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Extended Abstract

Central banks at times of financial crisis: Fed vs ECB

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Summary

The financial crisis of 2007-2008, also known as Global Financial Crisis, was the worst financial crisis since the Great Depression in 1930s. It started in the United States, but it quickly expanded around the world. Some of the world's largest financial institutions have collapsed, some have been saved by the government's rescue packages.

It is usually very hard, even impossible to predict a financial crisis, because when some characteristics of upcoming crisis are spotted, it is already too late. Therefore, the attention should be focused on early and accurate anti-crisis measures, that can moderate the consequences of the financial crisis, and helping economy to return to pre-crisis level. This thesis is focused on what happened during the crisis, not only the consequences of the crisis, but primarily how an economic institutions reacted. The attention is directed to the central banks, namely the Federal Reserve System and the European Central Bank and their steps taken during the global financial crisis. The financial crisis is researched from a monetary policy point of view. This diploma thesis analyses how monetary policy tools performed by the central banks affected the development of the basic macroeconomic indicators, primarily the price level.

Objectives

The diploma thesis is a case study focused on anti-crisis measures used by central banks during the financial crisis of 2007-2008 in the United States and the European Union. The primary goal of the diploma thesis is to identify and compare the anti-crisis measures of the Federal Reserve System and the European Central Bank, and to evaluate their impact on the development of the price level in the European Union and the United States.

Since it is more suitable to the topic, an alternative to research hypothesis was chosen, which is the research question. After comparing the anti-crisis measures of the Federal Reserve System and the European Central Bank, the results and conclusion of the thesis will answer the research questions:

"Which central bank was more successful in influencing the development of basic economic indicators during the financial crisis of 2007-2008? The Federal Reserve System or the European Central Bank?"

“Which central bank had a larger impact on the development of the price level during the financial crisis?“

Methodology

In the diploma thesis, the graphical and the numerical methods are used to compare the effects of the anti-crisis measures on the basis of macroeconomic aggregates. Graphical methods depict the development of macroeconomic indicators. Moreover, statistical methods, prognosis, regression methods and comparison methods are used in the analytical part of the diploma thesis. Specifically, basic statistical methods such as computation of standard deviation and coefficient of variation are employed to evaluate activities of central banks that relate to interest rates. Regression methods, namely an ordinary least squared method, provides a tool for comparison of monetary policy tools and their impact on the inflation rate changes. The development of the macroeconomic indicator was set as the dependent variable and the monetary policy tools were set as independent variables. The researcher analyzes how and in what extend the independent variables influenced dependent variable. This will be expressed and analyzed by means of flexibility. For all the analysis, data from the beginning of the year 2007 until the end of the year 2014 were included. For the inflation rate prognosis ARIMA model is used. ARIMA is a forecasting technique that projects the future values of a series based entirely on its own inertia.[1] The inflation rate prognosis will be made for the EU and the U.S. for the year 2016, thus monthly data from the beginning of the year 2007 until the end of the year 2015 will be included.

Conclusion

This diploma thesis is a case study focused on anti-crisis measures used by central banks during the financial crisis of 2007-2008 in the United States and the European Union. This thesis is focused on the monetary policy of two huge central banks and their anti-crisis measures. The attention was directed to the central banks, namely the Federal Reserve System and the European Central Bank and their steps taken during the global financial crisis.

The financial crisis of 2007-2008, also known as Global Financial Crisis, was the worst financial crisis since the Great Depression in 1930s. It started in the United States, but it quickly expanded around the World. All the stock markets have fallen, large financial institutions have collapsed or

[1] Forecasting solutions [online] <http://www.forecastingsolutions.com/arima.html> [Accessed 17.2.2016]

been bought out, and governments in even the wealthiest nations have had to come up with rescue packages to bail out their financial systems. The primary problem of the U.S. housing bubble was that banks relaxed all the loan and mortgage requirements. In the past all borrowers had to have a good credit history and a stable work with documentation that proved their income. During 2000s U.S. banks relaxed their standards, thus borrowers could state their income without verifying them. After the beginning of the 2007 Financial Crisis, these loans became toxic, since subprime borrowers began defaulting on their loans.

This thesis is focused on monetary policies performed by the central banks in the United States and the European Union. One of the main responsibilities of these central banks is to control the quantity of money that is made available in the economy, called the money supply. For both central banks, the main goal is to ensure a stable price level in the country. Moreover, the Federal Reserve System aims to ensure full employment and moderate long-term interest rates. Monetary policy is a process when the policy maker – central bank - uses its tools and instruments to achieve given goals. Monetary policy tools represent the implementation of monetary policy and monetary policy goals are its expected results. Although the literature shows different definitions of monetary policy, they all basically agree that it is a macroeconomic policy conducted by the monetary authority, which is usually the central bank, in order to ensure price stability. The most frequently used monetary policy tools are discussed in the theoretical part of this diploma thesis. These tools are open market operations, foreign exchange operations, discount loans and reserve requirements. The practical part is divided into three sections. First part was the comparison of the steps made by the FED and the ECB during and after the financial crisis, including the calculation of coefficient of variation. The second part of the diploma thesis was dedicated to the autoregressive integrated moving average model, and the prognosis of the monthly inflation rate for the United States and the European Union for the year 2016 were calculated. The third part of the research was focused on the monetary policy tools influencing the price level. This was expressed by regression models and elasticities computation. The comparison of the success of the particular monetary policy tool was expressed by the comparison of the individual elasticity coefficients. Also the determination coefficient R^2 was considered as one of the criterion of the regression models and the comparison of both models was performed.

Based on the research done in this diploma thesis, the Federal Reserve System was probably more successful in influencing the price level and had stronger impact on this indicator. The financial crisis began in the United States and it had a very fast and strong progress. The Federal Reserve System has simpler and more flexible decision making system, so the decisions and the following steps can be implemented faster. The Federal Reserve System intervened in American economy more often and also injected more money into anti-crisis measures. These might be some of the reasons why the Federal Reserve System was more successful than the European Central Bank in influencing the price level.

Regarding inflation, there are many other factors that determine the price level and these factors are not under the control of the central bank. The practical part of this thesis covered only central bank's monetary policy tools that influence the price level.

Keywords:

financial crisis, FED, European Central Bank, monetary policy, interest rate, price level, reserve requirements, open market operations

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