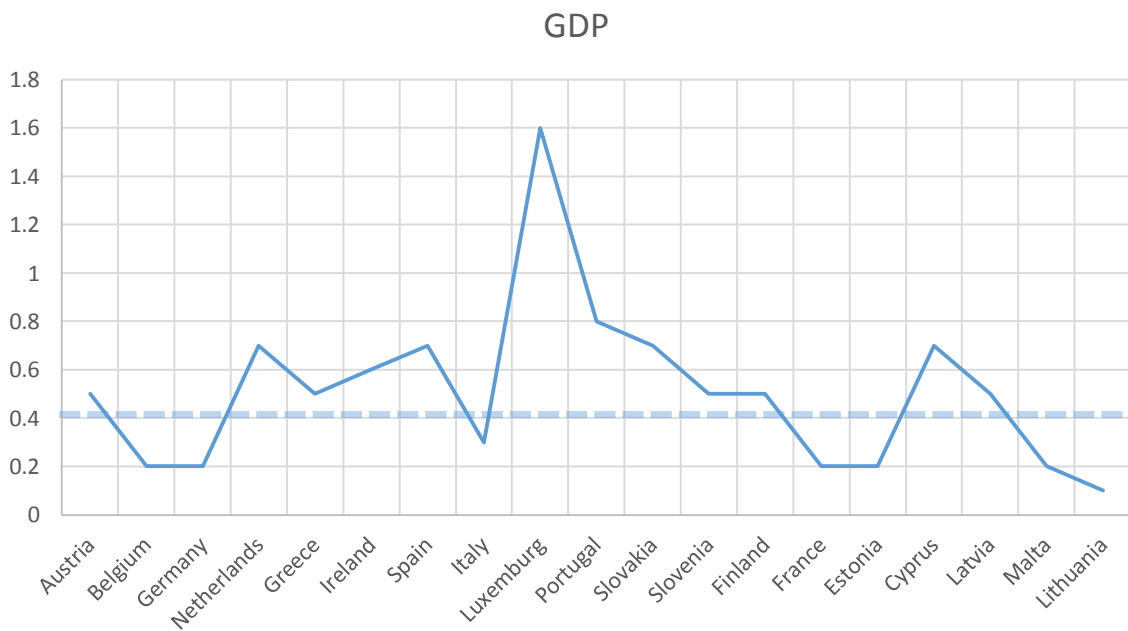
statista.com, the statistical data shows that almost each the Eurozone country has a GDP pace deviation less than 0.5 % (Figure 11. GDP deviation).

Figure 10. HICP deviation



Source: Accumulated data from Inflation.eu, 2017

Figure 11. GDP deviation



Source: Accumulated data from Tradingeconomics.com, 2017

The important task could be solved. There are an increasing of effectiveness of monetary policy mechanisms of regulation and updating of analysis method and inflation prediction method. The relation of the ECB to other Eurozone countries monetary policies provides an effectiveness of regulation. However, there are some disadvantages that characterized for some national monetary policies. That is why author seeing the next step of monetary policy development and crisis exit is a reform of policy with considering of Eurozone economy specifications to increase the accuracy of economy development predictions and the predictions of inflation dynamic and to increase an effectiveness of regulation.

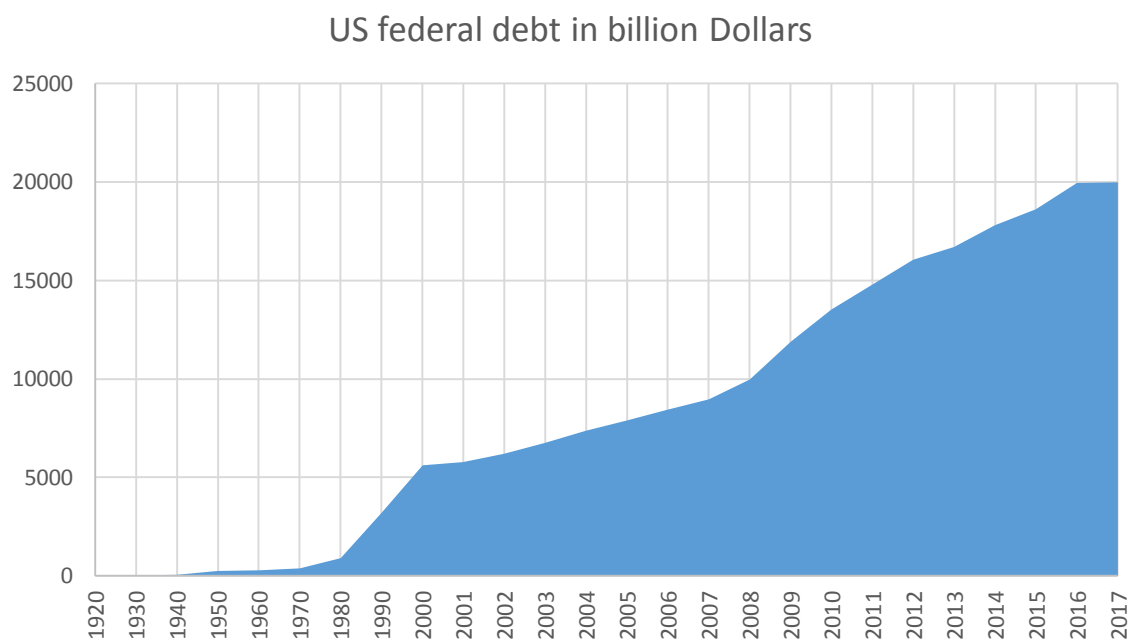
The experience studying of the European Central Bank monetary policy has a significant scientific interest as a result of not enough effective monetary policy with some issues and favorable conditions at one time inside the currency union. Considering the ECB experience in monetary policy, could be created other unite monetary regulation within the one currency union.

5.4. Euro and dollar as single currencies

Nowadays we live in the world that is in the process of globalization. It is associated with increasing of information speed. As a result, people mobility and economy relations are increasing as well. Economy wins policy and all of the countries become connected with each other by capital flow, common production, technological and cultural processes. That is why the single currency creation is inevitable. Euro and Dollar are the main candidates for the world currency status.

USD became a world reserve currency at the end of 40s, because the only Dollar was stable. A lot of countries keep their funds in Dollar from those days. Most of the international transactions are committed in Dollar. But now the question about “will Dollar remain popular” is open, because of the high state debt and the complicated economic situation inside the country.

Figure 12. US federal debt



Source: Accumulated data from Treasurydirect.gov, 2017

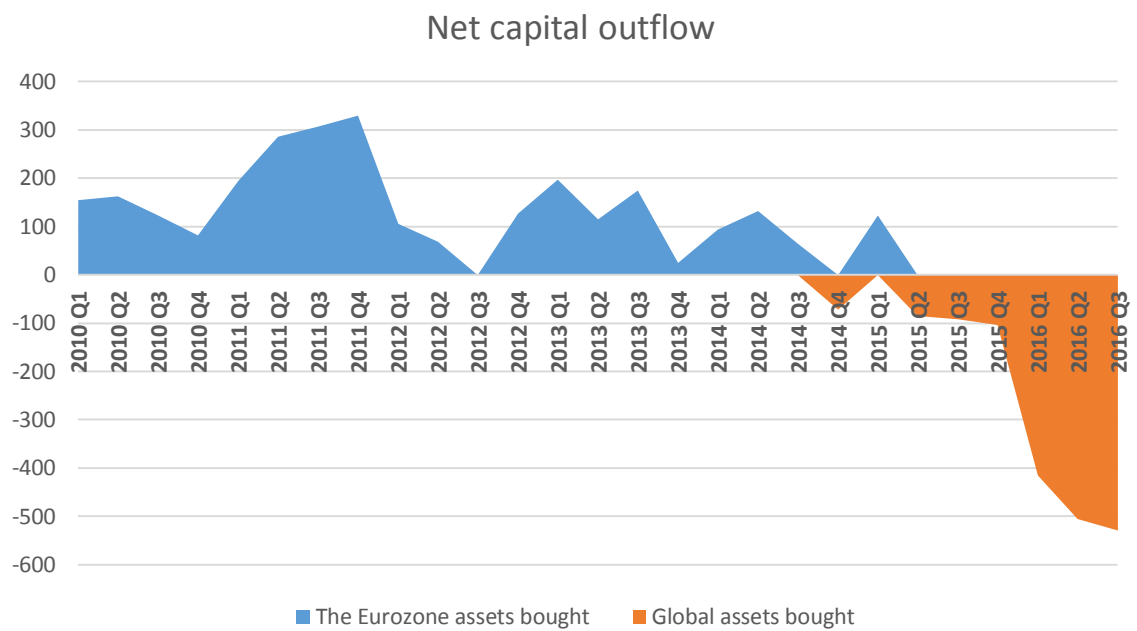
The only competitor of Dollar except gold is Euro. The European currency that was founded in 1999 as a world currency, became a real competitor of Dollar. From those days both of the currencies are in bunch. When we go to change our currency we always see Euro and Dollar first.

What are the advantages of single currency? Convenience, first of all. People don't need to buy another currency when they are going abroad. As result people lost a risk to change their currency not profitable. Bank commission for money transfer from one currency to another will disappear. International transactions would doesn't need to check the exchange rate. An investing process between countries would become easier, as a result international relations will be stronger. Finance markets would become more stable and flexible.

But there would be no insurance in crisis situation. For example, a lot of world leaders think what to do if the Dollar will fall. What to do if there are no currencies after Dollar? Any crisis situation would become catastrophe.

Net capital outflow in the Eurozone get maximum since the Euro creation (Yiangou, 2016). As a result, Euro and Dollar exchange rate may become parity next year. (Figure 13. Euro area capital outflow). That shows that single currency (at least in EU area, but not the whole world) is not stable enough. So there are no opportunities to increase an interest rate.

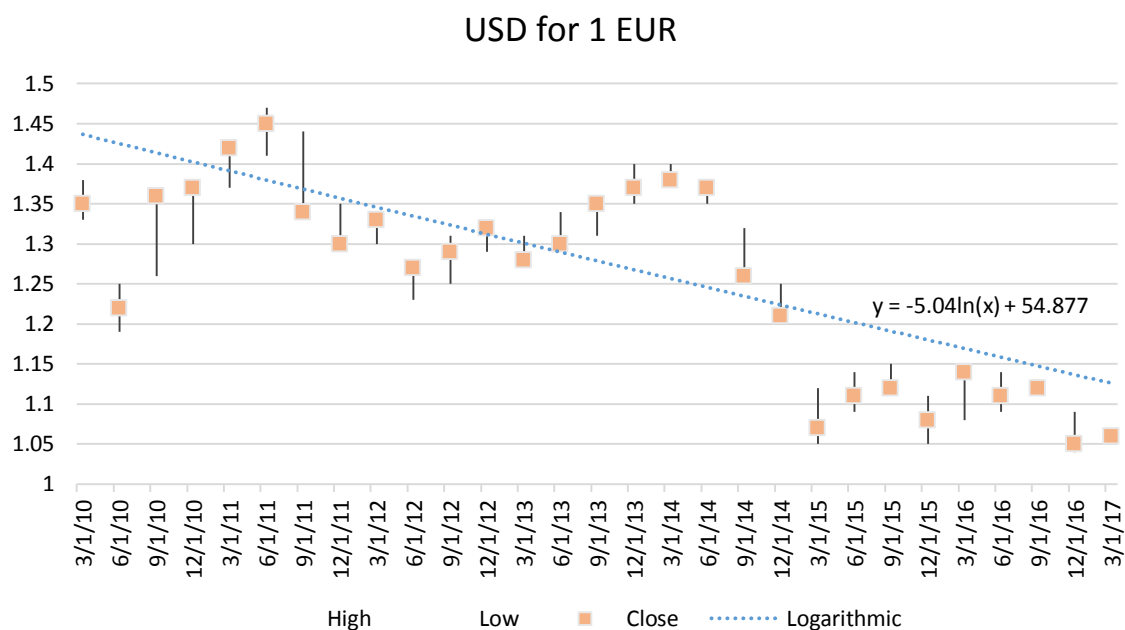
Figure 13. Euro area capital outflow



Source: Accumulated data from ECB Statistical Data Warehouse, 2016

After the BREXIT investors prefer to invest in the USA, where net capital inflow became 23.7 billion Dollar (Trade Representation of the Russian Federation in the United States, 2017). The European investors bought 497.5 billion Euro (516.5 billion \$) of stock and bonds outside zone. At that time international investors sell \$ 31.3 billion. Then net capital outflow became 528.8 billion Euro. It is a record. That is the Euro exchange rate is falling (Figure 14. Currency pair EUR/USD). The Deutsche Bank predicts 0.95\$ to Euro as a minimum (Barton, Ryan, 2016).

Figure 14. Currency pair EUR/USD



Source: Accumulated data from Bloomberg.com, 2017

In the end of 2016, the FED increased their base rate to 0.5-0.75% (Table 6. FED latest interest changes).

Table 5. FED latest interest rate changes

Date	22.1.08	30.1.08	18.3.08	30.4.08	8.10.08	29.10.08	16.12.08	16.12.15	14.12.16
Rate	3.5%	3%	2.25%	2%	1.5%	1%	0.25%	0.5%	0.75%

Source: Accumulated data from Global-rates.com, 2017

According to Dollar dynamic, author expect increasing of the FED rate in future as well. The ECB rate is still 0%. According to Consensus Economics, analytics predicted EUR/USD about 1.057\$. However, the dollar exchange increased on 2.5% against euro, after the FED outlined its plans to increase rate three times in 2017 but not two times as they said earlier (Torry, 2016). Dollar became stronger and Euro is an indicator of this dynamic. At this time such difference between 10-year US government bond yield 2.49% against 0.34% of 10-year Germany bond yield may stimulate the Euro falling. Dollar tendency may cause a serious effect by boosting an inflation in other countries and decreasing the USA export.

Today we could say that currency always need an insurance.

More over prices inside the single currency zone are almost the same. It is comfortable but incomes almost in every country are differs. And price smoothing for a part of countries may cause an increasing of necessary things expenses.

Profit of countries may transfer to another states. However, it is possible with a different currency, but it is controllable and more expensive. Countries are different in laws, social programs and policy priority. Became dependent from single currency but develop according to in-home algorithms may cause an economic crisis in part of countries. That is going in Europe.

To conclude with, there would be no world single currency till separate countries are existing and single government are not. But now the world economy may take into account mistakes of euro-dollar relationship experience and develop the advantages for single currency in future.

5.5. Summary outcome

Author shew advantages of monetary policy within the Eurozone currency union, based on the analysis and systematization of scientific concepts, underlying the monetary policy regulation of the European Central Bank. There are single inflation level, increasing of the confidence level to monetary policy, partly releasing of gold reserves, decreasing of transaction costs. And some disadvantages: lack of readiness in single currency zone creation according to Mundell's Optimum Currency Area²⁸; lack of needed economy convergence level between countries; renouncement of independent monetary policy; loss of exchange rate regulation.

Author shew that the formation and realization process of monetary policy allows to timely response on changes in economy and decisions of the European System of Central Banks effectively enough, to reach a price stability in future (single inflation has a positive dynamic).

Content, forms and methods of monetary policy regulation of the ECB are consistent with the monetary policies of developed countries with market economy. But there are some specifications: the ECB orientation on middle and long-term perspective regulation and big number of company's participation in central banks operation.

Proved that the single payment system TARGET 2 is not effective enough today. The TARGET2 imbalance put country-members at risk of economy failure.

Justified that the centralized monetary policy provides an economy development and makes stronger integration processes by the high convergence and single payment area. However, the low decentralized implementation of that policy is crashing the Euro area.

²⁸ Mundell Optimum Currency Area- The geographic area in which a single currency would create the greatest economic benefit (Staff, Investopedia. "Optimal Currency Area." Investopedia”).

5.6. SWOT outcome

Author applied a SWOT analysis matrix model to the ECB Monetary policy.

Table 6. SWOT outcome

<p>Strengths:</p> <ul style="list-style-type: none"> • Convergence of national economies • Partial release of foreign exchange reserves • Reduction of transaction costs within the international operations • Mixed type policy • Mechanisms interaction • Long-term refinancing operations make easier to regulate the volume of liquid funds • Minimal reserve policy • Crisis experience and developed economic countries experience • Single currency 	<p>Weaknesses:</p> <ul style="list-style-type: none"> • Lack of readiness in single currency zone (not effective decentralization policy) • Loss of exchange rate regulation • Net Capital Outflow • TARGET2 imbalance • Debt and accumulated funds of TARGET2 member countries
<p>Opportunities:</p> <ul style="list-style-type: none"> • Growth of interest rates • Growth of inflation • Economic growth • All countries of EU area inside the TARGET2 payment system • Extension of top international trade status • Growth of government bond yield 	<p>Threats:</p> <ul style="list-style-type: none"> • Influence of not monetary factors on the consumer prices (supply and demand) • Fall of interest rates due to money supply growth • Decreasing of the number of EU area participants • Decrease of the EUR exchange rate

Source: own research, own presentation

5.7. PEST outcome

Author applied ECB Monetary policy PEST analysis model as a summary of macroeconomic factors influence.

Table 7. PEST outcome

<p>Political</p> <ul style="list-style-type: none">• BREXIT pressure• State governments wish to abandon the euro• Future elections in some EU countries	<p>Economic</p> <ul style="list-style-type: none">• Increase of FED interest rate• Decrease of EUR exchange rate• Growth of economy• Growth of employment• Growth of productivity
<p>Social</p> <ul style="list-style-type: none">• People start to work more due to increase of salary• Growth of purchasing power• High social mobility due to union and single currency	<p>Technological</p> <ul style="list-style-type: none">• TARGET2 single payment system

Source: own research, own presentation

6. Conclusion

The ECB is one of the main institutions in the world economy. But this organization is in crisis nowadays. The analysis of the ECB shows us not so positive perspectives for it.

One of the main tools of the ECB is a monetary policy. It was created basing on the experience of some of the most developed economies in the world, with Europe adapted changes.

From the beginning of the ECB activity, bankers try to make a Euro integration process stronger for out of Euro area countries and inside the union countries. It was going because Europe is very different with various cultures, economies and climate conditions. That is why, one of the main tasks of the ECB was to make an economy flexible. This simple statement means centralization of management and decentralized implementation, in case of the ECB. And this is one of the goals that was not achieved. Author is observing that the European debt crisis is continuing. It began in Greece and Ireland and then spread over the Europe. There are various reasons of the crisis according to the country. Somewhere, the crisis was started from the government extra help to companies that were on the brink of the bankruptcy, because of the market bubbles after the World crisis 2007. Somewhere, it was started because of the attempts to stimulate an economic growth after bubbles were crashed. Growth of Greece federal debt was caused by the high salary of state employees. The ECB is desperately trying to solve this problem.

The European Central Bank introduced a QE program, in 6 years after the crisis has been started. Quantitative Easing is “a tool of last chance for economy”. Author observed the results of program, where inflation increased till the 1.76 % in January 2017. And this is the time, when monetary policy should become tougher. Cutting of financing program from 80 to 60 billion Euro doesn't make the ECB policy tougher. The QE program still working and it has been continued till the end of 2017. Author believes that the ECB is waiting for key elections in Germany and France, to make certain changes in bank policy. However, the ECB president suppose that inflation raised because of the electricity prices increase and the basis price pressure is still weak.

On the other hand, the Europe integration policy is effective, in case if the Euro area economy would be observed as a unite economy, excluding some negative key factors. Inflation processes are pretty convergence. And every country is responsible for the whole Eurozone economy. But the negative key-factor is that some countries, especially south Euro area countries are pulling an economy down. South European investors prefer to invest to

another countries, especially to the USA, because of the low profitability of domestic government bonds. Net capital outflow in the Eurozone became an anti-record.

Author observed an economy growth and growth employment as a result of QE program. Because the aim of QE is to increase growth of those factors. But in this case, a common economy growth of union doesn't mean growth in certain countries. When unemployment goes down in Germany, the Italian unemployment goes up. This is a case of decentralized implementation of the policy and Mundell's theory proving that. The policy of the unite currency union should be highly decentralized because of the different conditions in each country.

The significant relationship between the level of prices and M3 aggregate reflects the growth of inflation. It is a positive factor for the Euro area economy, but interest rate, as a main tool of currency impact, reacts on changes in this indicators. Low interest rate influence on investors decisions and their wish not to keep funds in Euro. Author observing Euro currency negative dynamic and high capital outflow against the Dollar gain. However, the low interest rate has a positive influence on unemployment (Appendix 1) and productivity (Appendix 2). But TARGET2 payment system imbalance is too high, that puts favorable and unfavorable countries at risk, especially Luxemburg. So the Euro failure is absolutely unprofitable for them. The only solution is to support countries that are not in the balance, where Euro became weaker, capital outflow higher and the government is against Euro, by stimulating the government bond yield.

As a result of the research, observed, that the Euro became weaker. The ECB try to save domestic economy and the single currency, using non-standard tools. And it looks like the vicious circle, where improvement of one factors necessarily entail worsening of other factors. Except basic issues, the most important task that could be solved is a decentralized of monetary regulation. Respectively and with a profit for all union members. This time the ECB is acting carefully, as they should, because the economy on the verge of collapse. Every careless step may turn over irreversible the most terrible consequence. In case of the negative result of the ECB monetary policy, the BREXIT will look like a trifle and nobody will remember about that.

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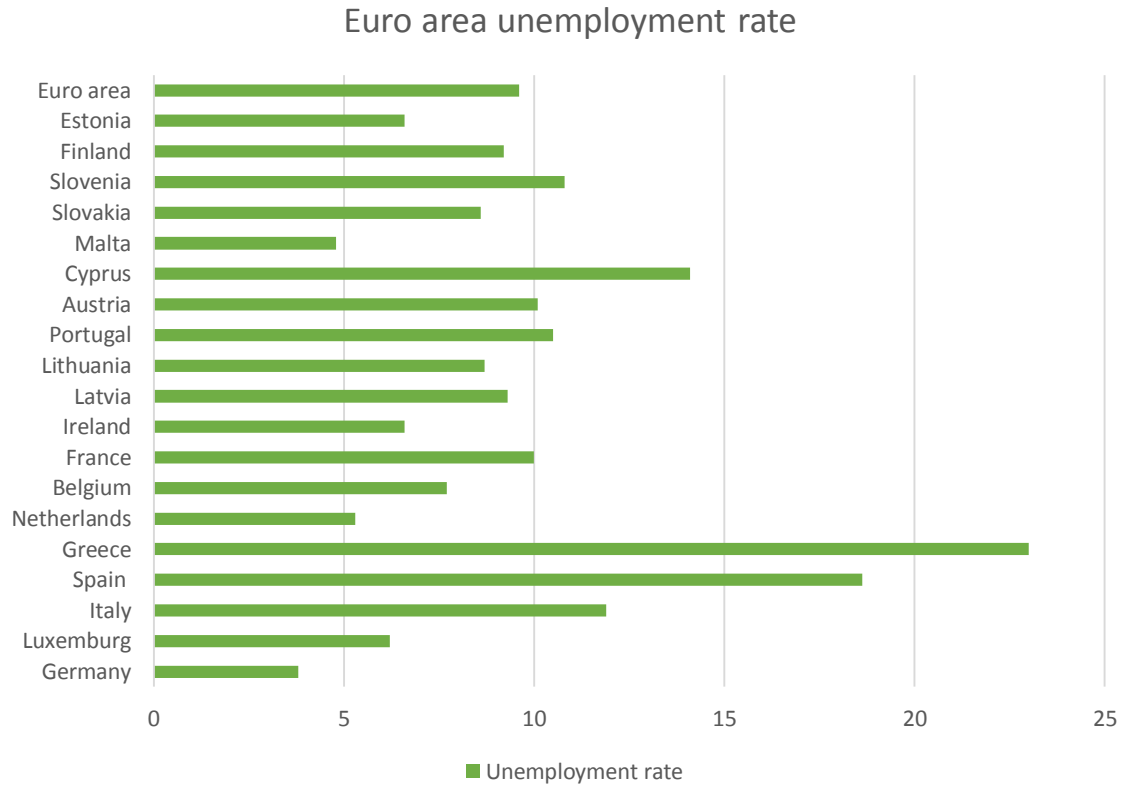
Interviews

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8. Appendices

8.1. Appendix 1

Figure 15. Unemployment rate

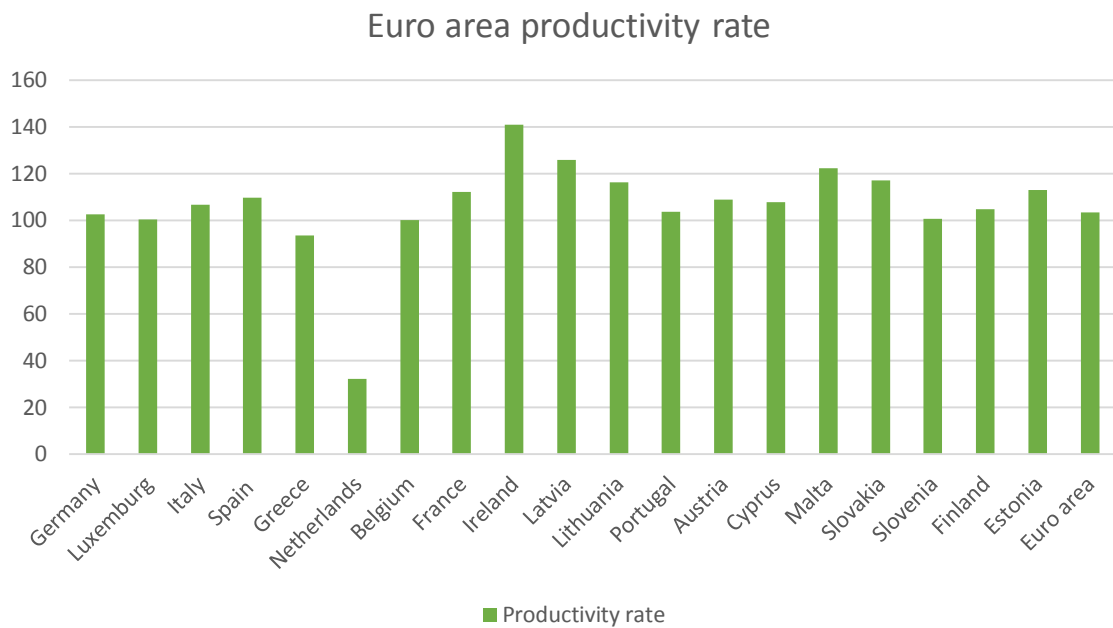


Source: Accumulated data from Tradingeconomics.com, 2017

In 2013 an Unemployment rate was 12,1% and this index has decreased in progression to the 2017 till the 9,6%.

8.2. Appendix 2

Figure 16. Productivity rate



Source: Accumulated data from Tradingeconomics.com, 2017

In 2013 the average productivity index in Euro area was below 101 but it has increased in progression to the 2017 till the 103,4 – an all time high.