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Research on the Impact of Eurozone Monetary Policy on EU Economic Growth

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Abstract: The Greek government-debt crisis is a representative topic that shows the inflexibility of the monetary policy of the ECB and how it can harm the Greek economy in considering different economic conditions. The inflexibility of monetary policy shows the disadvantages of a one-fits-all solution carried out by the ECB in EU 27 and EU15. This study aims to analyze the impact of eurozone monetary policy on its member states and to what extent the inflexibility of monetary policy can be detrimental to a state's economic growth and price stability. The empirical test and case study are carried out for further analysis, and the results indicate the important role of inflexible monetary policy in the case of the Greek government-debt crisis and its further impact on the steady economic growth of Germany. The ECB's monetary policy is revealed to be volatile and uncertain, which brought undesirable economic growth outcomes for the Eurozone. However, considering the complexity of integrated monetary union and the previous case of Greece, exiting the Eurozone is not the best solution to recover economic growth.

Keywords: eurozone monetary policy, EU, economic growth, greece

1. Introduction

1.1. Research Background

The concept of intervention in economics usually refers to government involvement in the workings of markets. The market is considered the most efficient mechanism for organizing economic activity. Still, it is also recognized that the market may fail to achieve certain societal goals, including equity, economic well-being, or sustainability. The monetary policy is an instrument from various interventions aiming to reduce inflation and ensure price stability by controlling interest rates for the short term and money supply. The economic and monetary union of the European Union is a group policy that pursues the convergence of economies among its member states. As the executive institution of the EU, the European Central Bank announced a clear goal to adopt monetary policies to maintain price stability and financial development. The common agreement of the ECB has been conducted since 1999 to set Euro as the national currency of the majority of the EU. And the ECB's monetary policy is applied to those eurozone countries. However, the inflexibility of monetary policy in member countries caused potential issues for those states in the EU with weak economies. Greece is one of those states, and the lack of flexibility in monetary policy led the Greek government to a debt crisis in 2010. In previous years, the debt of the government has been underestimated. The

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Eurostat indicates that the debt of the Greek government has risen from €300billion to €318billion. It also shows a critical reading of Greek debt-to-GDP, 127% to 179%. By then, the Greek government had failed to adopt a contractionary monetary policy to ease its budget deficit, which later aggravated the burden on government debt. In this paper, the author has an intention to investigate to what extent the inflexibility of monetary policy in the EU caused the Greek government-debt crisis as background knowledge and conduct further analysis on the positive or negative impacts that the monetary policy of the ECB on the states of EU, it will be analyzed in terms of outputs too for an indication of economic growth,

1.2. Literature Review

The monetary policy being used by European Central Bank is carried out in the concerns of price stability for the eurozone area. Although the ECB's monetary policy is conducted to stabilize the Eurozone, it cannot reflect the different national economies in the EU. In other words, the inflexibility of monetary policy may destabilize some of the states' price stability. Srivangipuram founds that except for the core states of the EU like Germany and France, those peripheral states like Greece take larger stress levels [1]. In the study of Seyler and Levendis, a similar conclusion was given, which points out that the Taylor rule of the ECB is not a stabilizing policy for Greece. Its monetary policy for the Eurozone set interest rates too low for states like Greece and their economic conditions [2]. However, Witkowski proposed that in the perspective of monetary variables, including interest rate, inflation, credit growth, and money growth, EU 27 experienced a stable impact on economic growth. Besides, the number of estimated coefficients for economic growth makes no significant difference than zero, and stability cannot be guaranteed in this way [3]. Besides, the given statement in this paper also shows that determinants of economic growth revealed the differentiated impact on GDP dynamics over the years in the EU.

1.3. Research Gap

Most scholars focus on the financial issues caused by the ECB's monetary policy conducted for all Eurozone states. The Greek government-debt crisis is a representative topic that shows the inflexibility of the monetary policy of the ECB and how it can harm the Greek economy in considering different economic conditions. The author believes that the inflexibility of monetary policy shows the disadvantages of a one-fits-all solution carried out by the ECB in EU 27 and EU15. Still, the paper above also gives the conclusion that the monetary policy of the ECB has effects on most states in EU 27. It should be recognized as the state in the EU with relatively robust economic conditions. It is an abstract summary based on the analysis of EU 27. In investigating references, it is notable to mention that there were very few papers bringing the monetary policy of the ECB to comparison with the monetary policy of other states' central banks. Therefore, the author would like to use a comparison of the monetary policy of the ECB and another central bank as the research target of this paper. For further analyses on the advantages and disadvantages of the ECB's monetary policy brought to states in the Eurozone.

1.4. Research Framework

This study aims to compare the monetary policy of the ECB and the state's central banks other than states in the EU. In the first place, this paper needs to point out both improvements in economic growth and financial issues of states in the EU once ECB conducted one monetary policy for all states. To be specific, the investigation should hold on to each policy that belongs to monetary policy to infer with data whether it stabilizes or destabilize. In the second place, other states other than states

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in the EU should be analyzed as a cross-reference. This indicates the difference in the monetary policy of the ECB and a state's central bank concerning the state economy.

2. Methods

The adoption of monetary policy by central banks is designed to maintain price stability, making the inflation rate a standard to evaluate whether monetary policy is operating for positive or negative effects on the domestic market of a state. Besides, high inflation harms a state's economic performance and people's welfare since it relates to financing conditions, availability of credits, and a bank willing to take the risk. Moreover, inflation also affects the market's factors, such as good price, asset price, and exchange rate of a currency. Those factors contribute to consumption and investment, forming a dynamic GDP trend over a period.

2.1. Comparative Analysis

This paper aimed to research all the possible impacts of the ECB's monetary policy on its member states' economic growth. Economic growth is the improvement in the inflation-adjusted market value of goods and services produced by an economy over a certain period. Therefore, the secondary resources of data on inflation rate are objects for comparison in the comparative analysis method. Besides, the data should be related to the inflation rate of a state in the Eurozone and a non-eurozone state. The period for observing the inflation trend should be enough to analyze whether central bank monetary policy can be applied once inflation or deflation occurs. Furthermore, the inflation rate data is the y-axis of the Figure, and the x-axis is the time varied in years. The amplitude of this Figure can indicate the levels of inflation. If the amplitude in the Figure is relatively small, then monetary policy is applied for price stability and further economic growth.

2.2. Case Study

Except for the economic growth in the EU 15 states like Germany, another case should be analyzed as a target of this case study: Greece. The Greek government-debt crisis shows how inflexible the ECB's monetary policy can be, as Srivangipuram mentioned, "tightening when only Germany even arguably needs it" [1]. Therefore, to comprehensively analyze the one-fits-all monetary policy of the ECB, Greece's intensified crisis should also be used as a case study for providing other perspectives on the side of states with lower economic conditions.

3. Results and Analysis

In the first place, in the case of Greece's government-debt crisis, a previous study points out that Greece is taking a larger stress level for its economic conditions around 2010. Greece's monetary reform should date back to Maastricht Treaty in 1993. It is the turning point for Greece to pledge to economic convergence with other memberships of the EU. Back then, the inflation in Greece fell from 23.3% in October 1990 to 3.9% in December 2000 [2]. After the Bank of Greece engaged in the foreign-exchange policy, it announced a target exchange rate, a benchmark of Greek monetary policy. The Taylor rule calculated for the setting of interest rate was, therefore, more correlated to the foreign interest rate of the ECB.

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Figure 1: The HICP of Germany, Greece, and Franc from 2010 to 2021 (Photo credit: Original).

The data given by Eurostat shows that the reading of HICP for three EU27 states, including Greece, indicates that by the time of 2010 when the Greek government-debt crisis began, Greece's inflation rate reached a maximum point. However, the economic convergence in monetary policy and fiscal reform started during the Maastricht Treaty. As Figure 1 shows, inflation rate of Greece went below that other two states around 2011. According to a previous study, Greece's HICP is below the eurozone average until July 2011. The HICP reading of Greece shows that the inflexibility of monetary policy made the Bank of Greece fail to adjust the interest rate required for debt easing and economic growth. In other words, the interest rate set by the ECB was too low to achieve the requirement of Greece and its economic conditions. Meanwhile, after Greece formally adopted Euro as its national currency, there was a continuous decrease in the exchange rate of the Euro, which the ECB manipulated. This was the time for Greece to regain its government debt at a low price, and from the market's perspective, individuals and businesses tended to demand more loans. When the money supply went up because of loans, a higher inflation rate occurred in the Greek economy.

Greece's debt crisis was aware by people in the late 2010s when Europe was facing a financial crisis than ever. Other member states of EU 27 consider the bailouts needed by Greece in consideration of the Euro and monetary union. Still, Greece can deal with debt before implementing of Euro as the Bank of Greece can take advantage of inflationary finance and devaluation. However, it is no longer a valid solution for Greece since 2001.

In the second place, although the ECB's monetary policy cannot adjust for every state's requirement to deal with inflation, it is admittedly that the monetary policy can still boost economic growth in specific states. Germany is the largest economy in the Eurozone, which makes the German economy more correlated to the EU's monetary policy than other states. Based on the understanding of it, it is not surprising to find out that the inflation rate of German over the years has been in line with the optimal inflation rate given by the ECB, which is located at 2% in terms of the annual year.

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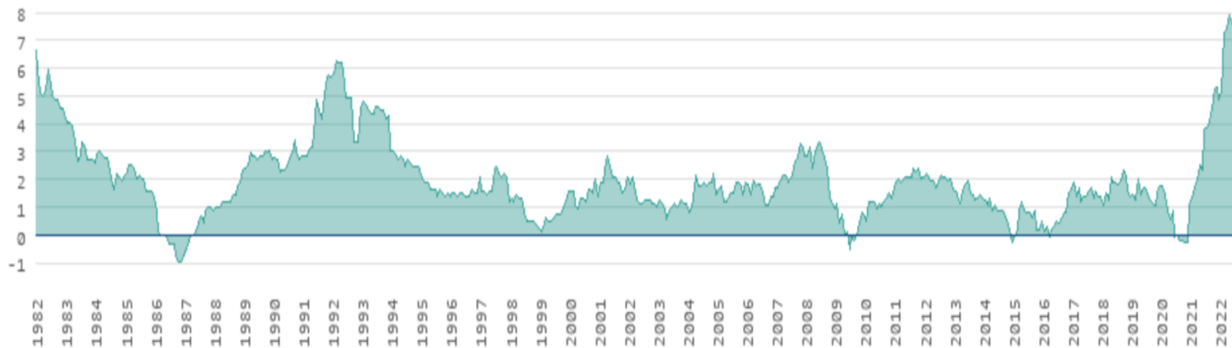

Figure 2: Development of inflation rates for consumer goods in Germany (Photo credit: Original).

As Figure 2 indicates, the inflation rate of Germany has always been stable at around 2% after the adoption of the Euro and the ECB's monetary policy. In comparison with Germany and Greece, the phenomenon can be observed that because Germany is an influential economy in the Eurozone, its requirements for interest rate and money supply are the priority for the ECB in the concerns of the economic growth of the Eurozone. However, a state like Greece is not equipped with great economic conditions to become a concern of the ECB. Although the ECB's monetary policy is conducted to serve Germany, its benefits in boosting economic growth may be relatively small compared to a state out of the EU and with rights autonomy in both fiscal and monetary policy. This means the adjustment can be made by its central bank in time for price stability and economic growth. Therefore, an empirical method to compare Germany and US, a non-eurozone state, should be carried out to assess whether the ECB's monetary policy and its inflexibility are capable of economic growth like booting output. To further analyze the impacts of monetary policy that the ECB and Federal Reserve can bring to states, the output is an inevitable factor for assessing impacts on boosting economic growth. The GDP, the value of all final goods produced by different sectors in a given year, is necessary to introduce to this research. The preference of monetary policy of varied central banks could remain unclear, but central banks conduct their policy in perspective for boosting domestic economic growth. Therefore, the assumption is that if a state can achieve a higher level of GDP, then its central bank conducts monetary policy effectively to control the inflation rate and price level in the domestic market. By 2012, the GDP for the agriculture sector in the US was 1.2%, whereas the GDP of Germany was 0.8%. And the GDP of the US in the agriculture sector was 1.5 times Germany's. The empirical hypothesis is rejected once the GDP data of Germany in the industry sector in 2012 exceeded the counterpart of the US by 47%. And at the same time, this comparison of the two states cannot eliminate the output gap between states. In other words, the comprehensive economic conditions of the US are more robust than Germany, but in a specific sector like industry Germany has huge advantages over the US is not able to cover. Based on that, it can refer to the conclusion that Grauwe proposed. There seems to be no evidence proving that structural rigidities restrict ECB from introducing monetary policies to stabilize output [4]. The monetary policy of the ECB may not be conducted actively. Still, it cannot prove that the inflexibility of the ECB's monetary policy makes it less effective in output compared to Federal Reserve.

4. Discussion

This study's previous result indicates that the Eurozone states experienced different situations after ECB implemented the same monetary policy. Germany, a large economic system in central Europe, is well-considered by execution of monetary policy, its inflation rate controlled at 2-3%, which is a

sign of steady economic growth. But for those states with a minor economy in Eurozone, their inflation is not being solved, and this inflexibility of monetary policy will worsen the situation.

The government-debt crisis of Greece is grown under the circumstance of inflexible monetary policy, and it was exposed to public view when it became a crucial issue for the Greek central bank. The government debt accumulated for a long time is an irreversible crisis for Greece and the euro area. The statement that the Greek crisis is an essential issue for Eurozone is justified. Wodak and Angouri found that several states of Southern Europe reported that sovereign debt has been transformed into a threat to the stability of the Euro and monetary union [5]. In economics, some parties in Greece call for ‘Grexit’ that pulling out Greece from Eurozone, adopting the independent monetary policy of its central bank, cutting down the government expenditure, and raising the tax rate seems to be the only solution to sovereign debt. However, this proposition can’t be conducted. Xiang proposed that the loss of Greece quitting euro area as a number state exceeds the cost of saving Greece in the Eurozone significantly, which is 2100 billion euros, and the former is estimated at 4500 billion euros [6]. However, the European Union, the ECB, and the International Monetary Fund (IMF) refused to pay Greece’s bailout funds. And the Greek government had to declare the country bankrupt after it could not pay its due debts. The Greek recession forced them to back down and announce debt relief. Also, there is no precedent for states of euro area requesting a state abandon the common currency and exit the Eurozone has also been shown not to be the solution.

In recent years, the conflict between Ukraine and Russia expanded the geographical crisis, shaking the status of the Euro in the euro area. It brought a huge impact and uncertainty to the economy of the Eurozone, which is also the reason for the ECB’s maintaining of monetary policy. Xinhua Finance suggests that the Eurozone’s inflation rate has increased since the second half of last year. The euro area’s inflation rate reached 7.5% by March 2022, which largely exceeds the benchmark of 2% set by the ECB [7]. Although the Eurozone’s inflation rate has reached a serious limit, there is no sign for ECB to ease the inflation by adopting the contractionary monetary policy. The inflexibility of monetary policy in the euro area shows its inability to adjust again. Even though the circumstance of the Ukraine-Russia conflict differs from the Greek government-debt crisis, ECB cannot achieve the requirement of change in monetary policy. Even though it controls the inflation rate for those states with large economies in the Eurozone, it cannot reach other minor states with the same implication brought by Euro.

The conduct of monetary policy by the ECB has been proven to have a strong correlation with its composition. Bean found that the vote in Governing Council of ECB leans toward the weight of Germany, which caused the direction of monetary policy towards the national interests of coalitions, resulting in the volatility of inflation and output in the euro area [8]. The majority of the Eurozone outweighs those minor states, but the inflexibility of monetary policy is not the only issue for economies like Greece, Germany, and France. When the euro area suffers from different circumstances of economy, the momentary policy of setting a common interest rate by the ECB for every state is inevitable. In the Greece issue, Armstrong points out that the creditors rather than debtors are the ones to determine the outcome of monetary union. In considering the loss that Brexit may bring to the euro area, Germany, for instance, appeared to accept the risks brought by Greece [9]. It seems to be that states like Greece will be better off when their central bank can conduct an independent monetary policy. However, the vice-president of the ECB in 1998, Noyer, suggested that the attempts to deviate from monetary policy to maintain price stability are detrimental over the long term [10]. This statement was given based on the institutional structure of monetary union and the continuous economic behavior of states, the uncertainty of transmission in monetary policy is the main issue for being ‘detrimental’. It seems that monetary policy is aimed at maintaining price stability, but its inflexibility in the euro area destabilized the price as an opposition to its goal.

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5. Conclusion

The empirical study of this paper investigated the possible outcomes that may be caused by the monetary policy of the ECB to states of the Eurozone. The government debt in Greece and the inflation rate of Germany are analyzed as a case study. The analysis results indicate that the minor economy in Eurozone suffered inflexibility of monetary policy. As for the debt crisis, the Greek central bank failed to adjust the interest rate required for easing the debts, and the conduct of inappropriate monetary policy also led to high consumption in Greece, which sharply increased the inflation rate of Greece. The conclusion cannot only be made from the perspective of economics. As the Greek government announced its bankruptcy, some parties appealed for the exit of Greece from the Eurozone to solve economic difficulties. However, the solution did not consider the regulations of monetary unions and the welfare of other states in the euro area. First, as members of the Eurozone, Greece cannot exit the Eurozone and quit the common currency (which will be explained later), and the other states cannot vote Greece out of Eurozone for their welfare. The complexity of the Eurozone turned Greece's problem into a crisis in a wider range. The estimated cost for Greece to recover its currency is much higher than that of three institutions (EU, ECB, IMF) to cover its debt.

Besides, even the large economy in the euro area, like Germany, also faces difficulties when external factors crush the economy. The inflation rate of Germany is well-adjusted because of its status in the euro area for a long time, and it is controlled as the benchmark for steady economic growth. But the case of the Ukrain-Russia conflict proved the inflexibility of monetary policy is harmful to every state in the euro area. The complexity of common monetary policy brought uncertainty to ECB for adopting a fit solution for all member states of the euro area. The Euro and its policy show vulnerability under many extreme circumstances. Whether the states in Eurozone can be better off without the common monetary policy is unknown, and the limitations on comparison between the central bank in the euro area and an independent central bank are noticeable. In considering the varied economies of different states, the author cannot infer that any state of the Eurozone can achieve better price stability or a less volatile inflation rate. At the same time, the exit of a state from the euro area may also bring the unnecessary cost to the EU. As a monetary policy integration, its benefits and disadvantages to the Eurozone cannot be concluded on the side of a single state. As a limitation of this study and the direction for future study, a comparison state with similarities in the economy will be helpful for a comparative study to analyze whether a state in the Eurozone can be better off without a common monetary policy.

References

[1] *Srivangipuram.T. "Monetary Policy in the Eurozone: Evaluating the European Central Bank's interest rate decisions and the needs of member states using a Taylor rule." (2013).*

[2] *S.Edward and J.Levendis. "What was the role of monetary policy in the greek financial crisis?." South-Eastern Europe Journal of Economics 11.2 (2015).*

[3] *M.Próchniak and B.Witkowski. "Real economic convergence and the impact of monetary policy on economic growth of the EU countries: The analysis of time stability and the identification of major turning points based on the Bayesian methods." National Bank of Poland Working Paper 137 (2012).*

[4] *P.De Grauwe and C.Storti. "Is monetary policy in the Eurozone less effective than in the US?." (2005).*

[5] *R.Wodak and J.Angouri. "Introduction: From 'Grexit' to 'Grecovery': Euro/Crisis Discourses." Discourse & Society, vol. 25, no. 4, 2014, pp. 417–23. JSTOR, http://www.jstor.org/stable/24441593. Accessed 16 Sep. 2022.*

[6] *S.Xiang "Why Did Greece Not Choose to Leave the Euro Zone? ." Xiang Songzuo: Why Did Greece Not Choose to Leave the Euro Zone? -School of Economics, Shandong University, https://www.econ.sdu.edu.cn/info/1493/28817.htm.*

[7] *"The European Central Bank Has No Intention to Speed up the Normalization of Monetary Policy, and the Possibility of Raising Interest Rates during the Year Is Still High." Xinhua Finance, 15 Apr. 2022, https://www.cnfin.com/zs-lb/detail/20220415/3583683_1.html.*

DOI: 10.54254/2754-1169/14/20230792

[8] C.Bean "MONETARY POLICY UNDER EMU." Oxford Review of Economic Policy, vol. 14, no. 3, 1998, pp. 41–53. JSTOR, http://www.jstor.org/stable/23606481. Accessed 16 Sep. 2022.

[9] A.Armstrong, et al. "GREECE AND THE EURO AREA." National Institute Economic Review, no. 233, 2015, pp. F44–52. JSTOR, http://www.jstor.org/stable/44396539. Accessed 16 Sep. 2022.

[10] C.Noyer. "Monetary Policy Formulation in the Euro Area: THE FOCUS IS SOLELY ON PRICE STABILITY." Business Economics, vol. 36, no. 4, 2001, pp. 57–59. JSTOR, http://www.jstor.org/stable/23490234. Accessed 16 Sep. 2022.