

TURNOVER IN EU MONETARY POLICY IN A CRISIS

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ABSTRACT

The role of monetary policy has become increasingly important in recent years, as a range of economic challenges have emerged, affecting both developing and economically advanced countries. The aim of this article is to examine the shift in the monetary policy of the EU, which has been expressed through changes in the tools used by the European Central Bank (ECB), and to consider the causes and economic implications of this shift. The descriptive analytical method was used to achieve this goal. The study identified that the aim of the ECB's interest rate increases was primarily to slow down core inflation rates. The ECB has raised the refinancing rate from 0.5% to 2.5% in 2022 and halted asset purchase programs, such as the Pandemic Emergency Purchase Programme, which had previously stimulated liquidity growth. Despite these changes, forward guidance has been maintained as a useful tool for providing clarity and certainty to financial markets and the public about the future path of monetary policy. It is concluded in the study that the impact of the shift towards contractionary monetary policy is likely to be felt across a range of economic sectors, with higher borrowing costs potentially leading to reduced investment and lower levels of economic growth.

Keywords: *monetary policy, monetary tightening, inflation rates, liquidity, economic growth, ECB (European Central Bank), monetary tools.*

1. INTRODUCTION

The aspects of monetary policy are more relevant today than ever before, as high inflation rates, insufficient liquidity, high unemployment, and low economic growth are issues that not only developing countries face, but also economically advanced ones. Financial experts and economists have been interested in monetary policy issues for a long time. The attitude towards inflation and inflationary growth has changed significantly in recent times. At the end of 2019, leading investment companies believed that the problem with inflation was that it was too low in economically advanced countries, stating that low inflation in Europe and the United States was holding back economic growth. Even the consequences of the pandemic did not solve the problem of low inflation in economically advanced countries. Only with the start of hostilities in Ukraine in March 2022 did Western countries realize that inflationary growth, namely low inflation, was no longer a problem in the economy, and completely changed their economic policies accordingly to combat high inflation. This turnaround in monetary policy is the subject of our analysis, as it was implemented in a very short period of time and has significant economic consequences.

The aim of the article is to examine a shift in a monetary policy of EU which is expressed in the

change in ECB used tools, the causes of such a change and its economic implications.

2. LITERATURE REVIEW

In modern research, the state policy response to the crisis is mainly considered a certain type of policy for strengthening economic resilience. Thus, some researchers focus on monetary policy. Monetary policy in crisis conditions should be aimed at solving potential liquidity problems in the financial sector; to support the liquidity of the corporate bond market; ensure access to funding for small, micro and medium-sized enterprises (Boiko et al., 2022; Bašić, D, 2021). Researchers highlight that a discount (refinancing) rate is a key tool for regulating liquidity and emphasize that by lowering the discount rate, central banks support the lending of banking institutions and provide the economy with the necessary resources in the pandemic of COVID-19 (Harjes et al., 2020; Bernanke, 2020; Barr et al., 2020).

The impact of monetary policy on financial stability has mixed consequences. On one hand, monetary policy can influence the likelihood of a crisis in the short term by affecting aggregate demand, as well as in the medium term through capital accumulation. On the other hand, a central bank can mitigate financial vulnerability and enhance overall well-being by deviating from rigid inflation targeting and regularly addressing output fluctuations. Lastly, prolonged periods of loose monetary policy can lead to financial crises if the central bank suddenly changes course (Boissay et al., 2022; Mastilo, Z., 2021).

Monetary policy pertains to the actions carried out by central banks in regulating the money supply and credit accessibility within an economy. At present, most economies depend on monetary policy tools to encourage economic expansion and sustain its momentum. One of the key strategies employed by policymakers is the manipulation of interest rates. Thus as noted by Bernanke through the management of policy interest rates, central banks can regulate the money supply by restricting its availability when rates increase, resulting in a more costly acquisition of funds and lower demand for money (Bernanke, 2020).

Financial stability is a priority for central banks, given the critical role of financial institutions in providing essential credit, risk-management, and liquidity services to households and businesses. These institutions are structured to assume risks and employ high leverage, unlike nonfinancial businesses. However, this risk-taking and leverage increase the potential for systemic issues that could jeopardize the proper functioning of the financial system, harm actual economic activity, and impose substantial economic expenses (Mester, 2016; Chugunov, 2022).

Implementation of stimulating monetary policy involves expanding the central bank's ability to refinance commercial banks. This aims to promote growth in the volume of bank credit operations, stimulate business activity, and encourage economic growth. The interest rate policy primarily aims to change the demand for money by influencing the market rate, which serves as the price of money. An increase in the interest rate results in a reduction in demand for securities and a decrease in their value, due to the increased efficiency of deposit operations. In the case of a decrease in the interest rate, the attractiveness of deposits in banks decreases, which leads to the redirection of free resources to the stock market and an increase in the value of securities (Shtan, 2020; Vunjak, N., 2022).

Thus, the practical tasks and goals of monetary policy include achieving sufficient and stable employment; ensuring general price stability (by stabilizing internal purchasing power); ensuring stable economic growth rates; optimizing the exchange rate (external purchasing power of the national currency). The main task of monetary regulation can be considered ensuring the stability of the banking sector and developing sufficiently reliable mechanisms for controlling inflation, which is a prerequisite for ensuring stable economic growth as revealed by Koroviy (Koroviy, 2020). The impact of crisis downturns on the real economy indicators dynamics was fully described by Sonko et al. and Savych, O. (Sonko, 2018; Savych, 2021) revealing that the development at the macroeconomic level can only be achieved when the positive dynamics of material production

sectors is observed. Further, the study that explores the evaluation of investment attractiveness of Ukraine's economy was made by Umantsiv Iu. et al (Umantsiv, 2021), concluding that the most significant influence on the investment attractiveness of the economy sector are factors of economic efficiency and support of the sector by the state.

The modern global environment presents new demands for monetary regulation and requires increasingly significant results. Myskiv and Vinichuk emphasize on the need to review and expand the boundaries of central bank regulation and to change the objectives of traditional monetary policy, given the existence of persistent financial risks that generate crises, the need for productive development of the national economic system, and the rapid evolution of modern society (Myskiv, Vinichuk, 2022).

3. METHODS

Its purpose is to describe the experiment in such detail that a competent colleague could repeat the experiment and obtain some or equivalent results. It should provide enough details to allow the work to be reproduced.

The research employs various contemporary theoretical and methodological approaches, which collectively contribute to maintaining the conceptual coherence of the work, in particular: system and structural analysis – used to reveal the interrelation between measures and tools taken by the ECB to support EU economies in response to the crisis; comparative and factorial analysis – while studying the dynamics of changes in monetary measures taken by ECB during the analyzed period; comparative analysis was used to identify similarities and differences between monetary tools in stimulation and restrictive monetary policies; analysis and synthesis during the comparison of monetary policy measures taken by ECB within EU member states; tabular method is used to present the results of the systematization of monetary measures that the ECB has taken to ensure resilience of the EU monetary policy; statistical method – while analyzing and generalizing statistical data; graphic visualization method – for the visibility of information, etc.

The methodology of monetary policy research is represented by a set of instruments and measures for the regulation of the monetary sphere in order to achieve predetermined social goals implemented by the Central Bank (table 1).

Table 1. Methodology of EU monetary policy.

Instruments	Scope of application
Open market operation (OMO)	ECB use open market operations to steer interest rates, to manage the amount of liquidity in the financial system and to signal monetary policy stance
Interest rate (refinancing rate)	The Governing Council of the ECB sets the key interest rates for the euro area: the interest rate on the main refinancing operations (MRO), which provide liquidity to the banking system; the rate on the deposit facility, which banks may use to make overnight deposits with the Eurosystem; the rate on the marginal lending facility, which offers overnight credit to banks from the Eurosystem.
Mandatory reserves	Imposing mandatory reserves on credit institutions based in Member States to create mandatory reserves in the ECB and national central banks. The reserve requirement is a monetary policy instrument that obliges banks to keep a portion of the funds attracted to the correspondent account at the central bank.
Exchange rate	The ECB rate is the foreign exchange reference rate published by the ECB. The bank sets out the exchange rate for European currencies against the euro (EUR) at 16:00 Central European time, every working day.
Outright monetary transactions (OMT)	Outright Monetary Transactions (“OMT”) is a program of the ECB under which the bank makes purchases (“outright transactions”) in secondary, sovereign bond markets, under certain conditions, of bonds issued by Eurozone member-states.
Forward guidance	Forward guidance is a ECB statement that provides direct information about the probable state of monetary policy in the future. Its purpose is to influence interest rate expectations.
long-term refinancing operations (TLTROs)	The targeted longer-term refinancing operations (TLTROs) are Eurosystem operations that provide financing to credit institutions. By offering banks long-term funding at attractive conditions they preserve favourable borrowing conditions for banks and stimulate bank lending to the real economy.
Asset purchase programs (APP):	The ECB’s asset purchase program (APP) is part of a package of non-standard monetary policy measures that also includes targeted longer-term refinancing operations, and which was initiated in mid-2014 to support the monetary policy transmission mechanism.
- corporate sector purchase program (CSPP)	Under the CSPP the Eurosystem purchases bonds issued by non-bank corporations registered in the euro area, denominated in euro, and that have at least an investment-grade rating. It purchases them both in the primary market (i.e. upon issuance) and in the secondary market.
- asset-backed securities purchase program (ABSPP)	The ABSPP further enhances the transmission of monetary policy, facilitates the provision of credit to the euro area economy, eases borrowing conditions for households and firms and contributes to a sustained adjustment in inflation rates to levels that are in line with the ECB’s inflation aim.
- public sector purchase program (PSPP)	The securities purchased under PSPP include: European government bonds – nominal and inflation linked. Bonds issued by recognised agencies, regional and local governments, international organisations and multilateral development banks located in the euro area.
- covered bond purchase program (CBPP3)	The purchases are conducted in both primary and secondary markets in a uniform and decentralized manner, meaning that the Eurosystem central banks purchase eligible covered bonds from eligible counterparties.

Source: Fact Sheets on the European Union - 2022. www.europarl.europa.eu/factsheets/en

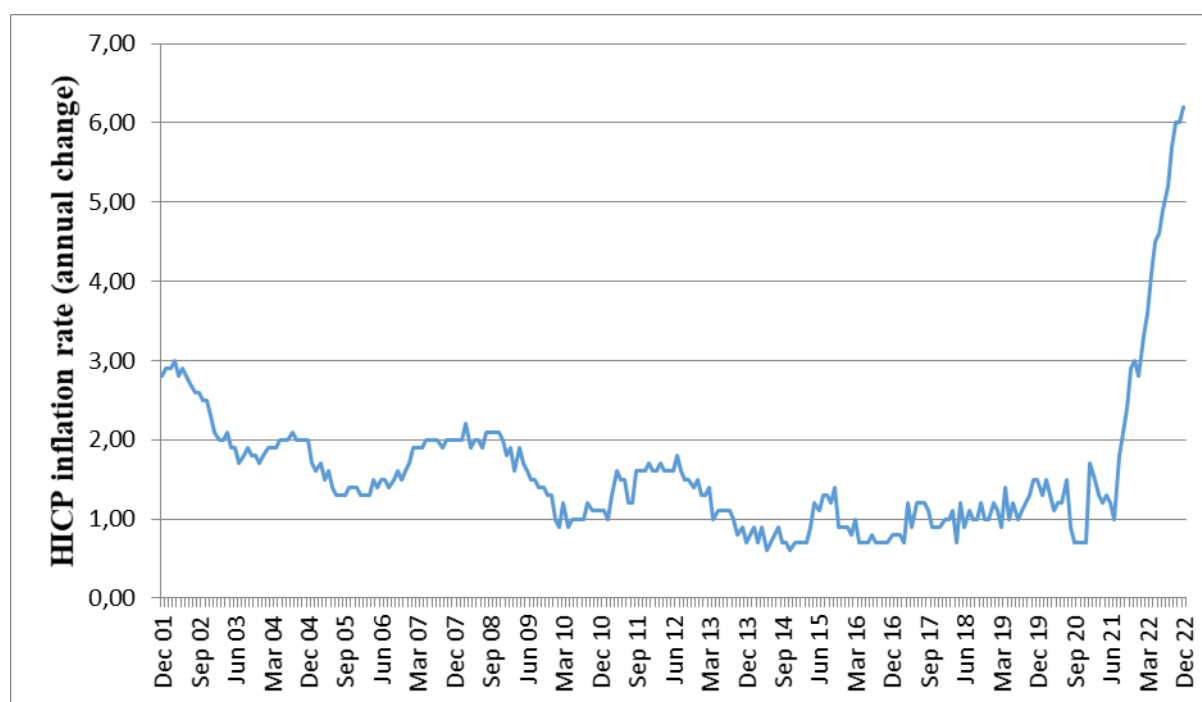
The criterion for choosing monetary policy instruments for analysis is their relevance and importance in the crisis period. Thus, during the research, the main instruments used by the European Bank in the implementation of monetary policy, their effectiveness and influence on economic processes in the context of achieving macroeconomic stability were determined.

4. RESULTS

Monetary policy is the activity of the central bank, conducted by the European Central Bank (ECB), aimed at managing the money supply to achieve predetermined macroeconomic goals in the national economy. The European System of Central Banks (ESCB) is a system that includes the European Central Bank (ECB) and the central banks of EU countries. The ESCB develops and implements coordinated monetary policy of participating countries, foreign exchange operations, and settlement operations within the balance of payments, among other things.

The ECB conducts the monetary policy of the EU in order to ensure price stability, specifically, to control annual growth of the Harmonized Index of Consumer Prices (HICP) to 2% (figure 1).

Figure 1. Harmonized index of consumer prices (HICP) core inflation rate (excluding food and energy) of the European Union (EU27) from December 2001 to December 2022.



Source: Statista. Statistic information. <https://www.statista.com/statistics/1317354/cpi-core-inflation-rate-europe/>

Until the end of 2019, the view that that low inflation was a problem for developed countries was spread in economic circles, that slow rates of inflation (below 2%) was holding back aggregate demand and hence economic growth. As the result of the Russo-Ukrainian conflict in 2022 the HICP in EU have reached 6,2% and European Union countries understood that they already have to fight inflation rather than to control it within 2% margin. Core inflation excluding food and energy prices - is an interesting indicator, showing the rise in prices, without such a volatile component as energy and food prices. The energy and food prices are resources prices that developed countries tend to buy externally, thus this prices do not actually represent the problems in economy of EU rather external economical fluctuations. This way the fluctuations in resources prices do not pose a threat to the economy of EU and are not a subject of macroeconomic regulation in EU. It is when inflation reaches core inflation that the monetary policy executives start to be really nervous. So, core inflation at the rate of 4% and higher after the start of Russo-Ukrainian conflict, demanded the tightening of monetary policy.

As any of the central banks the ECB uses the following traditional instruments of monetary policy in its activities (Fact Sheets on the European Union, 2022):

1. Regulation of the level of the accounting interest rate (refinancing rate). The accounting interest rate is the basic interest rate of the central bank, which is the lowest benchmark for determining the value of monetary resources. Based on the accounting rate, the refinancing rate is determined (which determines the cost of a loan under which the central bank lends to commercial banks).
2. Open market operations (buying and selling or temporary acquisition and disposal of debt obligations), conducting credit operations with market participants. Buying (providing liquidity) and selling (withdrawing liquidity) of government securities by the central bank.
3. Imposing mandatory reserves on credit institutions based in Member States to create mandatory reserves in the ECB and national central banks. The reserve requirement is a monetary policy instrument that obliges banks to keep a portion of the funds attracted to the correspondent account at the central bank.

The ECB employs open market operations as its primary means of conducting activities, which come in various types, durations, and application conditions. These operations include the refinancing rate, open market operations, and mandatory reserves on credit institutions. Open market operations are the ECB's primary tool and include Main Refinancing Operations (MROs), Longer-term Refinancing Operations (LTROs), Fine-tuning operations, and Structural operations. The ECB's Standing Facilities also indirectly influence the economy through refinancing operations, such as the Marginal Lending Facility, Main Refinancing Operations Rate, and Deposit Facility Rate ([Fact Sheets on the European Union, 2022](#)):

Refinancing rates in Europe are trending upwards, as they have been in most parts of the world, which indicates a tight monetary policy (table 2.)

Table 2. Refinancing rates in Europe.

Country	Last	Previous	Reference	Unit
Switzerland	1	1	Feb/23	%
Bulgaria	1.42	1.3	Jan/23	%
Denmark	2.1	1.75	Feb/23	%
Albania	2.75	2.75	Feb/23	%
Norway	2.75	2.75	Feb/23	%
Euro Area	3	2.5	Feb/23	%
Sweden	3.25	3.25	Feb/23	%
Bosnia and Herzegovina	3.91	3.66	Dec/22	%
United Kingdom	4	3.5	Feb/23	%
Macedonia	5.25	4.75	Feb/23	%
Serbia	5.5	5.25	Feb/23	%
Iceland	6.5	6	Feb/23	%
Poland	6.75	6.75	Mar/23	%
Czech Republic	7	7	Feb/23	%
Romania	7	7	Feb/23	%
Russia	7.5	7.5	Feb/23	%
Turkey	8.5	9	Feb/23	%
Belarus	11	11.5	Mar/23	%
Hungary	13	13	Feb/23	%
Moldova	17	20	Feb/23	%
Ukraine	25	25	Feb/23	%

Source: Trading economics. Statistic information. <https://tradingeconomics.com/country-list/interest-rate?continent=europe>

The ECB employs such non-standard monetary policy measures and crisis response to overcome any difficulties that it may face during the period of recession:

1. Outright monetary transactions (OMT). OMT were used in the secondary markets for sovereign bonds in August 2012 in response to the eurozone debt crisis, and was designed to support countries facing severe financial difficulties and to maintain the stability of the euro area. As a result of the OMT, the fear of catastrophes was eliminated and the risk of denomination was removed from the market. The effectiveness of the instrument can be described by three characteristics (Altavilla, C., 2016):

- distortions in sovereign debt markets have decreased;
- lending conditions for banks and companies have softened;
- banks have been able to regain access to both funding and capital markets.

OMT allows the ECB to purchase sovereign bonds of EU member states in the secondary market, that are subject to certain conditions, in unlimited amounts. The aim of these purchases is to reduce market volatility and to provide a backstop for member states' financing needs. OMT is seen as a way to reduce borrowing costs for struggling countries by signalling the ECB's willingness to act as a lender of last resort.

Let's look at the effectiveness of OMT's (table 3). So, there were three announcements of OMT's

in 2012, with the maturity of two and ten years. In this case such countries as Denmark, France, Italy, and Spain were analysed. The yields of sovereign bonds have decreased more rapidly in Italy in Spain by 83 and 77 basis points and by 24 and 43 in the first announcement rather than in in Denmark and France and Denmark there was almost no difference in government bond yields, and in France there was a decrease in yield by seven and four basis points. We can we can safely say that the instrument of OMT was clearly more effective in the countries with the less economically stable like Italy and Spain, and rather less effective in stable countries such as France and Denmark.

Table 3. The effects of OMT announcements on sovereign bond markets (in basis points).

Country	Maturity	1 st Announcement		2 nd Announcement		3 rd Announcement		Total
		26/07/12	27/07/12	02/08/12	03/08/12	06/09/12	07/09/12	
DE	2 years	0	1	-2	5	4	1	8
FR	2 years	-7	-4	2	1	5	1	-4
IT	2 years	-83	-24	-8	-61	-12	-12	-199
ES	2 years	-77	-43	-17	-70	0	-27	-234
DE	10 years	4	7	-8	10	8	3	23
FR	10 years	-7	0	-3	3	1	-3	-9
IT	10 years	-40	-12	33	-20	-21	-23	-82
ES	10 years	-42	-24	28	0	-40	-37	-115

Source: Altavilla, C., Giannone, D. and Lenza, M. (2016). The financial and macroeconomic effects of the OMT announcements. *International Journal of Central Banking*. 12 (3), 36.

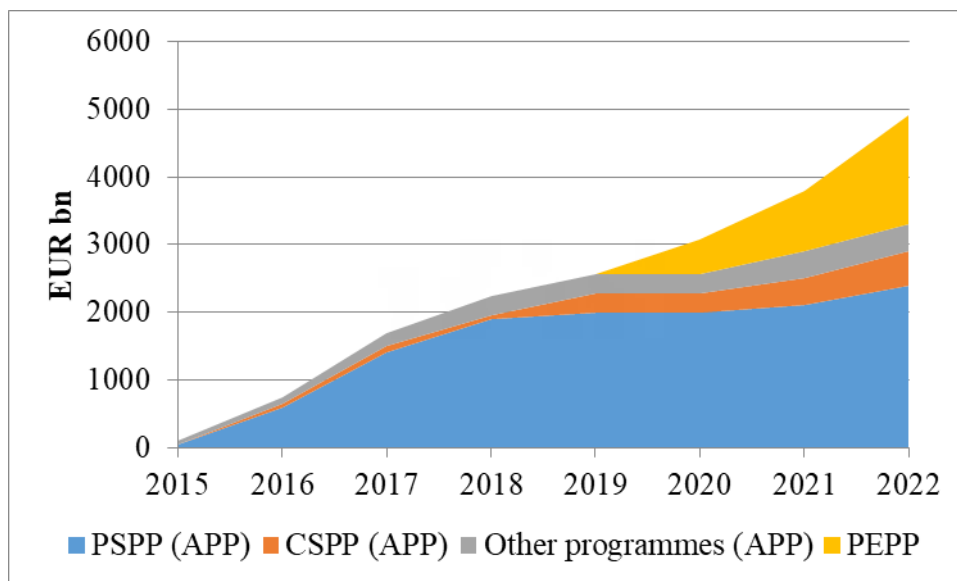
As we can see from Table 3, OMTs were much more effective in lowering government bond yields in Italy and Spain than in Germany and France, where the bond markets did not react significantly to the policy change. In any case, their OMT have proved their effectiveness in stabilizing our euro zone and stabilising yield spread in the markets of government bonds in EU restoring investor confidence during periods of market stress. The mere announcement of OMT was enough to significantly reduce borrowing costs for Spain and Italy, as it signalled a commitment by the ECB to support these countries in times of crisis.

2. The second tool of the ECB in crisis periods is Forward guidance. It is used to influence the expectations of financial markets and the public about the future path of interest rates and other key policy instruments. In our opinion, Forward guidance is an effective tool of monetary policy in calming financial market participants, especially during times of crisis, as they know the future trajectory of changes in the key interest rate in the market and can make appropriate decisions. Since the global financial crisis in 2008-2009 the European central bank used Forward guidance in the number of ways in particular, it was used to indicate that the interest rates will remain low for a certain period of time, so that financial agents could expect the financial market to be stable. Also Forward guidance was used by ECB to link low interest rate with other economic conditions such as to say that interest rates will remain low until the inflation or economic growth reaches certain levels. Forward guidance was also used to indicate the size and duration of asset purchasing programs, such as OMT that helped to shape market expectations and provide financial stability. In 2014 of negative interest rates were introduced to stimulate the economy and increase inflation when traditional tools are no longer effective. As there were no previous experience in establishing negative interest rates, the European central bank proceeded cautiously, gradually reducing deposit facility rate (DFR) until it reached -0.5 in September 2019. The main idea behind the negative interest-rate is to make bank reserves not effective as they have to pay for depositing, so that banks will be stimulated to spend money rather than to leave it in the reserves in the central bank. This

helps to increase the amount of money in circulation, reduce reserves, and increase inflation. But of course, this tool has to be used rather cautiously as it influences banks profitability in the long run.

3. Starting from a June 2014, the European central bank used targeted, long-term refinancing operations (TLTROs) to increase bank lending to credit institutions in European are union for a period of two years initially. With the hit of COVID-19 the terms of refinancing operations were significantly relaxed, the banks were able to loan at a rate at 50 points below the deposit facility rate from June 2020 to June 2022 in the conditions of lending to the real economy sector of European Union ([Fact Sheets on the European Union, 2022](#)).
4. To support the growth in the European Union and inflation at 2% rate a series of asset purchase programs (APP) were introduced in 2009, such as the corporate sector purchase program (CSPP), the asset-backed securities purchase program (ABSPP), public sector purchase program (PSPP), the third covered bond purchase program (CBPP3) (fig.2). The specifics of these programs were that they included the purchase of corporate assets and public sector assets in the securities market, not limiting to only to government bonds like it was in OMT program, that have led to a decrease in the yield spread of government bonds and an increase in the prices of bank stocks that held more sovereign bonds in their portfolios.

Figure 2. ECB cumulative net purchases, by program.



Source: European Central bank. Official website. <https://www.ecb.europa.eu/mopo/html/index.en.html>

With a Covid-19 pandemic the existing APP programs were expanded in the March of 2020 with the pandemic emergency purchase program (PEPP) that increased the available financing to 1.85 trillion till the March of 2022. The horizon of PEPP net purchases was extended to at least the end of March 2022, and it was determined that principal payments under the PEPP would be reinvested until at least the end of 2023 ([Fact Sheets on the European Union, 2022](#)).

Table 4. Net Purchases of Government Sector Securities under PEPP in EU Countries (in millions of euros).

(EUR millions)	Net purchases August 22 - September 22	Cumulative net purchases as at end-September 22
Austria	-304	44,120
Belgium	-185	56,872
Cyprus	19	2,483
Germany	-3,060	395,153
Estonia	0	256
Spain	-200	196,176
Finland	-1,073	26,381
France	1,970	299,737
Greece	-888	38,877
Ireland	324	26,328
Italy	-1,243	287,821
Lithuania	-27	3,208
Luxembourg	14	1,879
Latvia	0	1,890
Malta	2	605
Netherlands	128	82,869
Portugal	177	35,492
Slovenia	25	6,567
Slovakia	0	7,966
Supranationals	2	145,914
Total	-4,320	1,660,594

Source: Fact Sheets on the European Union - 2022. www.europarl.europa.eu/factsheets/en

As can be seen from the table, there has been a sharp turnaround in the ECB's policy from stimulating and consequently buying government bonds (as of the end of September 2022) to a tight monetary policy of selling bonds (for August-September 2022). As low interest rates leave only one tool to influence the economy in monetary policy, which is the purchase of stocks and bonds, such a change indicates a sharp shift from a policy of stimulation to a policy of inflation restraint.

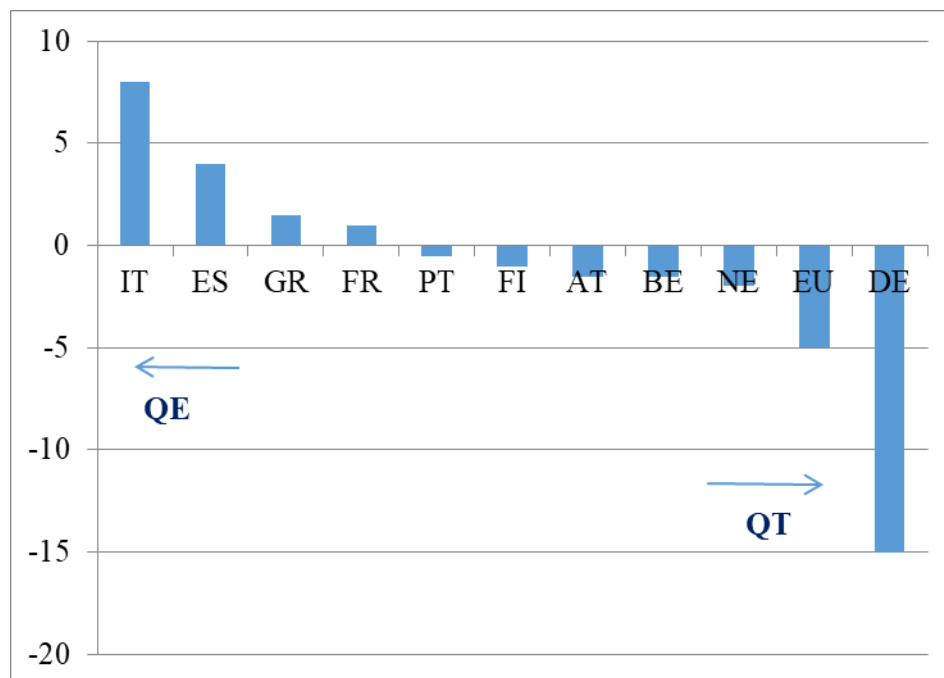
The table provides information on the funding of the provided by PEPP from March 2020 to March 2022 when it was terminated. Over this period, it is evident that the total net purchases at the end of August 2022 (in the second column – cumulative net purchases) indicate a policy of stimulation, while the results for August-September 2022 (first column - net purchases) indicate a contractionary monetary policy. Specifically, looking at the countries, we can see that in Germany, there is a significant proportion of cumulative net purchases at 395.153 million euros, as well as a relatively large net purchase balance of 3.060 million euros, which primarily speaks to Germany's significant importance as the industrial heart of the EU and the need for significant inflows and intervention to control inflation. In Spain, there is also a significant proportion of stimulation of over 196 million euros, but the proportion of sales (contractionary policy) is relatively small at 200

million euros, meaning that inflation risks are controllable.

Interestingly, in Finland, there is a relatively small proportion of cumulative net purchases of 26.381 million euros, while the proportion of net purchases (sales) is quite significant at 1.073 million euros, showing significant intervention of ECB to control inflation. In Italy, there is a significant proportion of cumulative net purchases at 287.821 million euros to stabilise markets after the hit of COVID-19 pandemic consequences and a significant proportion of net purchases (sales) at 1.243 million euros to control inflation, both of these features indicate macroeconomic instability of the country. Looking at the Netherlands and Portugal, inflation restraint policies were not carried out at all, as the cumulative purchase amounts in both columns are positive, indicating that inflation restraint policies were not implemented.

Although the ECB have turned to a policy of monetary tightening (in increasing key interest rates), it is still using individual approach to the EU member states as each of them experienced the COVID-19 and inflation of 2022 disturbances differently. So, as shown in Fig 3. countries as Italy, Spain, Greece and France were subjected to a policy of quantity easing (QE), at the same time countries as Portugal, Finland, Austria, Belgium, Netherlands, Germany experienced the policy of quantity tightening (QT), that proves to be an effective method in dealing with differentiated objects of influence. It also can be noted that at the extreme ends of the table are the government debts of Germany and Italy, meaning that Italy is heavily dependent upon ECB interventions in saving it from default on its government debt due to locomotive of the European Union, namely Germany. This situation is politically risky and can provoke tensions within the European Union.

Figure 3. Net PEPP purchases by ECB of Eurozone government bonds from June to November 2022, in EUR bln.



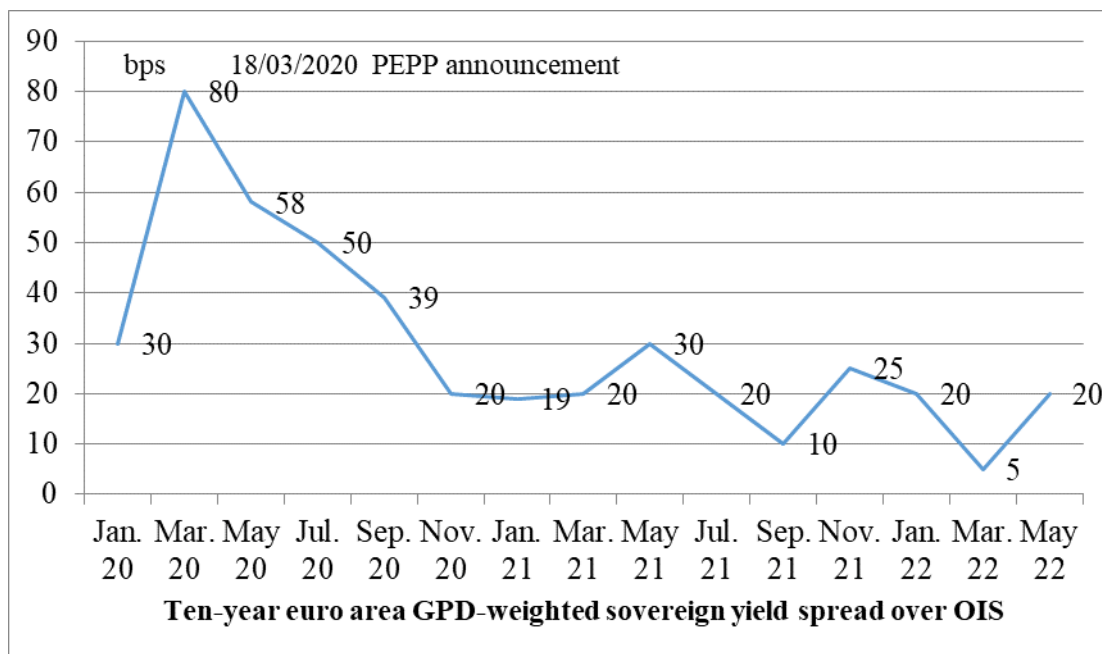
Source: European Central bank. Official website. <https://www.ecb.europa.eu/mopo/html/index.en.html>

In the future, the European Union should consider other ways to address the problem of national debt in order to reduce its dependence upon the European Central Bank interventions. However, this will be a challenging task, as different countries have ranging levels of development and economic stability, so any decision must be made with consideration for the interests of all countries in the European Union. Also, it should be noted that the differentiation in economic development in European countries have always been an issue with the which the monetary policy was dealing. That is why particularly European central bank uses different tools to influence financial conditions

in EU member states.

The combination of various monetary support measures helped stabilize the financial markets in EU through PEPP. In particular, the dispersion of the eurozone GDP-weighted yield sharply declined after the announcement of the launch of PEPP to levels lower than during the pandemic (fig.4). The measures of PEPP were a strong signal to the markets and reduced credit risks after the market stress peak in March 2020 (as shown in the chart).

Figure 4. Reduction of fragmentation risk in the Eurozone.



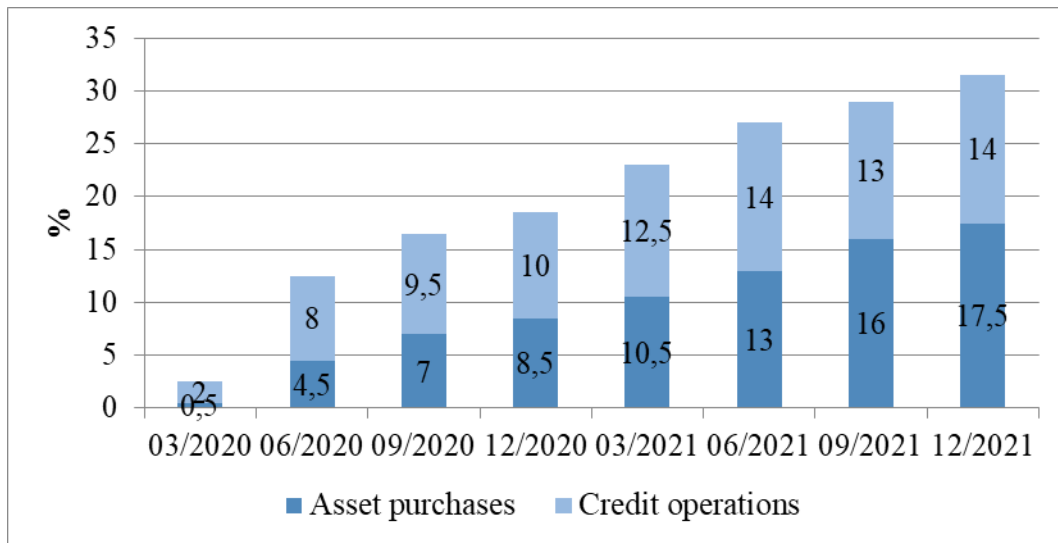
Source: Calmate, H., Legrand, T., Recoules, A. (2022). Taking stock, two years after the launch of the PEPP. Eco Notepad, 276.

The purchase of net assets by the Eurosystem under the Pandemic Emergency Purchase Programme (PEPP) was halted in March 2022, two years after its launch. This program successfully prevented the fragmentation of the euro area government debt market in response to the Covid-19 pandemic and will continue to support the effectiveness of monetary policy through flexible reinvestment (Calmate, H., 2022).

So PEPP have successfully helped to stabilize financial sector of EU, as the Nobel prize winners of 2022 noted that Central banks play a role of financial stabilizer of last resort in a crises period “If a large number of savers simultaneously run to the bank to withdraw their money, the rumour may become a self-fulfilling prophecy – a bank run occurs and the bank collapses. These dangerous dynamics can be prevented through the government providing deposit insurance and acting as a lender of last resort to banks” (The Nobel prize, 2022).

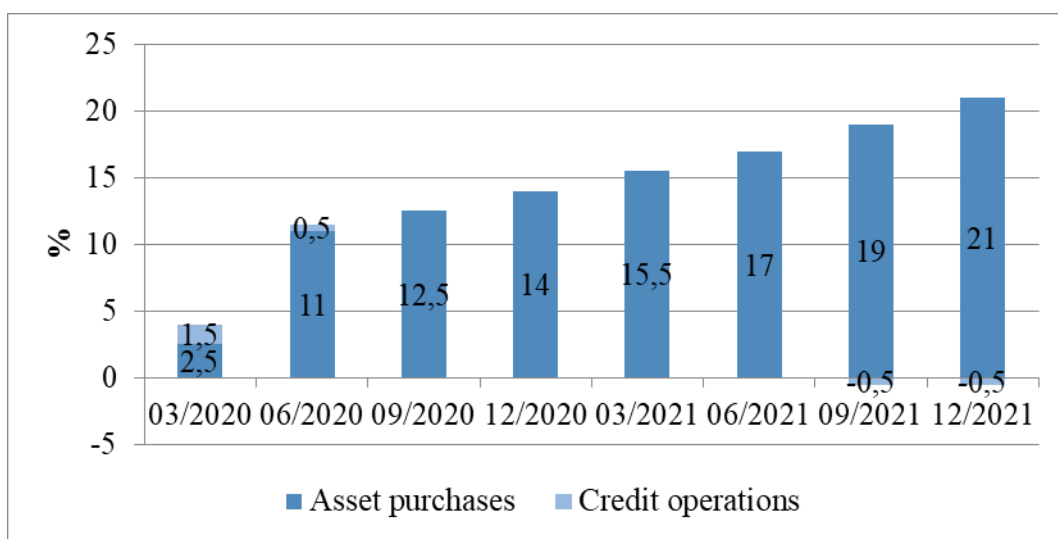
It is interesting to note the change in balances at the European Central Bank, the Federal Reserve, and the Bank of England since 2019 (Fig.5-7). Let's take a look at the balance of the European Central Bank. The share of asset purchases to credit operations gradually increased from 1% out of 3% to 18% out of 30% by December 2021, starting in March 2020. In other words, asset purchases increased from one-third of the portfolio to half of the total portfolio. For the ECB, asset purchases include all purchases of PEPP and APP. Credit operations include all TLTRO, PELTRO, MRO, and LTRO.

Figure 5. Changes in the balances of the Eurosystem.

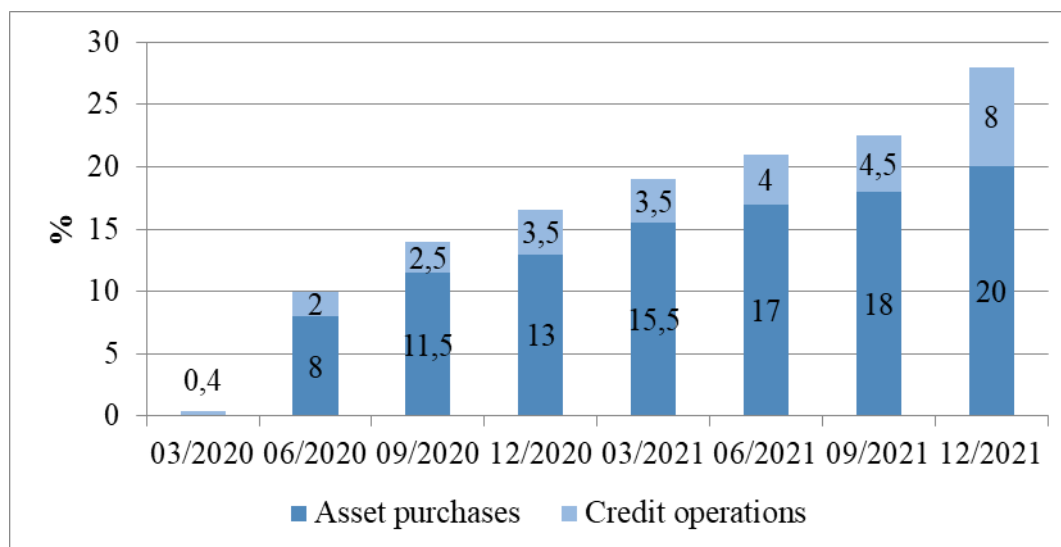


Source: Speech by Philip R. L. (2022). Member of the Executive Board of the ECB, at the International Macroeconomics Chair Banque de France – Paris School of Economics. Paris.

Figure 6. Changes in the balances of the Federal Reserve.

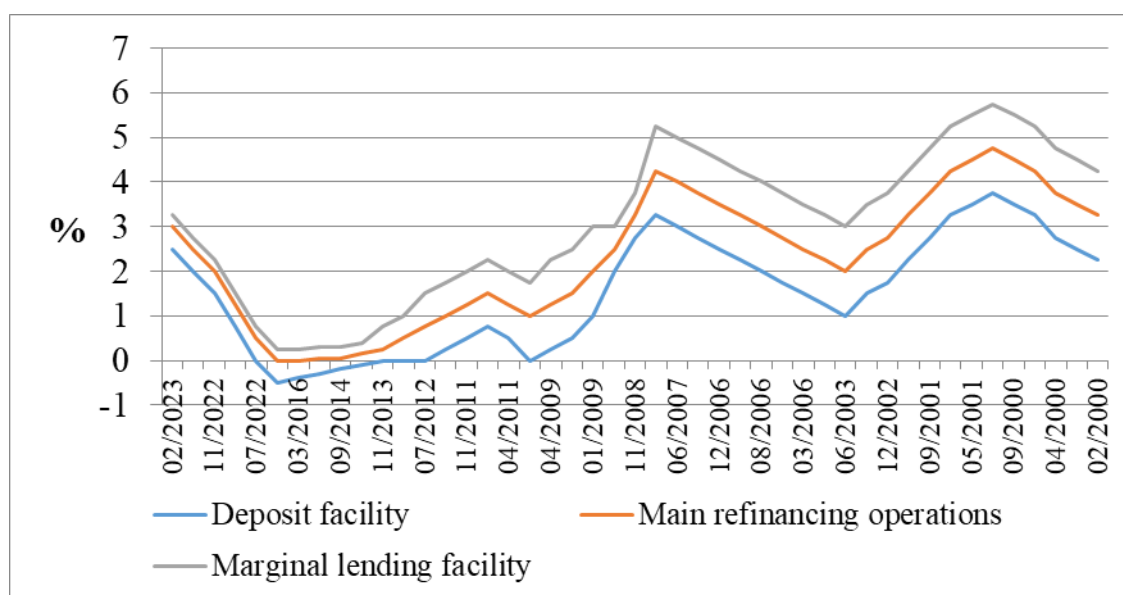


Source: Speech by Philip R. L. (2022). Member of the Executive Board of the ECB, at the International Macroeconomics Chair Banque de France – Paris School of Economics. Paris.

Figure 7. Changes in the balances of the Bank of England.

Source: Speech by Philip R. Lane, (2022). Member of the Executive Board of the ECB, at the International Macroeconomics Chair Banque de France – Paris School of Economics. Paris.

If we compare the balance of the European Central Bank, the Federal Reserve, and the Bank of England, the European Central Bank has the most balanced portfolio of operations, using assets purchases and credit operations in equal measure. This can be explained by the weighted monetary policy of Europeans in balancing financial conditions in EU member countries that unite countries with different economic development and require an individual approach. The United States Federal Reserve relies primarily on asset purchases in its operations, ignoring credit support programs. The Bank of England relies mainly on asset purchases with a small percentage of credit operations in its balance sheet.

Figure 8. ECB interest rates.

Source: The Bank of Slovenia. Official web cite. <https://www.bsi.si/en/statistics/interest-rates/ecb-interest-rates>

Additionally, as part of a shift in monetary policy from stimulus to restraint, the European Central Bank has raised refinancing rate from 0.5% to 2.5% in 2022. This is the highest rate since 2009 (Fig. 8). According to ECB President Lagarde, interest rates will continue to rise, reaching the 2009 level,

which will be the sharpest increase in interest rates for the ECB in recent history.

By increasing interest rates, the ECB is aiming to slow down high inflation. However, such a policy shift will have negative macroeconomic implications in form of slowing down economic growth and increasing the cost of borrowing for households and businesses. By current data of IMF, real GDP per person in EU in 2022 has already decreased to 3,2% from 5,4% in 2021 and expected growth in 2023 is to be lower at only 0,7% ([International Monetary Fund, 2022](#)). It is important for the ECB to carefully monitor the effects of its policy decisions and make adjustments as necessary to ensure that inflation remains under control while assessing the risks of recession.

5. DISCUSSION

Until the 1970s, “inflation” and “unemployment” were perceived by financiers as two interconnected cyclical indicators, the development of which could be controlled by mechanisms of fiscal and monetary policy. Nowadays, the prevailing opinion is that monetary policy should be carried out to achieve the containment of inflationary processes.

It is a question for discussion, that soon there can be a shift from high inflation to low growth as main concerns of monetary policy. Monetary policy is characterized by a lag in its impact, meaning that changes in interest rates typically take several months to affect investment and spending decisions. As a result, even though significant tightening measures have been implemented, their full effects may not be felt in the economy until next year. According to the median expectations of professional forecasters, the United States is likely to go through a recession in the first half of 2023, same recession or slow growth is expected in EU, so this will be the cost paid for decreasing inflation rates. It is almost safe to say that inflation will be taken under control in the USA and EU as well. So, the question remains, to which extend should the Central bank enforce the policy of monetary tightening and when to stop increasing the interest rates in order not to suppress economy more than it is needed.

6. CONCLUSION

Up until the end of 2019, the prevailing view among economists was that low inflation was hindering economic growth in developed countries, as inflation rates below 2% were believed to be holding back aggregate demand. However, the Russo-Ukrainian conflict in 2022 caused the Harmonized Index of Consumer Prices (HICP) in the European Union to soar to 6.2%, prompting EU countries to shift their focus from controlling inflation within a 2% margin to actively fighting against it. Thus, the European Central Bank (ECB) implemented a drastic change in its monetary policy, transitioning from expansionary to contractionary measures. This included raising the refinancing rate from 0.5% to 2.5% in 2022 in order to curb inflation growth. As the study has shown, in analysed period of 2012-2022 the ECB was using a wide range of monetary policy measures to stabilise economies of EU member-states. Among non-standard monetary measures, outright monetary transactions were effective in stabilising sovereign bonds markets in Italy and Spain in 2012, but occurred to be less effective in Germany and France. Another instrument - forward guidance, have proved to be useful in providing clarity and certainty to financial markets and the public about the future path of monetary policy through the period of investigation, as it helped to support economic growth, price stability, and financial stability in the euro area. Starting from 2014 the ECB employed long-term refinancing operations (TLTROs) to increase bank lending to credit institutions and different asset purchasing programs to stabilise financial markets (APP, CSPP, ABSPP, PSPP, CBPP3) that have led to a decrease in the yield spread of government bonds and an increase in the prices of bank stocks that held more sovereign bonds in their portfolios. Lastly in 2020 the pandemic emergency purchase program (PEPP) was introduced to stabilise economy after COVID-19 shocks. As an analysis have shown, there has been a sharp turnaround in the ECB's policy from stimulating and consequently buying government bonds through PEPP in the launch of the program in 2020 to a tight monetary policy of selling bonds in 2022 with the ending of the program. PEPP proved to be effective monetary policy instrument in crisis as the dispersion of the eurozone GDP-weighted yield sharply declined after the announcement of the launch of PEPP to levels lower than during the pandemic.

The findings have shown that although the ECB have turned to a policy of monetary tightening (in increasing key interest rates), it was still using individual approach to the EU member states as each of them experienced the COVID-19 and inflation of 2022 disturbances differently. So, as presented in Fig.3 countries as Italy, Spain, Greece and France were subjected to a policy of quantity easing, at the same time countries as Portugal, Finland, Austria, Belgium, Netherlands, Germany experienced the policy of quantity tightening, that proves to be an effective method in the monetary policy of ECB in dealing with differentiated objects of influence. Also, as shown in Fig.5 the results of analysis allow to conclude that the European Central Bank has the most balanced portfolio of operations, using assets purchases and credit operations as monetary policy instruments in equal measure if to compare it to the Federal Reserve and the Bank of England. This proved the policy of ECB to be effective weighted monetary policy in balancing financial conditions in EU member countries that unite countries with different economic development and require an individual approach.

The ECB remains true to the policy of monetary tightening in 2023 despite the risk of economic recession. The aim of the ECB's interest rate increases is to slow down high core inflation, but this shift in policy will have negative macroeconomic implications such as slower economic growth and increased borrowing costs for households and businesses. It is crucial for the ECB to carefully monitor the effects of its policy decisions and make adjustments as necessary to ensure that inflation remains under control while assessing the risks of a potential recession.

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