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Mandate vs Necessity: the ECB's Actions During Financial and Economic Crises

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Introduction

"Within our mandate, the ECB is ready to do whatever it takes to preserve the euro. And believe me, it will be enough." Mario Draghi, President of the European Central Bank (ECB) pronounced these words on July 26, 2012, during one of the most intense moments of the Eurozone crisis, setting the stage for a remarkable turnaround in the ECB's response. Known as the "whatever it takes" speech, this statement demonstrated the ECB's unwavering dedication to safeguarding the single European currency, even if it required stretching the traditional boundaries of its mandate.
Using this crucial moment as a starting point, this thesis aims to examine the contrast between the ECB's official duties and the actions taken during various economic crises from 2000 to the post-COVID-19 era to answer the research question: "What prompted the ECB to exceed its mandate in times of crisis?"

This dissertation is divided into two main sections. The initial section will provide a technical foundation for understanding the institutional and regulatory framework of the ECB. It will detail the basics of the ECB, its organizational structure, the monetary policies prescribed by its mandate as well as the main elements of the Maastricht Treaty and the articles that define the ECB's primary mission: understanding this technical part is essential for grasping the framework within which the ECB operates, and the constraints imposed by European regulations.
The latter part of the thesis delves into real events and decisions made by the ECB in response to the economic and financial crises that have affected the Eurozone in the past two decades. It will analyze the unconventional policies adopted by the ECB and the reasons behind the ECB's implementation of these measures. Following will be a concise table of the main policies implemented, aiding in categorizing them and exploring the reasons why, on certain critical occasions, it was necessary to employ unorthodox instruments.
This thesis has two goals. Firstly, it seeks to provide a thorough understanding of the mechanisms, decisions, and challenges that have characterized the ECB's responses to the euro area crisis over the past twenty years. Secondly, it aims to address the research question by examining the motivations that led the ECB to take extraordinary measures,

adding to the ongoing debate about the role of central banks in a continually evolving global economic context.

Through a detailed analysis of economic crises and the ECB's reactions, this research aims to offer a critical and informed perspective on the ECB's policies and their evolution, providing significant insights for future research and policymaking. This approach not only examines past events but also contributes to the contemporary debate on what the role of central banks should be in addressing future economic challenges.

Chapter 1

The ECB: Structure and Mandate

Before diving into the core of the discussion, it's worth taking a moment to step back and acquaint ourselves with the main protagonist of this story: the European Central Bank (ECB). In this introductory chapter, we will explore its origins, beginning with the treaty that established it—the well-known Maastricht Treaty. From there, we will gradually delve deeper into the essence of this institution, examining the nature of its mandate, the responsibilities it shoulders, and the parameters it is bound to respect.
Through this, we aim to uncover the fundamental principles that guide its actions.

1.1 Origins of the ECB

To truly grasp the significance of the European Central Bank, we must trace its roots to the Maastricht Treaty. This pivotal agreement not only marked a significant milestone in European integration but also laid the foundations for the institution that would later become the guardian of the euro.
In this section, we will explore the historical context, the motivations behind its creation, and the primary objectives that guided its inception.

1.1.1 Maastricht Treaty

The Treaty of Maastricht was signed on 7 February 1992, in the homonymous Dutch city, by the representatives of the governments of the twelve member states of the European Economic Community (EEC)[1].

Entered into force on November 1, 1993, this treaty outlines the procedures for creating the European Union (EU) and the criteria for joining it.

[1] The European Economic Community (EEC) was established by the Treaty of Rome in 1957 to promote economic integration among member states, setting the foundations for the creation of the EU.

It envisaged creating a central banking system and a shared currency (the euro), obligated countries to adopt unified foreign and security policies, and urged increased collaboration on different matters such as environmental concerns, law enforcement, and social policies.

The Maastricht Treaty has its foundation on three key pillars:

- The European Community (EC): includes the former European Economic Community (EEC)[2], European Coal and Steel Community (ECSC)[3], and European Atomic Energy Community (EAEC)[4], making changes to their original treaties.
- The Common Foreign and Security Policy (CFSP): focuses on the EU's external relations and security matters.
- The Police and Criminal Justice Cooperation Policy (JAI): concerns cooperation among member states in justice and home affairs.

The treaty introduces the concept of European citizenship and boosts the authority of the European Parliament. Nevertheless, the most important aspect of the agreement is the implementation of the Economic and Monetary Union (EMU) by 1999, which involves the launch of a single currency, the euro, and the formation of a European Central Bank (ECB). The treaty also outlines the economic requirements that each member state must fulfill to adopt the single currency.

The principle of subsidiarity is adopted as a general rule of the treaty, stating that the Union only steps in areas that do not fall within its exclusive competence when individual member states cannot reach the set objectives on their own.

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[2] It was established with the Treaty of Rome in 1957 with the goal of forming a unified market by removing trade barriers and implementing a shared trade policy.

[3] Established in 1952 by the Treaty of Paris, it was created to unify the coal and steel sectors in western Europe.

[4] It was established in 1958 as one of the Treaties of Rome, is an international organization created to establish a common market for the peaceful development of atomic energy.

Ratification requires the approval of each state that has signed the treaty. Although it was initially rejected in a referendum in Denmark, the treaty was later accepted in the other nations, despite much conflict, particularly in France and Ireland, and finally approved by Denmark.

The Treaty of Amsterdam amended the Maastricht Treaty in June 1997 and introduced the "Stability Pact" to guarantee the attainment of the required goals for monetary integration, also referred to as the Maastricht parameters. Additional changes were also implemented in February 2001 through the Treaty of Nice, which emphasizes the institutional changes needed for new member states to join, and in December 2007 through the Treaty of Lisbon.
The treaty set up the legal structure for the creation of the European Central Bank (ECB) and the European System of Central Banks (ESCB), with the responsibility of ensuring price stability.

The main clauses of the Treaty relating to the European Central Bank consisted of:

- The ECB's independence: ensured by the treaty, it is crucial for the credibility of monetary policy.
- Price Stability: defined as inflation close to but below 2% over the medium term.
- Organizational Structure: how the ECB and the ESCB are structured, detailing the roles of the Governing Council and the Executive Board.

1.1.2 Institution and Initial Objectives

The European Central Bank (ECB) is headquartered in Frankfurt and is one of the seven official institutions of the European Union. It serves as the center of the European System of Central Banks (ESCB) and the Eurosystem.
The key goals and tasks of the ECB are primarily specified in Article 105 of the Treaty on the Functioning of the European Union (TFEU).

The primary objective of the European System of Central Banks (ESCB) is to maintain price stability[5], which contributes to creating a steady economic environment, decreasing uncertainty, and fostering long-lasting economic development. The main goal of the ESCB is to promote the efficient allocation of resources, based on the principle of an open market economy with free competition.

In detail, the main responsibilities of the ESCB, and therefore of the ECB, are:

- To outline and implement the monetary policy of the Community.
- To carry out foreign exchange operations in line with Article 109 TFEU.
- To maintain and manage the official foreign reserves of the Member States.
- To promote the smooth functioning of payment systems.[6]

These duties are crucial for the operation of the Economic and Monetary Union and the security of the euro.
Furthermore, the ECB is the only entity that can approve the printing of currency within the Community, as laid down in Article 106 of the TFEU. Banknotes issued by the ECB and the national central banks are the only legal tender in the euro area.
Member States can create coins, but they need approval from the ECB regarding the amount they produce.

The independence of the ECB is another fundamental principle enshrined in the Treaty. According to Article 107 of the TFEU, the ECB, national central banks, and their decision-making bodies are prohibited from seeking or accepting instructions from EU institutions, Member State governments, or any other body. This principle guarantees that the ECB makes decisions based on economic factors and not political influence.
The ECB is consulted on any proposed actions at the EU level and by national authorities on draft legislative provisions that fall within its field of competence. The ECB has the

[5] European Central Bank. (n.d.). *The tasks and limitations of monetary policy*. Retrieved [16 August 2024], from https://www.ecb.europa.eu/press/key/date/1999/html/sp990610.en.html

[6] (Article 127, Consolidated version of the Treaty on the Functioning of the European Union, 2012).

authority to provide its views on topics it is knowledgeable about, helping to ensure that economic and monetary policies in the EU are coherent.

1.2 Principal Mandate and its Functions

At the core of the ECB's role lies a clear and unwavering mission: to maintain price stability within the Eurozone. This section will delve into the central elements of its mandate, focusing on how it steers monetary policy to safeguard economic stability, and its evolving role in banking supervision. These three guiding principles—price stability, monetary policy, and banking oversight— will be recurring themes throughout this thesis as the actions and challenges of the ECB are analyzed.

1.2.1 Price Stability

Price stability means keeping inflation low, stable, and predictable. The main goal of the Eurosystem and numerous other central banks is to achieve this.
Various institutions have different definitions of price stability, according to the ECB's Governing Council's one of December 1998, is a "year-on-year increase in the Harmonized Index of Consumer Prices (HICP) for the euro area of below 2%. Price stability is to be maintained over the medium term [7].".

"The HICP for the euro area" shows that the ECB's monetary policy targets price stability throughout the entire euro area, safeguarding against decreases in the purchasing power of money. The HICP is the index that best reflects the fluctuations over time in the cost of a representative basket of consumer goods and services bought by households in the Eurozone[8].

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[7] European Central Bank, *"The transmission mechanism of monetary policy"* https://www.ecb.europa.eu/ecb-and-you/educational/shared/img/MP_0806_300dpi-textsheet.en.pdf.

[8] Eurostat. (n.d.). *HICP: Harmonized Index of Consumer Prices*. https://ec.europa.eu/eurostat

The phrase “below 2%” establishes a clear upper boundary for HICP inflation consistent with medium-term price stability. Simultaneously, aiming for low positive inflation rates “close to 2%” offers “an adequate margin to avoid the risks of deflation”. Moreover, the ECB takes into consideration potential biases in the measurement of inflation and the impact of structural inflation differences within the euro area when defining price stability.

The term “over the medium term” allows economic agents and observers to assess the ECB's performance over a longer horizon, acknowledging that monetary policy does not have exact control over price or inflation changes in the short run. The impact of policy changes on prices is uncertain and subject to significant delays. This implies that in the short term, monetary policy cannot fully offset unforeseen price level shocks, leading to some unavoidable inflation fluctuations. Furthermore, the medium-term orientation extends the monetary policy horizon beyond the typical two years associated with inflation forecasts and transmission lags.
As stated by Trichet (2003), “Monetary policy needs to focus on the period covering the entire transmission process, bearing in mind that this can sometimes take an extended period of time”.
As a result, the timeframe for evaluating the central bank's credibility should also extend beyond two years.

Studies indicate that economies with lower inflation rates generally experience higher output and income growth over time.[9] By maintaining stable prices, a central bank plays a crucial role in boosting a country's ability to produce goods and services and improving job opportunities.
Minimizing fluctuations in the overall price level allows individuals to better recognize changes in relative prices, leading to more informed consumption and investment decisions.

[9] López-Villavicencio, A., & Mignon, V. (2011). On the impact of inflation on output growth: Does the level of inflation matter? *Journal of macroeconomics*, *33*(3), 455-464.

When investors trust that future prices will remain stable, they do not demand an "inflation risk premium" which lowers real interest rates and increases investment incentives thereby improving capital market efficiency and fostering economic welfare. Furthermore, a credible commitment to price stability reduces the need for individuals and firms to divert resources to hedge against inflation, which can otherwise lead to inefficient investments like stockpiling goods.

Additionally, price stability mitigates distortions in tax and welfare systems, which are often exacerbated by inflation or deflation. It also supports social cohesion and stability by preventing arbitrary redistribution of wealth and income, which historical examples have shown can lead to social and political instability during periods of high inflation or deflation.[10]

1.2.2 Monetary Policy

Monetary policy, which is conducted by a country's central bank, influences the cost and availability of money in circulation with the aim of achieving price stability, promoting economic growth and ensuring a sufficient level of employment.

There are two vital functions of monetary policy. First, through organizing the development of the policymaking process, the strategy guarantees that the ECB's Governing Council is provided with the essential information and examinations for making knowledgeable choices (internal dimension). Additionally, it acts as a way to convey monetary policy decisions to the public (external dimension). This form of communication contributes to improving the effectiveness of monetary policy by indicating the central bank's dedication to maintaining price stability, thereby strengthening the ECB's reputation in the financial markets.

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[10] European Central Bank, "*Price stability: why is it important for you?*"
https://www.ecb.europa.eu/pub/pdf/other/whypricestability_en.pdf

In order to carry out monetary policy effectively, the ECB utilizes a "two pillars approach[11]", to assess the nature and the degree of risks to price stability in the euro area. By arranging, assessing, and verifying data related to evaluating risks to price stability, this method guarantees that important information is not missed.

The two pillars consist of:

- Economic analysis: it evaluates the factors influencing price changes in the short to medium term, with a focus on actual economic activity and financial conditions in the economy. It examines how price fluctuations over these time horizons are mainly shaped by the interplay of supply and demand in the markets for goods, services, and factors of production.
- Monetary analysis: looks at the connection over a longer-term perspective between money supply and price levels. It serves primarily as a way to verify the short to medium term indications for monetary policy obtain from economic analysis.

The two-pillar approach is designed to ensure a comprehensive assessment of risks to price stability.[12] It integrates diverse analytical perspectives, allowing for robust decision-making based on a holistic evaluation of economic conditions. This approach not only facilitates thorough internal analysis but also communicates to the public the depth and breadth of the ECB's analytical processes, thereby enhancing transparency and credibility.

[11] European Central Bank. (n.d.). *Monetary policy*. https://www.ecb.europa.eu/ecb/orga/tasks/monpol/html/index.en.html

[12] European Central Bank. (n.d.). *Price stability – objective of the Eurosystem*. https://www.ecb.europa.eu/ecb-and-you/educational/shared/img/MP_0806_300dpi-textsheet.en.pdf

1.2.3 Banking Supervision

The Single Supervisory Mechanism (SSM) represents a cornerstone of the EU's banking union, serving as a thorough system for overseeing institutions within the euro area and certain EU member states outside the Eurozone.[13]

The purpose of the SSM is to reduce the increased risk of cross-border spillovers and contagion during bank crises, which is worsened by the growing interconnectedness and cross-border activities in the European banking sector.

The recent financial crisis exposed the inadequacies of merely coordinating national banking supervision, revealing the need for integrated supervision at the EU level to manage crises and ensure economic stability. As a result, member states acknowledged the need for a consolidated supervisory system.

The supervisory responsibilities of the SSM are carried out using a combined structure of the ECB and national supervisory authorities, all operating under a common set of top-level standards and criteria. This cooperation is also backed by the Single Resolution Mechanism (SRM)[14], which consists of a single resolution authority (the Board), and a Single Resolution Fund designed to handle failing banks.

The primary tasks of the SSM are:

- Making sure that credit institutions adhere to prudential regulations.
- Identifying vulnerabilities at early stages.
- Implementing measures to avert possible risks to the general financial health.

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[13] European Central Bank. (n.d.). *Banking supervision*. https://www.bankingsupervision.europa.eu/home/html/index.en.html

[14] The Single Resolution Mechanism (SRM) goal is to deal with struggling banks in the Eurozone and select EU countries outside the Eurozone, with a focus on reducing the effects on the economy and taxpayers.

As the central entity of the SSM, the ECB coordinates daily supervisory activities, ensuring consistent enforcement of rules in collaboration with national authorities.
The ECB works with national supervisory authorities to ensure the efficient and uniform operation of European banking supervision.

The European Central Bank supervises all major banks in the Eurozone, with a specific focus on large, systemic banks. Banks under direct supervision usually have over €30 billion in assets or makeup at least 20% of their home country's GDP. At present, around 120 banks belong to this group, representing almost 85% of the euro area's total banking assets.[15]
Supervision involves periodic evaluations to confirm that banks are functioning securely, which includes reviewing their lending, borrowing, and investment practices, as well as adherence to the single rulebook.

The ECB, together with the European Banking Authority, if necessary, carries out these assessments and can grant or withdraw banking licenses, impose sanctions for breaches and monitor the supervision of smaller banks by local authorities. The ECB may directly supervise any bank within the participating SSM Member States to ensure uniform compliance with prudential standards.
The ECB is accountable to the EU Council and the European Parliament. It has established transparency and accountability measures with both bodies to ensure proper enforcement of supervisory rules.

Ever since its establishment through the Maastricht Treaty, the European Central Bank has evolved into a key element of the economic structure of the European Union.

Responsible for ensuring stable prices, implementing monetary policy, and supervising banks, the ECB is essential for protecting the financial health of the Eurozone. Its

[15] CMS Law-Now. (2015, July). The supervision of banks within the Eurozone: The Single Supervisory Mechanism. CMS Law-Now. https://cms-lawnow.com/en/regzone/articles/2015/07/the-supervision-of-banks-within-the-eurozone-the-single-supervisory-mechanism

freedom, commitment to a medium-term inflation goal, and strong oversight systems have positioned it as a vital entity in addressing economic difficulties and emergencies. Going forward, the ECB's ability to adapt and respond to new global financial dynamics will continue to be crucial for the stability and resilience of the European economy.

In the upcoming sections, we will delve deeper into these components and their impact on the ECB's responses to economic crises and its increasing significance in the European financial environment will be analyzed.

Chapter 2

Monetary Policy Tools

In order to gain further insight into the institution and the central question of this thesis, it is essential to analyze the instruments that the European Central Bank has had at its disposal and used over the years.

This chapter will concentrate on conventional measures, including interest rate operations and reserve requirements, before examining the more recent and innovative unconventional policies.

By analyzing these, we will be able to understand how the ECB has adapted to various economic contexts, responding to increasingly complex challenges and acting well beyond its conventional instruments.

2.1 Conventional Measures

2.1.1 Interest Rates

Interest rates are the primary instrument used by the ECB's monetary policy, specifically:

- The interest rate on the main refinancing operations, or the rate banks borrow money from the ECB for one week,
- The rate on the marginal lending facility, allows banks to make overnight deposits with the Eurosystem.
- The rate on the deposit facility, providing overnight credit to banks from the Eurosystem.[16]

2.1.2 Open Market Operations

Open Market Operations play a critical role in influencing interest rates, controlling market liquidity, and indicating the direction of monetary policy.

[16] European Central Bank. (n.d.). *Key ECB interest rates*. https://www.ecb.europa.eu/stats/policy_and_exchange_rates/key_ecb_interest_rates/html/index.en.html

These operations include:

- Main refinancing operations (MROs): offer weekly liquidity and have a maturity period of one week,
- Fine-tuning operations: conducted on an ad hoc basis to handle liquidity and stabilize interest rate variations,
- Structural operations: conducted to align the Eurosystem's long-term liquidity standing.

Open Market operations are conducted using various instruments, such as standard tenders, bilateral procedures, issuing debt certificates, and foreign exchange swaps.

2.1.3 Standing Facilities

The Eurosystem also provides standing facilities to offer and take in overnight funds, establishing the limits for overnight market interest rates.

Included in this list are:

- The marginal lending facility: enabling counterparties to overnight liquidity from national central banks against eligible assets,
- The deposit facility: enabling counterparties to make overnight deposits with the national central banks.[17]

Usually, the interest rate for marginal lending operations is higher (and the rate for deposits with the ECB is lower) than the market interest rates for the same period. Therefore, banks typically turn to these ECB resources as a last resort when other alternatives are not accessible.[18]

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[17] European Central Bank. (n.d.). *Standard and non-standard monetary policy measures*. https://www.ecb.europa.eu/mopo/implement/sf/html/index.en.html

[18] Delivorias, A. (2015). *The role of the European Central Bank: Functions and challenges*. European Parliamentary Research Service.

2.1.4 Minimum Reserve Requirements

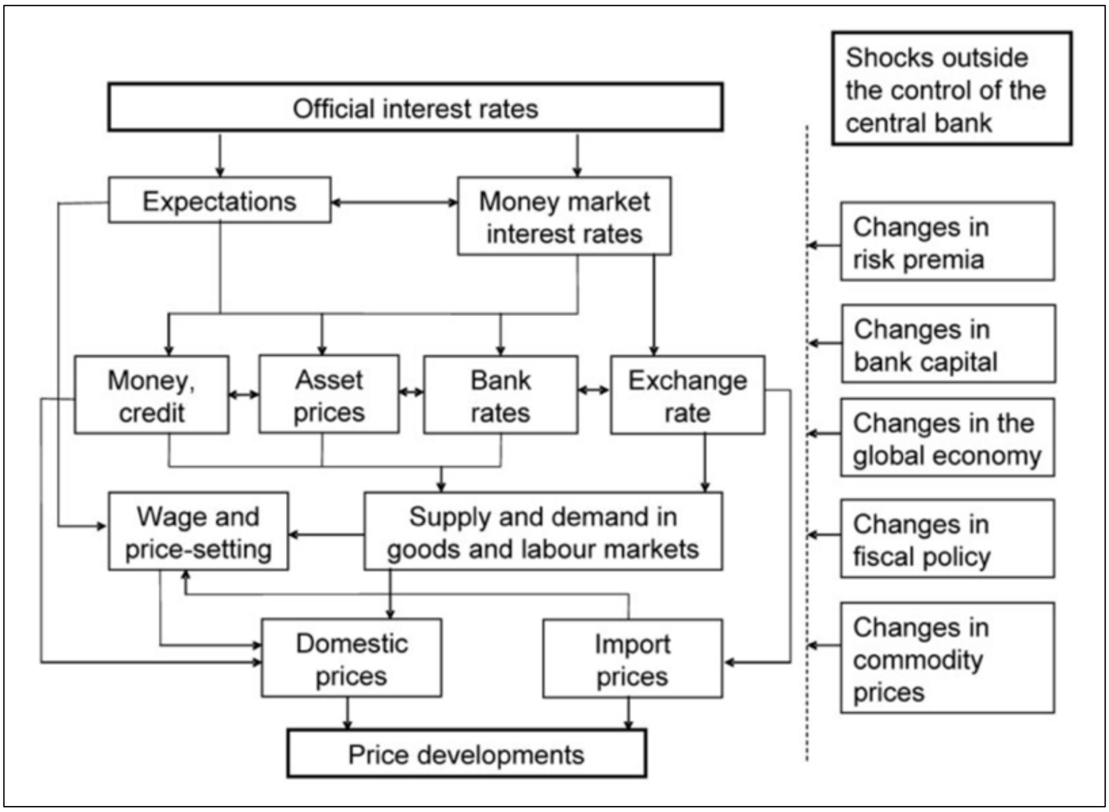
Article 19.1 of the ECB's Statute requires credit institutions in Member States to hold minimum reserves both with the ECB and with national central banks. The purpose of this requirement is to stabilize short term interest rates and to create a structural liquidity shortage in the banking system, thereby enabling money market interest rates to be controlled through regular liquidity operations.

2.2 Channels and transmission mechanisms of monetary policies

The European Central Bank communicates its monetary policy signals through various means. The overall process by which the monetary authorities' decisions influence the economy and determine the price level is known as the transmission mechanism. The transmission channels, on the other hand, are the specific ways through which these signals are communicated.

Economic literature identifies four primary mechanisms through which monetary policy impacts price levels and national income: interest rates, financial asset prices, domestic credit, and exchange rates.

Figure 1 Schematic representation of the monetary policy transmission mechanism



From European Central Bank. (n.d.).

2.2.1 Interest Rate Channel

The interest rate transmission mechanism illustrates the manner in which alterations in the money supply impact the level and structure of interest rates. To illustrate, the implementation of an expansionary monetary policy results in a reduction of official rates, which in turn leads to a decrease in the interest rates commercial banks are required to pay to the central bank in order to refinance themselves. In typical circumstances, this results in reduced interbank rates, which in turn encourages greater credit between banks. This augmented liquidity enables banking institutions to purchase financial assets and extend more loans to individuals and businesses. In financial markets, an increase in demand for assets results in a rise in prices, which in turn leads to a reduction in nominal rates and subsequently in real rates, provided that inflation expectations remain constant.

This process, which is referred to in the literature as the "money view", is effective due to the presence of price rigidities. The official rates have a direct impact on the money market rates and the bank rates, which in turn influence the cost of funding for lending institutions. Such costs are subsequently reflected in alterations to lending and deposit rates. Modifications to money market rates result in disparities for banking institutions, prompting adjustments to the rates they offer in order to maintain a favorable margin.

Fluctuations in the official rates set by the ECB directly influence money market rates and, indirectly, bank rates. Furthermore, expectations regarding future rate movements influence medium- and long-term rates, reflecting market expectations regarding short-term rates.

In consequence, the policy of the central bank exerts an influence upon inflation expectations, thereby maintaining price stability and reducing the necessity for businesses and consumers to adjust prices in response to inflationary or deflationary pressures.

2.2.2 The Financial Asset Price Channel

Expectations have a significant impact also on the movement of financial asset prices. When economic agents anticipate improvements in the economy or expect an expansionary monetary policy, asset prices typically rise, thereby generating the so-called "wealth effect". An increase in asset prices, such as those of stocks or real estate, leads to a perception of greater wealth among households, which in turn results in an increase in consumption. Conversely, a decline in asset prices reduces the perceived wealth of individuals, thereby reducing their propensity to spend.

In addition to the wealth effect, asset prices also exert an influence on the value of collateral available for borrowing. An increase in the value of stocks or property allows individuals and businesses to access greater credit by using these assets as collateral. This, in turn, stimulates further borrowing, investment and spending.

2.2.3 The Domestic Credit Channel

This transmission channel is linked to the balance sheets of commercial banks, particularly their loans to companies and their portfolio of financial assets. When monetary policies lower interest rates, commercial banks gain higher liquidity, which they can use to extend more credit to the private sector. This additional liquidity stimulates both business investment and household consumption. The credit view in economic literature examines how capital market inefficiencies affect how much credit banks decide to lend as bank loans are not seen as perfect substitutes for direct financing available to firms.

2.2.4 The Exchange Rate Channel

Monetary policy has an impact on exchange rates as well. An increase in the money supply usually results in a drop in domestic nominal interest rates, creating a negative interest rate gap between domestic and foreign rates. With perfect capital mobility, this leads to the depreciation of the domestic currency as demand for foreign currency rises. If domestic and foreign prices remain steady in the short term, this nominal depreciation translates into a real depreciation, which can positively impact both the current account balance and aggregate income.

2.3 Unconventional Instruments

In recent years, the importance of unconventional monetary policy instruments has grown considerably. Until the late 1990s, monetary and fiscal policy authorities mainly used traditional instruments that economic theory had designed, such as fixing the reference discount rate and open market operations. These instruments were sufficient to regulate the money supply, ensuring that financial intermediaries had adequate liquid reserves and thus helping to achieve the objective of medium-term price stability. The interbank market, where banks lend liquidity to each other, played an essential role in this process, operating endogenously to maintain financial equilibrium.

However, particularly severe and prolonged economic crises have shown that these conventional instruments may not be sufficient to achieve monetary policy objectives.

Two main factors explain this insufficiency:

- Zero Lower Bound (ZLB): During deep crises, the nominal interest rate can be pushed to zero, limiting further reduction possibilities and rendering conventional expansionary monetary policy ineffective.
- Malfunctioning of the interbank market: When crises hit the financial sector, institutions may choose to hoard liquidity on accounts with the central bank rather than lend it on the interbank market, thus blocking one of the main transmission channels for monetary policy.

Although there is no universally accepted definition of an "unconventional instrument", we can understand it as an extraordinary monetary policy intervention implemented during deep financial crises, with the aim of restoring the normal functioning of financial and credit markets. The application of these measures varies widely from country to country.[19]

In 2008, the ECB initiated a series of indirect quantitative and credit easing measures, as illustrated in Figure 2.
These included the introduction of new fixed-rate full allotment refinancing operations (FRFAs), followed by the implementation of longer-term refinancing operations (LTROs), the pursuit of expanded bank credit through longer-term refinancing operations (TLTROs) alongside a relaxation of collateral requirements for certain securities to reduce the associated risk premiums.

[19] Cecioni, M., Ferrero, G., & Secchi, A. (2019). Unconventional monetary policy in theory and in practice. In *Innovative Federal Reserve policies during the great financial crisis* (p.3).

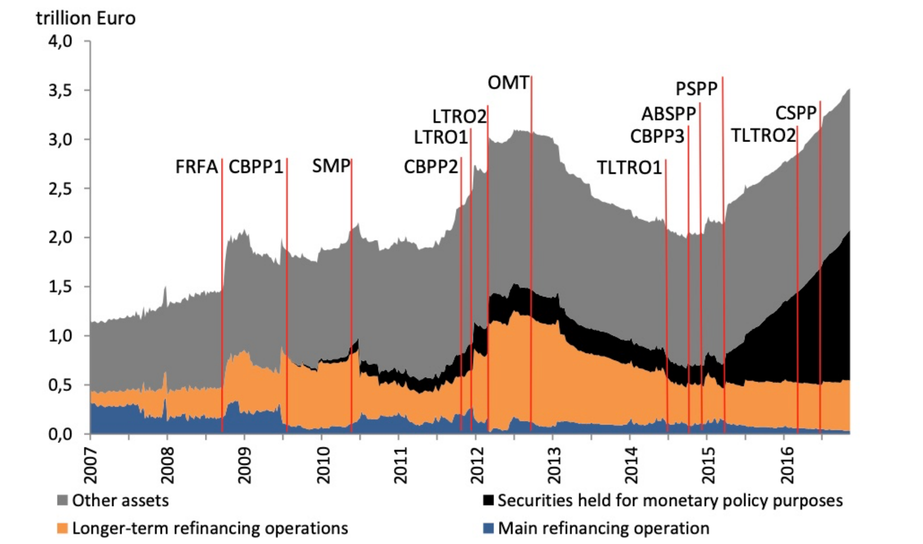
In 2009, the European Central Bank began to implement direct credit easing measures, engaging in targeted interventions in specific financial markets. These comprised the purchase of covered bonds (the Covered Bond Purchase Programme, CBPP), distressed sovereign debt (the Securities Markets Programme, SMP), and asset-backed securities (the Asset-Backed Securities Purchase Programme, ABSPP). These direct measures contributed only moderately to an increase in the ECB's balance sheet, as the volumes were relatively modest.

In 2015, the ECB initiated a programme of direct quantitative easing, known as the Expanded Asset Purchase Programme (EAPP)[20]. This entailed the acquisition of government bonds in accordance with the ECB's capital share of the respective countries (the Public Sector Purchase Programme, PSPP) and, since 2016, the purchase of corporate bonds as well (the Corporate Sector Purchase Programme, CSPP).

Following the adoption of the EAPP, the ECB's balance sheet started to grow again, marking a departure from the reduction observed in 2013 and 2014.

[20] The EAPP also includes the CBPP and the ABSPP.

Figure 2 Eurosystem Balance Sheet Asset



Notes: "Securities held for monetary policy purposes" includes asset purchase programmes, "Longer-term refinancing operations" includes standard 3-month operations as well as non-standard LTRO and TLTRO, "Main refinancing operations" are standard operations which can be modified (e.g. by FRFA, lower collateral requirements).

Sources: ECB Eurosystem balance sheet

In addition to the aforementioned easing measures, a significant proportion of the actions described can be interpreted as forms of implicit forward guidance, providing indications of the future path of the ECB's monetary policy. In 2013, the ECB began communicating its future expectations to the public, including the intention to maintain fixed-rate refinancing and low interest rates for an extended period. A pivotal aspect of this forward guidance was President Mario Draghi's "Whatever It Takes" speech in 2012 and the proclamation of the Outright Monetary Transactions (OMT)[21] programme. Despite the fact that the OMT was never actually deployed, it served to signal the ECB's commitment to the preservation of the integrity of the euro area, through the possibility of intervention in sovereign debt markets and the influence of risk premia through the reduction of redenomination risk.

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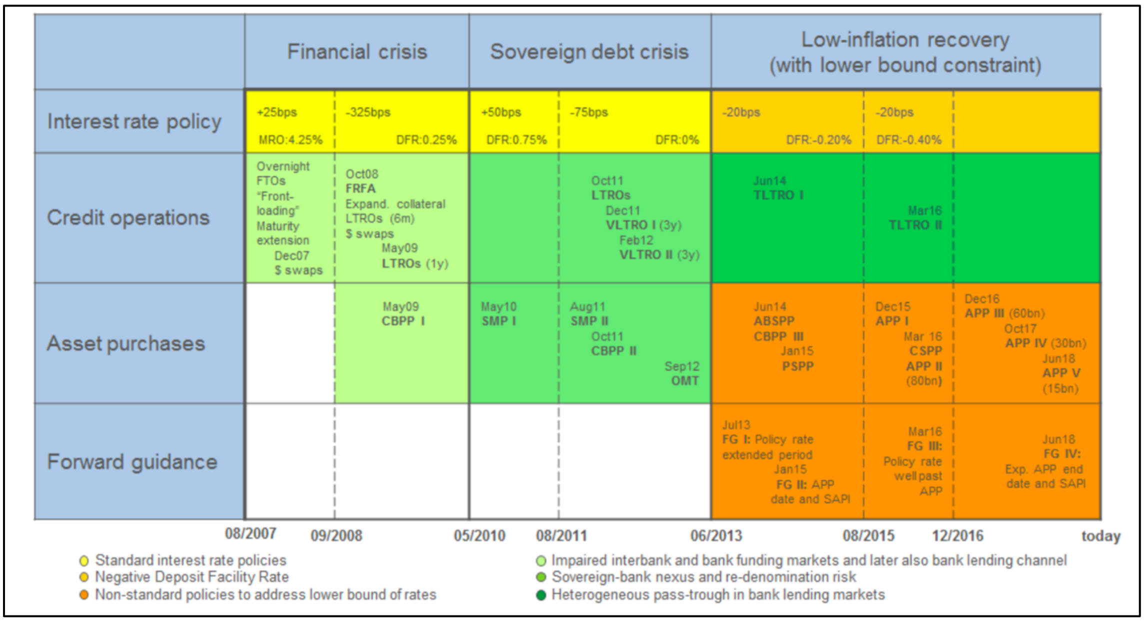
[21] The OMT programme reduced uncertainty for market participants by providing information about the central bank's intentions conditional on future developments.

Despite the efficacy of the ECB's unconventional monetary policy measures in maintaining stability in the euro area during the crisis, concerns have been raised about the legitimacy of these measures. In particular, the ECB's OMT and other asset purchase initiatives have led some analysts to question whether these measures fall outside the central bank’s primary objective of maintaining price stability, thereby blurring the lines with fiscal policy. The ECB's extended reach has given rise to legal controversy, as evidenced by the case before the German Constitutional Court[22] and has also prompted a broader debate about the ECB's responsibility to safeguard financial stability and the integrity of the euro.

Figure 3 Timeline of ECB monetary policy measures since the breakout of the financial crisis (August 2007 to June 2018)



Sources: https://macrosynergy.com/research/ecb-policy-framework-in-six-basic-points/

[22] In June 2013, the German Constitutional Court in Karlsruhe held a discussion regarding the legality of the European Stability Mechanism (ESM) and the European Central Bank (ECB)'s Outright Monetary Transactions (OMT) programme. The objective was to evaluate the extent and limitations of the ECB's monetary policy mandate and the OMT programme, as well as their impact on the budgetary autonomy of the Bundestag.

Bruegel. (n.d.). *The ECB’s OMT programme and German constitutional concerns*. https://www.bruegel.org/external-publication/ecbs-omt-programme-and-german-constitutional-concerns

2.4 Quantitative Easing

As we previously stated, during periods of severe economic downturn, central banks frequently reduce their official interest rates to near-zero levels with the objective of encouraging households consumption and debt accumulation, while also providing an incentive businesses to increase their investments.
However, once the interest rate reaches zero, the central bank is unable to further reduce it, thereby limiting its capacity to counteract further declines in inflation.

To stimulate aggregate demand and realign inflation expectations with monetary policy objectives, central banks may turn to more aggressive measures, with the most significant of these being the purchase of medium- to long-term financial assets.

This intervention can serve two distinct purposes. Firstly, the objective may be to enhance credit conditions and address liquidity crises in banks. In such cases, the central bank purchases securities from financial intermediaries, thereby increasing their reserves without expanding the monetary base.

This process is referred to as credit easing.

Secondly, it can entail the purchase of a broader set of assets, including both private sector securities and government bonds, to restore the proper functioning of the monetary policy transmission mechanism and prevent deflation. In this scenario, the central bank's injection of liquidity is not sterilized, resulting in an expansion of the monetary base. This strategy is commonly referred to as quantitative easing (QE).

Quantitative Easing, a key instrument of the European Central Bank (ECB), is designed to stimulate economic growth and achieve its 2% inflation target across the euro area. Although QE has proved effective in stabilizing markets and lowering interest rates, its broader economic impact remains a subject of debate.

2.5 Indirect Quantitative and Credit Easing Measures

As already outlined, the ECB has initiated a series of unconventional monetary policy measures to tackle financial instability.
This section will focus on indirect measures of improving market conditions, namely by injecting liquidity and easing credit access, without the direct purchase of financial assets.

2.5.1 Fixed Rate Full Allotment

In the aftermath of the collapse of Lehman Brothers in 2008, the global financial system was thrust into a state of severe disruptions, resulting in the interbank market becoming effectively frozen. This resulted in a notable widening of the spreads between secured and unsecured money market rates, accompanied by a considerable decline in interbank transaction volumes.

In response to these developments, the European Central Bank (ECB) introduced a Fixed-Rate/Full-Allotment (FRFA) tender procedure for its monetary policy operations. Prior to the crisis, the ECB distributed liquidity through tenders, offering a fixed amount of credit in exchange for eligible collateral. However, this approach proved inadequate in addressing the liquidity shortages that emerged during the crisis.

In accordance with the FRFA framework, the ECB furnished banks with liquidity at a fixed interest rate, thereby guaranteeing that all banks could obtain the requisite liquidity at that rate. This approach aimed to eliminate uncertainty regarding the availability of liquidity and to prevent further disruptions in the interbank market. By guaranteeing the full allotment of credit at a fixed rate, the ECB effectively assumed the role of market maker in the money market, which resulted in a notable increase in liquidity and contributed to the stabilization of financial conditions.

Moreover, the ECB expanded the range of eligible collateral to include lower-rated securities (with a minimum rating of BBB), thus further facilitating banks' access to liquidity. Additionally, the average maturity of the ECB's monetary policy operations was also extended, providing financial institutions with access to longer-term.

These measures collectively resulted in a significant expansion of the ECB's balance sheet, reinforcing its role in mitigating the financial crisis and supporting economic stability.

The FRFA procedure proved instrumental in ensuring an ample supply of liquidity, stabilizing the interbank market, and promoting effective monetary policy transmission during a period of extreme financial stress.

2.5.2 Long-Term Refinancing Operation

The Long-Term Refinancing Operation (LTRO) represents an instrument through which the European Central Bank offers liquidity to banks for extended periods, typically up to three years, in comparison to the usual short-term refinancing operations.

Banks that apply for this funding receive loans with an interest rate that corresponds to the average of the main refinancing operations rate over the course of the operation period.

To obtain these loans, banks are required to provide the ECB with government bonds as collateral. These government bonds must be issued by EU Member States selected by the ECB itself. The ECB regularly updates the list of assets accepted as collateral on its website.

To date, two principal Long-Term Refinancing Operations (LTROs) have been conducted:

1. On 22 December 2011, an auction was held in which 523 banks requested a total of EUR 489.191 billion.

2. On 29 February 2012, an auction occurred in which EUR 529.53 billion was requested by 800 banks.

These operations may be regarded as a means of the ECB introducing substantial liquidity into the banking system. The banks, in possession of these long-term loans at near-zero interest rates, are tasked with transferring this liquidity to the real economy by extending credit to individuals and businesses. Given that the interest rate on loans is close to zero, the banks do not incur significant costs on the funds received. Instead, the rate charged on loans to private individuals that determines the gains for the banks.

This injection of liquidity also exerts an influence on the value of the euro, which may depreciate against other currencies, enhancing the competitiveness of exports.

The primary objective of LTRO operations is to combat deflation and stimulate economic growth within the Eurozone.

Banks may only utilize the funds obtained in accordance with specific regulations. These stipulate that the funds must be used primarily to finance small and medium-sized enterprises and may not be used for other purposes. In addition, to further incentivize lending and discourage deposits, the ECB has set the bank deposit rate at -0.4 %, making it costly for banks to hold idle liquidity at the ECB.

2.5.3 Targeted Longer-Term Refinancing Operations

Targeted Longer-Term Refinancing Operations (TLTROs) are funds made available by the European Central Bank to banks, which are then required to use them to enhance the provision of loans to the non-financial private sector in the Eurozone. These funds are specifically targeted at non-financial corporations and households, with the exclusion of those taking out mortgages for home purchases. The principal objective of these advantageous loans is to provide banks with the means to stimulate the real economy[1] by boosting investments and consumption through increased liquidity circulation within the economic system.

Tranches of TLTROs are distributed by the ECB through auctions, which are open to Eurozone banks that may request four-year loans. The interest rate at which the ECB lends money is contingent upon the banks' behavior. The more loans they extend to non-financial corporations and households, the more attractive (and thus less expensive) the interest rate becomes on the TLTROs. To provide further incentive for banks to utilize the TLTRO funds, the interest rate can be set at a negative level. Consequently, if banks

do not use the TLTROs, they are liable to pay a higher rate to the ECB. This encourages them to inject these funds into the economy rather than leaving them unused.
This mechanism enabled the ECB, under the leadership of Mario Draghi's, to effectively stimulate and inject liquidity throughout Europe, distributing it broadly to households and businesses via individual banks.

By facilitating access to stable and cost-effective funding, TLTROs play an important role in supporting economic activity by ensuring that businesses and households continue to have access to the financing they need. This, in turn, contributes to the realization of the ECB's medium-term objective of 2% inflation.

The ECB has launched three distinct series of TLTROs[23]:

1. The TLTRO I (2014): the ECB provided banking institutions with a ceiling amount equivalent to 7% of the total loans issued by each institution. Banks were obliged to repay the funds if they failed to utilize them for the intended purposes within the stipulated deadlines.
2. The TLTRO II (2016): similar to the first TLTRO, the second auction's financing was also based on the total loans already granted by each institution.
3. The TLTRO III (2019-2021): the third round of TLTROs announced in March 2019, comprises a series of operations launched between September 2019 and March 2021, with a two-year maturity. The objective is to maintain favorable credit conditions and guarantee the seamless transmission of monetary policy.

2.5.4 Relaxed Collateral Requirements

In the context of the global financial crisis and the emergence of new economic challenges, the European Central Bank has taken significant steps to relax the collateral requirements accepted for its refinancing operations. Prior to the advent of the global

[23] **EUR-Lex.** (n.d.). Targeted longer-term refinancing operations (TLTROs).
EUR-Lex. https://eur-lex.europa.eu/EN/legal-content/summary/targeted-longer-term-refinancing-operations-tltros.html

financial crisis, the ECB's policy was to accept only high-quality securities as collateral for loans to banks. However, in order to address market instability and ensure that banks could readily access the requisite liquidity, the ECB expanded the range of acceptable securities to include lower-rated bonds and other higher-risk financial instruments.
To illustrate, the ECB commenced the acceptance of securities with a minimum rating of BBB, in comparison to the preceding requirements, which were more rigorous. The principal objective of these modifications was to diminish the risk premiums associated with securities and to facilitate the flow of liquidity in the banking system. Furthermore, the ECB regularly revised the list of eligible assets to align it with evolving market circumstances and financial requirements. While these measures were instrumental in stabilizing financial markets and improving lending conditions, they also gave rise to concerns regarding the quality of collateral and the potential risks associated with accepting lower-rated securities.

2.6 Direct Quantitative and Credit Easing Measures

This section builds upon the preceding discussion of non-traditional instruments by examining direct actions undertaken by the ECB. These actions entail the purchase of specific financial assets, such as bonds, with the objective of influencing credit conditions and maintaining market stability.

2.6.1 Asset Purchase Programme

The ECB's Asset Purchase Programme (APP), which was introduced in mid-2014, encompasses four main initiatives that are designed to stabilize the euro area economy. This is being accomplished through the purchase of public and private sector securities, and it represents a departure from the usual operations of monetary policy since it involves the direct acquisition of financial securities by the central bank.

The Covered Bond Purchase Programme (CBPP3), which commenced in October 2014, is designed to facilitate the acquisition of covered bonds issued by banking institutions.

This intended to enhance liquidity in this market and reduce funding costs, thereby supporting greater credit availability for households and businesses.

The Asset-Backed Securities Purchase Programme (ABSPP), initiated in November 2014, targets the purchase of asset-backed securities, such as those created from bundling loans like mortgages and auto loans. This revitalizes the securitization market and enables banks to extend greater credit in a novel manner compared to conventional policies that do not directly impact this financial sector.

The Public Sector Purchase Programme (PSPP), which began in March 2015, entails the innovative acquisition of government and public agency bonds, aiming to lower long-term interest rates and borrowing costs. This, in turn, is expected to stimulate economic growth through an increase in public spending.

Furthermore, the Corporate Sector Purchase Programme (CSPP), which was introduced in June 2016, is aimed at purchasing corporate bonds, despite the fact that conventional instruments do not exert a direct influence on this market. The programme is intended to reduce the cost of borrowing for businesses and to stimulate investments in the private sector.

These initiatives have played a significant role in lowering bond yields, improving credit conditions, and stimulating investment. The injection of liquidity into the system has encouraged portfolio rebalancing towards more profitable assets, thereby transmitting the ECB's monetary policy across financial markets.

*2.6.*2 Securities Markets Programme

In response to the global financial crisis, the European Central Bank introduced the Securities Markets Programme (SMP) on 10 May 2010. This was designed to address the decline in demand for sovereign debt from certain eurozone countries experiencing severe financial difficulties.

The SMP entailed the purchase of government bonds on the secondary market, and its operations unfolded in two distinct phases.
The initial phase of the programme focused on the acquisition of bonds from Greece, Ireland and Portugal, which had been particularly severely affected by the crisis.
The second phase, which commenced on 7 August 2011 following a brief interlude, broadened the programme's remit to encompass bonds from Italy and Spain.
This reflected mounting concerns about the sustainability of sovereign debt in these larger economies. Despite the ECB's continued purchase of bonds from Ireland and Portugal during this period, Greece was notably excluded from further interventions.

The SMP played a pivotal role in stabilizing these bond markets; however, it was ultimately phased out on 6 September 2012 and replaced by the Outright Monetary Transactions (OMT) programme, which provided a more comprehensive framework for addressing sovereign debt crises in the Eurozone.

2.6.4 Negative Interest Rates Policy

The term “negative interest rates” is used to describe a situation in borrowers receive interest payments from financial institutions rather than making payments to them, thereby reversing the traditional interest rate dynamics.
In such cases, central banks impose charges on commercial banks for holding reserves, rather than crediting them.

This represents a non-traditional expansionary monetary policy.

This unusual situation typically arises during a severe economic downturn when conventional monetary instruments have already driven interest rates to the nominal lower bound of zero. The objective of introducing negative interest rates is to stimulate lending, spending, and investment by discouraging the hoarding of cash, which would otherwise lose value due to the negative deposit rates.

A Negative Interest Rate Policy (NIRP) represents a relatively uncommon monetary strategy, characterized by the setting of nominal interest rates below zero. This challenges the traditional view that 0% represents the lowest possible interest rate.

The objective of this approach is to combat economic stagnation by addressing the risks of deflation. Deflation can lead to a reduction in aggregate demand, falling prices, decreased production, and higher unemployment.
It is customary for central banks to deploy expansionary monetary policies in response to such economic challenges.
Nevertheless, in instances where deflationary pressures are particularly robust, reducing interest rates to zero may prove inadequate to stimulate borrowing and spending.

The efficacy of NIRP in achieving its intended outcomes remains uncertain, as does its capacity to influence economic activity beyond the banking sector's excess reserves. In accordance with the tenets of NIRP, financial institutions are obliged to remunerate the central bank for the holding of excess cash in excess of the requisite safety reserves.
The objective of this policy is to encourage banks to increase lending to businesses and consumers, thereby promoting economic growth.

In 2014, the European Central Bank introduced negative interest rates, with the current deposit rate standing at -0.5%. The objective of negative rates is to reduce the cost of borrowing for households and businesses. Those in favor of such rates argue that they can also devalue a country's currency by making it less attractive to investors, potentially boosting exports and driving inflation by raising import costs.

However, negative interest rates can also have the unintended consequence of reducing the profit margins of financial institutions, as they earn less from lending. This could have the opposite of the desired effect, as it may weaken banks' financial health and restrict the flow of credit into the economy. To address this, the ECB has introduced measures to reward banks that extend credit, recognizing the importance of incentives to stimulate lending rather than merely penalizing banks for holding excess reserves.

2.6.5 Forward Guidance

Forward Guidance represents a tool deployed by central banks to communicate their anticipated future monetary policy actions to the public. This allows individuals and businesses to make informed decisions regarding spending and investments.
By offering insight into the probable trajectory of interest rates and other monetary policies, forward guidance exerts an influence on the prevailing financial and economic conditions.

In July 2013, the ECB's introduced forward guidance, indicating that interest rates would likely remain low for an extended period. This strategy was designed to prevent an unwarranted tightening of financial conditions during a fragile recovery.
Subsequently, the ECB has modified its forward guidance on multiple occasions to reflect changes in the economic environment.

The credibility of this guidance is contingent upon its alignment with the Governing Council's assessment of the prevailing economic situation and the prospective outlook, particularly with regard to inflationary pressures.
In circumstances where conventional monetary instruments, such as key interest rates, are rendered ineffective, forward guidance assumes particular significance.
This is particularly the case when interest rates have reached a point of minimal effectiveness, and further reductions would prove insufficient to stimulate economic activity.
In such cases, transparent communication regarding prospective policy intentions can assist financial markets, businesses, and consumers in anticipating borrowing costs and adjusting their behavior, accordingly, thereby enhancing the overall efficacy of monetary policy.

This instrument has proven to be of particular utility during periods of economic distress, such as the global pandemic caused by the SARS-CoV-2 virus.

During the global health crisis caused by the novel coronavirus, the European Central Bank (ECB) expanded its use of forward guidance, committing to maintaining favorable financing conditions and ample liquidity until the economic impact of the pandemic had subsided. Like the US Federal Reserve, the ECB faced the challenge of balancing its forward guidance with the need to remain flexible in the face of rising inflation risks in 2021.

This chapter presents an overview of the two types of measures available to the ECB. The first category comprises conventional policies, including interest rate management and open market operations, have long been at the core of the ECB's operations and have proved effective in stable economic conditions. However, the global financial and sovereign debt crises have highlighted the limitations of these conventional instruments, PDFprompting the ECB to expand its arsenal. The second category encompasses unconventional measures introduced in response to economic crises, such as quantitative easing and long-term refinancing operations. They were innovative responses to unprecedented economic challenges. These instruments allowed the ECB to exert greater influence on financial markets and address the fragmentation of the euro area, stabilizing the most vulnerable economies and reducing sovereign spreads.

An analysis of these measures has shown how the ECB has progressively adapted its monetary policy strategy, going beyond the traditional limits of its mandate to ensure the economic and financial stability of the euro area. The ECB's ability to innovate and use unconventional instruments demonstrates the importance of a flexible and dynamic approach in a changing economic environment. This policy evolution reflects not only the complexity of the challenges faced, but also the ECB's determination to maintain the cohesion of the euro area in the face of unprecedented crises.

Chapter 3

Empirical Evaluation of the Measures Implemented

This chapter makes an attempt to provide empirical validity, through the use of graphs, to the considerations made so far regarding the measures adopted by the ECB in times of crisis. The reference period for both scenarios goes from the beginning of 2007 to 2018. The analysis is conducted by examining two cases: the first concerns the spreads of government bonds in Italy and Spain in relation to those in Germany, with a particular focus on the year in which certain unconventional policies were initiated by the European Central Bank. The second case study compares the inflation rate in the Eurozone with the increase in liquidity, measured in billions of euros. Once again, the conclusions drawn take into account the policies implemented during this period.

A summary table is also proposed, in which the aforementioned measures are categorized in a systematic fashion. This classification includes the type, year of initial implementation, objective, time frame, transmission channel (through which they operate) and effectiveness of each measure. It also includes a categorization of the type of market that each measure influences.

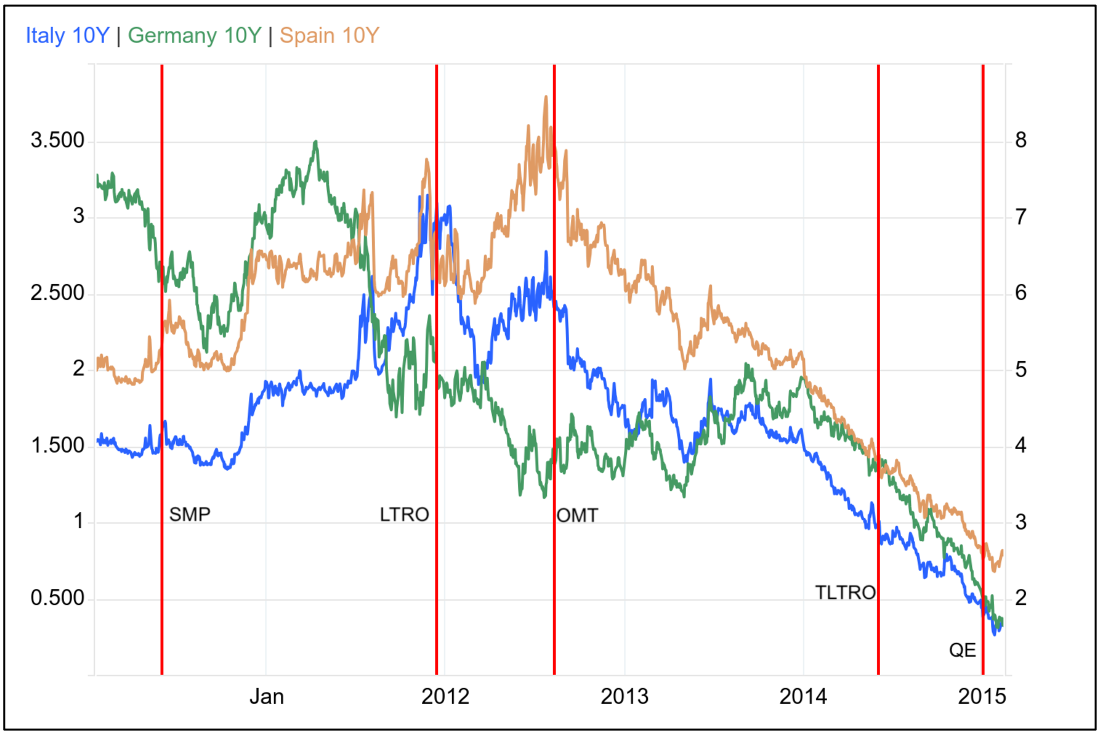
4.1 Case Study 1

The graph below shows how the ECB's unconventional monetary policies (such as SMP, LTRO, OMT, TLTRO, QE) have affected government bond[24] yields in peripheral eurozone countries, notably Italy and Spain, compared to German Bunds, emphasizing significant dates when some of these non-traditional measures were introduced or put into

[24] A government bond is a financial instrument issued by a government with the objective of financing the activities of that government and its affiliated institutions. In other words, they represent a financial obligation of the state to the subscribers. The greater the stability and prosperity of a country, the lower the return it will offer investors at the conclusion of the investment period, given the relatively secure nature of the investment.
Borse.it. (n.d.). *Spread BTP-Bund*. Retrieved from https://www.borse.it/spread/spread_btp_bund.

effect. The goal is to show the significant narrowing of the spread between Italian and Spanish governments bonds compared to German Bunds[25], following key interventions.

Figure 4 Government Bond Spreads (Italy, Spain and Germany) vs. ECB Interventions (2010-2015)



Sources: tradingeconomics.com

The initial actions implemented by the ECB, such as the Securities Markets Programme (SMP) and the Long-Term Refinancing Operation (LTRO), provided only short-term relief, as yields subsequently increased once more.

Indeed, the introduction of the SMP initially resulted in a decrease in yields in Italy and Spain, which was subsequently followed by an increase. This indicates that the initiative

[25] The spread between Italian and Spanish government bond yields versus German Bunds represents a pivotal indicator of the perceived level of sovereign risk by the markets. German Bunds are regarded as a reliable benchmark due to Germany's robust economic standing. An increase in the spread signifies a heightened level of distrust towards peripheral countries, such as Italy and Spain, which are perceived as riskier.
Borse.it. (n.d.). *Spread BTP-Bund*. Retrieved from https://www.borse.it/spread/spread_btp_bund
.

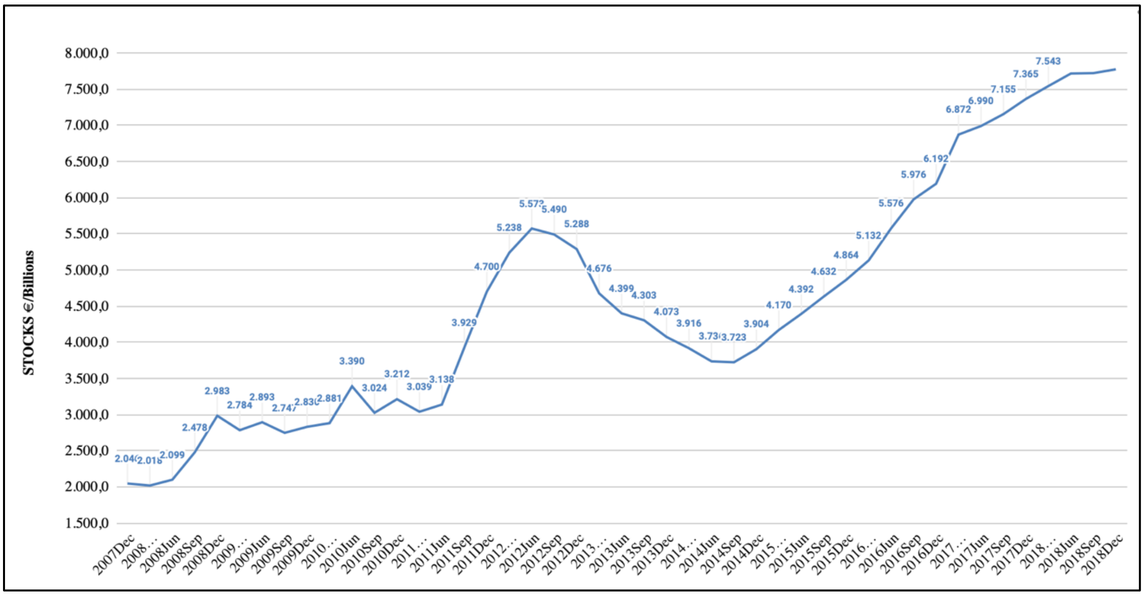
did not fully resolve the confidence crisis. Similarly, the LTROs initially resulted in a decrease in yields, but this was followed by an increase. This indicates that while the liquidity provided by the LTROs aided banks, it did not address the underlying structural issues that were causing the sovereign debt crisis. The introduction of Outright Monetary Transactions (OMT) in 2012 constituted a pivotal shift in policy, resulting in a notable and sustained reduction in interest rates.

This was due to the ECB's pledge, as previously outlined, to take all necessary measures to safeguard the Eurozone. Subsequent measures, including TLTROs and quantitative easing (QE) in 2015, continued to reduce yields, thereby stabilizing markets and narrowing the gap between Italian and Spanish government bonds and those of Germany.

4.2 Case Study 2

The two graphs illustrate the growth of the European Central Bank's balance sheet from 2007 to 2018, expressed in billions of euros, and the inflation rate in the Eurozone over the same period.

Figure 5 Expansion of the European Central bank's balance sheet from 2008 to 2018 measured in billions of euros



Sources: Eurostat

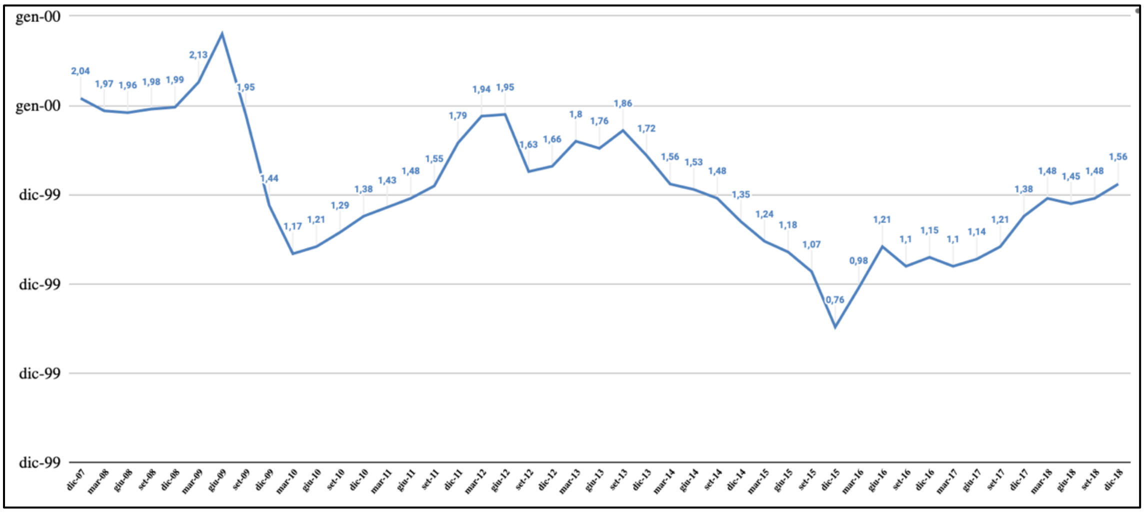
As we can observed, there is a discernible increase in the ECB’s balance sheet between 2009 and 2012, reaching a maximum around 2012.
This aligns with the implementation of the SMP (May 2010) and LTRO (December 2011, February 2012) measures.

Following a brief reduction in 2013-2014, the balance sheet began to expand once more from 2015 onwards. This coincided with the launch of the ECB's Asset Purchase Programme (QE), which indicated the bank's response to the risk of deflation in the Eurozone.

By the conclusion of 2018, the balance sheet had expanded to a size that was more than threefold the level observed prior to the onset of the crisis, reflecting the protracted nature of unconventional monetary policy.

With regard to the graph, it is evident that there were considerable fluctuations in inflation rates both during and in the aftermath of the global financial crisis. Despite the ECB's aggressive balance sheet expansion, inflation remained low, particularly in the aftermath of the 2011-2012 sovereign debt crisis, which prompted the ECB to implement quantitative easing (QE) and other stimulus measures.

Figure 6 Inflation Rates in the Eurozone from 2008 to 2018



Sources: Eurostat

The pronounced decline in inflation from 2012 onwards serves to underscore the enduring deflationary pressures within the Eurozone, regardless of the ECB's measures to bolster economic activity.

Inflation exhibited a brief recovery around 2017-2018; however, it remained below the ECB's target of close to, but below, 2%, indicating limited success in fully restoring inflation levels.

This graph provides further evidence that, despite the ECB's balance sheet expansion and monetary interventions, the achievement of price stability (its primary mandate) proved challenging due to structural economic factors, including sluggish growth and external shocks.

In conclusion, the comparison between the graphs in fig.5 and fig.6 demonstrates that the ECB's balance sheet expansion through unconventional measures, was considerable, particularly in the aftermath of the 2011-2012 sovereign debt crisis.
However, inflation rates remained largely subdued, indicating that while these measures helped prevent economic collapse, they were less effective in driving inflation back to desired levels.

4.3 Analysis of Conventional and Unconventional Monetary Policies

The table presents a concise overview of the evolution and efficacy of the monetary instruments employed by the ECB, with a clear delineation between conventional and unconventional policies.

Table 1

Instrument/ policy	***Type of instrument***	***Year of the first impleme ntation***	***Objective***	***Time frame***	***Transmission channel***	***Effectiveness***	***Market impact***
Interest Rates	Conv.	-	Price stability	Short-Medium term	Interest Rate Channel	High	Money Market
Open Market Operations	Conv.	-	Price stability and financial stability	Short term	Interest Rate Channel	High	Money Market and Capital Market
Standing Facilities	Conv.	-	Financial stability	Short term	Interest Rate Channel	Moderate	Money Market
Minimum Reserve Requirements	Conv.	-	Financial stability	Short-Medium term	Domestic Credit Channel and Interest Rate Channel	Moderate	Money Market and Credit Market
Fixed Rate Full Allotment (FRFA)	Unconv.	2008	Financial stability	Short term	Interest Rate Channel	Moderate	Money Market
Long-Term Refinancing Operation (LTRO)	Unconv.	2011	Financial stability and economic growth support	Medium term	Domestic Credit Channel	Moderate	Money Market and Credit Market
Targeted Longer-Term Refinancing Operations (TLTROs)	Unconv.	2014	Economic growth support and containing systemic risks	Long term	Domestic Credit Channel	High	Credit Market
Relaxed Collateral Requirements	Unconv.	2008	Financial stability and containing systemic risks	Short term	Domestic Credit Channel	Moderate	Credit Market
Asset Purchase Programme (APP)	Unconv.	2015	Price stability, financial stability and sustaining economic growth	Medium-Long term	Financial Asset Price Channel and Interest Rate Channel	High	Capital Market and Credit Market
Negative Interest Rates Policy	Unconv.	2014	Price stability and financial stability	Medium term	Interest Rate Channel and Exchange Rate Channel	Moderate	Money Market
Forward Guidance	Unconv.	2013	Price stability and economic growth support	Long term	Interest Rate Channel	Moderate to High	Capital Market

From the analysis, it can be deduced that conventional monetary instruments, like interest rates and open market operations have historically been used to ensure price and financial stability in the short to medium term.

However, the global financial crisis of 2008 marked a significant change in viewpoint, showing that traditional methods were not enough to deal with the new issues that arose. As a result, the ECB had to utilize non-traditional tools like the FFRFA in 2008, followed by the introduction of additional measures such as the LTRO in 2011 and the TLTRO in 2014.

These tools were essential for tackling issues other than just maintaining price stability, such as ensuring financial stability and promoting economic growth.

Traditional tools focus mainly on keeping prices stable, while non-traditional tools have a broader range of goals. For example, the TLTRO and the APP aim to boost economic growth while also managing systemic risks and maintaining price stability. This shows how the ECB has had to broaden its actual mandate in the face of extraordinary economic difficulties, while still prioritizing its main goal of ensuring price stability.

Moreover, the table shows the wide variety of communication channels that the ECB uses to exert its impact. While traditional policies mainly affect the economy through changes in interest rates, non-traditional tools like APP and TLTRO also impact financial asset prices and credit availability. This has allowed the ECB to have direct control over capital and credit markets, leading to a better implementation of its monetary policies, especially during times of financial disintegration. Certainly, unconventional policies have proven to be quite effective in many situations, as shown in the table, especially in terms of their impact on capital and credit markets.

The effectiveness of tools depends not only on their inherent features, but also on when they are used.

Traditional tools, like interest rates and open market operations, have proven very useful in the short run but are limited during extended crises. On the other hand, non-traditional tools like TLTRO and APP have shown significant effectiveness over the medium to long run. This is because they can offer liquidity and stability in a setting of very low or negative interest rates.

Even though unconventional tools have been effective in addressing financial crises and supporting economic stability, their long-term impact should be closely watched.

The table shows how the ECB has adapted its monetary policy tools to address shifting economic requirements. While traditional measures are essential for immediate goals, non-traditional tools are essential for maintaining economic growth and financial stability during crises.

Chapter 4

Rationale Behind the Crisis

Having presented the various unconventional measures adopted by the BCE in times of crisis, explained their operational principles and assessed their impact through empirical means, this chapter proceeds to examine the historical context in which they were employed.

In order to elucidate the reasons behind the ECB's frequent adoption of policies beyond its mandate, it is first necessary to delineate the reference time period for the empirical analysis.

In this context, the aforementioned period begins with the 2007 financial crisis and concludes with the aftermath of the pandemic crisis.

4.1 The Catalyst of the Crisis

In the summer of 2007, a profound crisis broke out in the global financial system, originating from the bursting of the U.S. real estate bubble and the widespread issuance of subprime loans. As the crisis unfolded in August 2007, a climate of uncertainty rapidly emerged, particularly with regard to the capacity of banks to effectively manage the associated risks.
This resulted in interbank market nearly collapsing, with risk premiums on interbank loans rising significantly, leaving banks grappling with severe liquidity shortages.

It was at first thought that the European Union (EU) might be able to circumvent the most severe consequences of the turmoil, on provided that its financial system remained stable. However, this expectation proved to be overly optimistic, as Europe was soon engulfed by the crisis. The interconnected nature of global financial markets, in which European banks had considerable exposure to U.S. subprime mortgages and related financial instruments, revealed the vulnerability of the Eurozone's financial system.

The situation deteriorated significantly in September 2008, when the collapse of Lehman Brothers triggered a global financial crisis. In response to this, the European Central Bank (ECB) proceeded to lowered interest rates and introduce a more flexible operational with the objective to maintaining the effectiveness of its monetary policy. Nevertheless, the negative impact on the European economy was unavoidable.
The crisis continued to intensify, resulting in a severe economic downturn by 2009. This was characterized by a decline in international trade, a loss of trust, and more reduction in lending by banks.

The consequences were significant and far-reaching. There was a notable decline in both the level and growth rate of potential output, with the output gap reaching -3% by 2013, following the peak of the sovereign debt crisis. The Greek financial crisis of 2010 marked the advent of a new era of economic instability, which rapidly spread to other Eurozone economies, including Ireland, Portugal and Spain. Notwithstanding the introduction of a rescue package in May 2010, Greek sovereign bond yields persisted in their ascent.
The situation further deteriorated following the Deauville agreement, which proposed involving the private sector in losses on Greek bonds. This resulted in a broader sovereign crisis that also affected larger economies such as Italy and Spain.
The ongoing sovereign debt crisis has had a severe and far-reaching negative impact on financial and credit markets, with a detrimental effect on economic growth across the Eurozone[26].

In this increasingly adverse scenario, countries within the so called "PIGS" (Portugal, Italy, Greece, Spain) group were no longer able to comply with the rigorous fiscal

[26] Neri, S., & Siviero, S. (2019). The non-standard monetary policy measures of the ECB: Motivations, effectiveness and risks. *Journal of Economic Perspectives, 33*(4), 514-517.

stipulations set forth by the Maastricht Treaty[27], under Articles 121, 122, and 123, as well as the Stability and Growth Pact[28].

In the absence of external financial support, it became exceedingly challenging for these nations to repay or refinance their mounting public debt. Despite the implementation of various stabilization strategies, including financial assistance packages from the EU and the International Monetary Fund (IMF), the crisis highlighted significant structural deficiencies in these economies.

The imposition of austerity measures as a condition for financial aid had the unintended consequence of exacerbating the situation, resulting in deeper economic contractions, widespread social unrest, and political instability, especially in Greece and Spain.

The Lisbon Treaty, reinforced by Article 140 of the TFEU and revisions to the Stability and Growth Pact, sought to reinforce fiscal discipline. However, by that point, the challenges of upholding such rigid rules in times of economic hardship had become evident.

4.2 The Intervention of the ECB in the Euro Crisis

To avert the potential collapse of the Eurozone, the EU has introduced a series of innovative crisis management mechanisms, including the establishment of the European

[27] Article 121 TFEU: Member States must coordinate their economic policies as a common concern. The Council creates and oversees general economic policy guidelines as advised by the Commission. If the policies of a Member State pose a threat to the economic and monetary union, the Commission has the authority to issue warnings, while the Council can issue public recommendations. The Council and Commission inform the European Parliament of their findings, and specific regulations for surveillance are established through the normal legislative process.
Article 122 TFEU: The Council, on the Commission's proposal, can adopt measures in solidarity with Member States facing economic difficulties, including issues with product supply (e.g., energy). It may also grant financial assistance to Member States in crisis due to natural disasters or exceptional events.
Article 123 TFEU: the European Central Bank and national central banks are not allowed to offer overdrafts, credit facilities, or buy debt directly from public institutions or authorities. Publicly held credit institutions receive equal treatment to private ones in central bank operations.

[28] The Stability and Growth Pact (SGP) is an agreement, among all the 27 member states of the European Union (EU), to facilitate and maintain the stability of the Economic and Monetary Union (EMU).

Stability Mechanism (ESM), a permanent emergency fund activated in September 2012, and the Fiscal Compact of March 2012, with the objective of enhancing fiscal discipline. Concurrently, members of the Eurozone experiencing financial difficulties implemented significant fiscal adjustments with the objective of restoring market confidence and adhering to the budgetary constraints set forth in the Maastricht Treaty.

However, the implementation of these austerity measures resulted in a significant deterioration in the general economic situation, leading to a reduction in access to essential public services, such as education and healthcare, while unemployment surged, and social tensions escalated.

The financial crisis had a significant impact on European markets, leading to a widening of borrowing costs disparities and restrictions on access to capital. The increase in interest rates on government bonds intensified these challenges, rendering borrowing more costly for domestic banks and impeding economic recovery.

The aforementioned liquidity crunch also resulted in the disruption of the ECB's monetary policy transmission, as banks demonstrated a reluctance to extend credit, thereby exacerbating the fiscal conditions of national governments. As a consequence of the increase in borrowing costs, the situation became increasingly unstable, demonstrating the necessity for ECB to intervene in a decisive manner in order to preserve stability.

It is evident that the financial markets were severely disrupted in the aftermath of the crisis, particularly in the United States mortgage-backed securities market and Europe’s sovereign bond markets.

In order to stabilize these markets, central banks, including the ECB, were compelled to intervene, which constituted the initial rationale behind their adoption of unconventional monetary policies. Furthermore, when policy rates reached the zero lower bound, the ECB was obliged to exert direct influence on yields and prices across a range of long-term financial instruments in order to provide support for the recovery process.

The traditional approach of central banks to exerting indirect influence over asset prices through the implementation of interest rate policies was insufficient in the context of the crisis, necessitating a more direct strategy. Furthermore, the involvement of central banks served to indicating a resolute commitment to maintaining a specific monetary policy stance.

To illustrate, the ECB's declaration of substantial asset purchase programs signaled its resolve to maintain low interest rates for an extended period, thereby reinforcing market stability.

In the context of mounting threats to price stability and the cohesion of the Eurozone, the role of the ECB underwent a significant expansion. While its primary mandate is to ensure price stability, it became evident that maintaining specific preconditions was necessary. The ECB recognized the necessity of maintaining certain preconditions for effective monetary policy, including the functioning of sovereign debt markets and addressing banking sector liquidity, as being critical to ensuring effective monetary policy.

In this manner, the ECB emulated the actions of other major central banks, implementing unconventional measures to stabilize the Eurozone. In the period between October 2008 and May 2009, the ECB reduced its policy rate from 4.25% to 1% and extended the duration of the refinancing operations from months to years. In order to further ensure liquidity, the ECB initiated two long-term refinancing operations (LTROs) [29] with three-year maturities in December 2011 and February 2012. Furthermore, the ECB implemented the Securities Market Programme (SMP)[30] and Covered Bonds Purchase Programme (CBPP)[31], which were designed to facilitate the purchase of bonds from distressed Eurozone countries, including Greece, Spain, and Italy.

These measures, however, had only limited, short-term impacts. To address more profound challenges, the ECB introduced the Outright Monetary Transactions (OMT) programme, to purchase unlimited government bonds from countries that have received assistance through the European Stability Mechanism (ESM). Even before its

[29] See section 2.5.2 Long-Term Refinancing Operation

[30] See section 2.6.2 Securities Markets Programme

[31] See section 2.6.1 Asset Purchase Programme

implementation, the mere announcement of the OMT had a notable impact on bond yields across the Eurozone, which serves to reinforce the ECB's commitment to safeguarding the stability of the single currency.[32]

4.3 The Eurozone's Deep-Rooted Structural Problems

The crisis demonstrated the inadequacy of the existing monetary policy instruments, highlighting the necessity for an expansion of the policy toolkit to address the significant deterioration in the economic and financial landscape. Nevertheless, a more thorough examination of the situation reveals that the crisis has also brought to light structural vulnerabilities within the Eurozone.

As the author Charles Wyplosz wrote "The crisis was an accident waiting to happen because of fundamental flaws in the architecture of the Eurozone".[33]

The risk of fiscal indiscipline in the Eurozone makes it essential to maintain fiscal discipline. A country with a public debt that is considered unsustainable cannot use traditional methods such as debt inflation or currency devaluation to mitigate the negative effects of the need to reduce the budget deficit quickly. In this situation, the monetary union has to choose between leaving the country to face a traumatic crisis or relaxing the common monetary policy to allow higher inflation.

During the first decade of the euro, fiscal discipline was never really respected. Public finances improved in the run-up to the introduction of the euro because one of the conditions of membership was that the budget deficit should not exceed 3% of GDP, a limit that was breached by some countries from the very beginning. Subsequently, this limit was incorporated into the Stability and Growth Pact, but many countries reduced fiscal austerity shortly after joining the Eurozone.

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[32] Daniele, L., Simone, P., & Cisotta, R. (Eds.). (2017). *Democracy in the EMU in the aftermath of the crisis*. Springer, 250-254.

[33] Wyplosz, C. (2016). The six flaws of the Eurozone. *Economic Policy*, *31*(87), 562.

The two largest members, France and Germany, used their powers to suspend the pact. In the aftermath of the global financial crisis, fiscal discipline deteriorated further, and no euro area country managed to maintain it strictly.[34]

The lack of sound fiscal management played an important role in deepening the crisis, as many countries were indebted to unsustainable levels.
Ineffective controls allowed fiscal imbalances to build up uncontrollably, despite the constraints imposed by the Stability and Growth Pact.

The crisis demonstrated the need for improved fiscal coordination and stricter enforcement of fiscal rules to avoid future financial turmoil.
This enhanced integration of fiscal and monetary policy was most evident in the context of the creation of the Banking Union and the Single Supervisory Mechanism, which, while being important institutions, highlighted structural shortcomings in the ECB's ability to act as lender of last resort.

Moreover, the lack of a strong banking union exacerbated the vulnerabilities highlighted during the crisis even worse. In the absence of a coherent system for supervising and resolving banks, individual countries had to deal with the collapse of financial institutions, creating a damaging cycle of instability between sovereign debt and the banking sector.

Failing to coordinate meant that individual countries ended up having to bail out their financial institutions, worsening their fiscal problems. The interdependence of the banking networks across the euro area compounded the effects, as weaknesses in one country’s financial industry could quickly spread to other countries, threatening financial stability throughout the region.

The creation of a banking union was essential to address these structural deficiencies by consolidating banking supervision, providing a solution for failing banks, and breaking the damaging link between banks and governments. By reducing the reliance on national

[34] Wyplosz, C. (2019). Future of Europe: creating a decentralized Eurozone.

governments to deal with banking crises, the banking union would enhance financial stability and support essential fiscal reforms, thereby strengthening and making the eurozone more unified and resistant. Banking problems were a major factor in the economic crisis, highlighting the costs involved.

As a result, a banking union was created to tackle the issue. The European Central Bank now supervises the major banks through the Single Supervisory Mechanism (SSM).

However, this solution leads to a potential conflict, as the effectiveness of banks' profitability can be influenced by monetary policy and could be affected by the objective of maintaining price stability.

Moreover, banking supervision is not a precise discipline, and human errors can occur, potentially damaging the ECB's reputation and its ability to implement monetary policy. Conversely, shortcomings in banking supervision are frequently linked to the ineffectiveness of national supervisory authorities.

The decision to place the SSM within the ECB recognizes the importance of this factor. Nevertheless, the banking union is still a work in progress.

The 'doom loop', the interconnectedness between sovereign and banks, has not been fully resolved. Bank failures have the potential to turn into sovereign debt crises, damaging banks with significant holdings of sovereign debt securities. The usual approach is to guarantee bank deposits, but this requires significant resources from governments, increasing the potential for fiscal impact.

One of the European Commission's proposals is to establish a European Deposit Insurance Scheme as a future objective. There is also a call for a single resolution fund to manage failing banks and avoid a sovereign debt crisis resulting from bank resolution.

The fund currently under consideration may be too small and should be set up quickly to deal with potential future crises. Nevertheless, the existence of both the Single Resolution Board and the national resolution authorities could slow down bank resolution processes due to political factors.

Many smaller banks or bank-like institutions are ultimately not subject to the supervision of the SSM.

Although officially they can be handled at the national level, banking crises often occur in unexpected places and can end up being more costly than expected. Additional oversight may therefore be needed for these institutions as well. Overall, the Banking Union is a positive development in management of banking crises, although there is still room for improvement to address current and future obstacles.

The ECB operates within a specific institutional framework that limits its autonomy and operational capabilities compared to a traditional central bank, and therefore it is not a full-fledged central bank.
First, the euro area consists of member countries that have their own fiscal authority and do not have a single, coordinated fiscal strategy.

This creates a gap between the ECB's control of monetary policy and the national management of fiscal policy, which prevents the merger of these two economic instruments that exists in other countries.
The ECB is prevented by the Maastricht Treaty from directly financing member states' public deficits, which prohibits it from acting as a back-up lender to governments. Moreover, its primary focus is on maintaining price stability, with this objective taking precedence over other concerns such as economic growth or unemployment.
This is in marked contrast to central banks such as the Federal Reserve or the Bank of England, which have broader mandates and more flexibility to intervene to support the economy.

The lack of effective fiscal coordination and the inability to provide direct support to public finances in times of economic crisis hamper the ECB's ability to fully conduct economic policy in the euro area. These legal and institutional limitations highlight the shortcomings of a shared economic governance that relies on a monetary authority to stabilize a diverse economic area without providing it with the necessary tools of a fully functioning central bank.

The absence of a fiscal union and a strong banking union has increased the burden on the ECB and led it to take on a larger role than expected. The lack of a unified fiscal policy in Europe has forced the European Central Bank to take on the responsibility of stabilizing financial markets and dealing with sovereign debt crises. This has led the central institution to overstep the bounds of its mandate, as there is no lender of last resort for sovereigns.

The previous sections have shown how the global financial crisis had a profound impact on the euro area and exposed structural and institutional weaknesses in the European economic and financial system, leading to an inevitable deterioration of the European economy, characterized by recessions, credit crunches and sovereign debt crises. These challenges exposed critical flaws in the eurozone's design, especially in the areas of fiscal and banking integration.

The ECB's intervention, while crucial in safeguarding the financial and monetary stability of the euro area, also marked a significant departure from its original mandate. The introduction of unconventional monetary measures such as the Securities Market Programme (SMP), the Long-Term Refinancing Operations (LTRO) and the Outright Monetary Transactions (OMT) helped to reduce government bond spreads and stabilize financial markets. These measures highlighted the limitation of traditional policy tools, demonstrating the need for the ECB to take on responsibilities usually linked to fiscal intervention. This change showed how the ECB was evolving from just a monetary authority to an organization with quasi-fiscal duties.

Furthermore, the crisis highlighted the structural weaknesses of the eurozone, especially the lack of a fully established fiscal and banking union. The absence of combined supervisory and resolution mechanisms for banking crises led to a damaging cycle between sovereign debt and the banking sector, prompting the ECB to take extraordinary measures to address it. By taking these measures, the ECB expanded its mandate and highlighted the importance of increased economic governance and fiscal cooperation within Europe.

These measures were crucial in ensuring stability, yet they also contributed to the blending of monetary and fiscal policies, representing a significant shift in the ECB's crisis management role.

Chapter 5
The ECB and the Economic Response to the Covid-19 Crisis

The period between the global financial crisis and the outbreak of the pandemic was characterized by considerable efforts on the part of economists, central bankers and policymakers to ensure adequate preparation for a potential downturn in the global economy. However, despite these precautionary measures having been put in place, the extended period of economic expansion came to a sudden and unexpected halt in early 2020 as a result of the global spread of the SARS-CoV-2 virus.
The rapid transmission of the virus and its ongoing global impact resulted in unprecedented levels of illness, costly lockdowns, and economic disruptions on a scale not previously observed.

While the global recession of 2008 was triggered by internal financial system failures, the outbreak of the SARS-CoV-2 virus constituted an external shock, primarily caused by a public health emergency.

The novel coronavirus, subsequently designated Covid-19 was initially identified in December 2019, when multiple cases of pneumonia of uncertain etiology were documented in Wuhan, China.

By January 2020, the virus had disseminated rapidly throughout China, and by February, it had reached global transmission levels. In March 2020, the World Health Organization formally designated the outbreak as a pandemic.
As the virus spread globally in March and April, governments around the world implemented extensive lockdowns and restrictions in an effort to control the infection rate, prevent overburdening of healthcare systems, and reduce mortality.

The pandemic caused the most severe global economic collapse since the Second World War.[35] The economic consequences of widespread illness, fatalities, and restrictive measures to control the virus were considerable, resulting in a 3.6% contraction in global GDP in 2020. This equates to a loss of approximately $2.9 trillion in output, according to the World Bank.

The long-term effects of the pandemic have persisted, with the International Monetary Fund confirming that global GDP in 2024 is approximately 3% lower than the pre-pandemic projections had anticipated.[36]

5.1 Monetary Policy Actions During the Pandemic

The ECB was primed to take prompt and decisive action to the pandemic, positioning itself among the first institutions to do so.

The swift measures taken by the ECB were designed to guarantee access to affordable funding for banks, maintain control over the spread of bond yields among euro area member states, and create a period of relative stability to allow other EU institutions and member states to coordinate their fiscal policies. In so doing, the ECB sought to promote a unified and coordinated approach, whereby its monetary policies would reinforce the impact of ambitious fiscal measures across the continent.[37]

Much of the ECB's response during 2020–2021 built upon the policy instruments developed during the Eurozone sovereign debt crisis.

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[35] COVID-19 to Plunge Global Economy into Worst Recession since World War II," *The World Bank*, June 2020, https://www.worldbank.org/en/news/press-release/2020/06/08/covid-19-to-plunge-global-economy-into-worst-recession-since-world-war-ii

[36] "Social and economic impact of COVID-19," *Brookings*, June 2021, https://www.brookings.edu/research/social-and- economic-impact-of-covid-19/

[37] ECB, 2020a

At the outset of the pandemic in early 2020, the European Central Bank (ECB) had already reached the effective lower limit of its key interest rates, including a negative deposit rate of -0.50%.
Given the inability to reduce rates further, the ECB turned to a previously employed unconventional tool, forward guidance, indicating that low interest rates would be maintained until there were evident indications of inflation approaching the 2% target. Providing clarity and confidence to the markets amidst growing uncertainty, this measure offered a sense of stability amidst the prevailing economic turbulence.

As the economic impact of the pandemic intensified, the European Central Bank (ECB) introduced a new tool, specifically designed to address the challenges posed by the circumstances.
The Pandemic Emergency Purchase Programme (PEPP) is a large-scale asset purchase programme designed to facilitate the acquisition of securities from both the private and public sectors. The PEPP is a more expansive and adaptable programme than its precursor, the SMP. The programme was created with the objective of encompassing a wider range of eligible assets, including sovereign debt and corporate bonds, and to provide households and businesses with the necessary funds to navigate the crisis in a cost-effective manner.

By December 2020, the PEPP had reached a volume of €1,850 billion, thereby assisting in the reduction of borrowing costs and the increase of lending across the euro area. The ECB's acquisition of sovereign bonds contributed to a narrowing of yield spreads between fiscally robust and less robust member states, while corporate bond purchases provided companies with an alternative source of credit. Furthermore, the ECB purchased bonds directly from banks, increasing their capacity to extend credit to households and businesses.

In yet another demonstration of its commitment to providing support, the ECB eased the standards for collateral and broadened the range of eligible collateral for banks participating in Targeted Longer-Term Refinancing Operations (TLTRO III).

These operations, initially introduced during the Eurozone debt crisis, subsequently assumed a pivotal role during the pandemic. They did so by offering banks long-term loans at minimal interest rates, thereby providing favorable borrowing conditions and stimulating lending.
Furthermore, the ECB introduced the Pandemic Emergency Long-Term Refinancing Operations (PELTROs) as a liquidity backstop for the euro area banking system. Both TLTROs and PELTROs played a major role in maintaining financial stability and supporting the real economy.

Furthermore, to ensure stability in global markets, the ECB re-established international swap lines with other major central banks in March 2020, a measure that had proven effective during the global financial crisis.

This preemptive action ensured the smooth functioning of global funding markets and helped mitigate systemic risks. In tandem, the ECB also temporarily relaxed certain banking regulations, such as capital and liquidity buffers, to increase banks' lending capacity. However, strict conditions were imposed to ensure that the additional liquidity was directed toward supporting the economy rather than for share buybacks or bonuses.

It can be concluded that the European Central Bank's policy response to the Coronavirus disease 2019 pandemic was driven by five key objectives: firstly, to help the economy to absorb the shock of the crisis; secondly, to maintain affordable borrowing costs; thirdly, to support access to credit for firms and households; fourthly, to increase the lending capacity of banks; and finally, to preserve financial stability through international cooperation. Each of these actions reflected lessons learned from the 2008 Global Financial Crisis and demonstrated the ECB's continued commitment to stabilizing the euro area economy during an unprecedented crisis.

It was illustrated how the ECB was able to apply the insights gained from past experiences and adapt its approach in response to evolving economic challenges.

The ECB had evolved into a more agile institution over time, learning the importance of swift and decisive action, particularly in the absence of immediate fiscal responses from member states.

During the pandemic, the ECB once again demonstrated its capability to act as a lender of last resort, extending support not only for banks but also for sovereign entities, ensuring access to affordable funding and safeguarding financial stability across the euro area.

A critical insight gained from past crises, particularly during the euro area debt crisis, was the importance of effective communication. The ECB's forward guidance during the pandemic, indicating that low interest rates would persist until inflation reached the 2% target, played a key role in restoring confidence, much like Draghi's "whatever it takes" commitment did in 2012.

With traditional tools such as interest rate cuts proving ineffective due to the zero lower bound, the ECB turned to more flexible instruments like the Pandemic Emergency Purchase Programme (PEPP). This shift reflected the institution's growing adaptability, as it expanded its policy toolkit to address new challenges.

The ECB further bolstered its actions by expanding its refinancing operations through Targeted Longer-Term Refinancing Operations (TLTROs) and introducing Pandemic Emergency Longer-Term Refinancing Operations (PELTROs).
These measures provided banks with long-term loans at low interest rates, stimulating lending and supporting the financial sector.
The easing of collateral requirements and temporary relaxation of regulatory standards further demonstrated the ECB's evolving comprehension of its broader responsibilities, extending beyond the price stability to financial stability.

International cooperation was also key, with the ECB reestablishing swap lines with other major central banks, ensuring liquidity in global markets and mitigating systemic risks. This collaborative approach marked a more integrated response compared to past crises, where monetary policy was more isolated.

By the time the pandemic struck, the ECB was better equipped to manage the crises and work closely with fiscal authorities. Although historically cautious about the intersection of monetary and fiscal policies, the pandemic highlighted the necessity of coordination, with the ECB’s rapid response giving member states time to implement their own fiscal measures.

In conclusion, the ECB's pandemic response showcased its evolution into a more flexible and responsive institution. Drawing on the knowledge gained from past crises, it expanded its mandate from price stability to include financial stability and economic support. The implementation of both conventional and unconventional measures, combined with greater coordination with fiscal authorities, exemplified how the ECB adapted to unprecedented economic shocks, reinforcing its role as a stabilizing force in the euro area.

5.2 Empirical Considerations

In order to provide an analytical demonstration of the conduct of the European Central Bank (ECB) in the context of a pandemic, two graphs have been produced. The first of these graphs presents a comparison of the growth in unemployment rates in the Eurozone, the United States and the United Kingdom between the years 2009 and 2022. The objective of the comparison is to identify common trends and specific differences in the economic responses to the crisis.

Figure 7 Unemployment Growth Rate (US, UK and Eurozone) from 2009 to 2022

Sources: Statista

Prior to the advent of the pandemic, the United States and the United Kingdom exhibited similar economic trends. In the former, the unemployment rate experienced a notable decline, dropping from 9.3% in 2009 to 3.7% in 2019. Similarly, in the latter, the unemployment rate also demonstrated a downward trajectory. The unemployment rate fell steadily from 7.6% to 3.8% over the same period. By contrast, the situation in the Eurozone was characterized by a rising unemployment rate during the period of the sovereign debt crisis, due to the restrictive policies that were implemented.

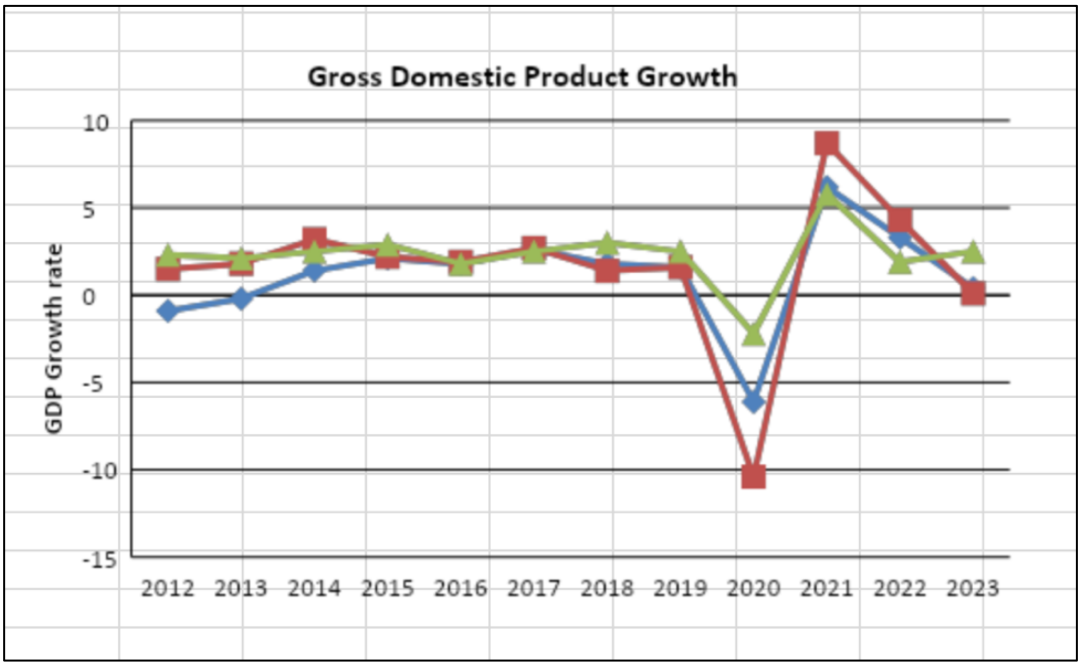
At the onset of the pandemic, unemployment rates increased in all three regions. In the United States, the rate rose to 8.1%, while in the Eurozone, the increase was more moderate at 8%. In the United Kingdom, the rate increased to 4.6%.

The policies adopted by the ECB during this period, such as the PEPP, have played a significant role in alleviating the adverse effects of the pandemic on the economy, particularly in the Eurozone.

Between 2021 and 2022, the United States experienced a rapid recovery, with the rate falling to 3.6%. This may reflect a more flexible fiscal and monetary response than that of the Eurozone. Despite a recovery, with the rate reaching 6.8%, unemployment in the Eurozone remains higher than in other reference areas. This may be attributed to two factors: the greater rigidity of the labor market and the gradual nature of the monetary policies implemented by the ECB, as outlined in previous sections.

The recovery following the pandemic demonstrates the more complex and fragmented nature of the eurozone economy, which is characterized by a greater variety of national fiscal situations.

Figure 8 Gross Domestic Product Growth in US, UK and Eurozone from 2012 to 2023



Sources: Statista

The graph shows the GDP growth rate from 2012 to 2023. we can see that there is a noticeable downward spike in 2020 followed by a sharp recovery from the following year. during the pandemic, GDP in the Eurozone and other areas such as the US and the UK collapsed due to lockdowns and harsh restrictions that debilitated economic activity.

The sharp decline witnessed in 2020 corresponds with the extensive economic downturn triggered by COVID-19. The significant assistance from central banks like the ECB has played a key role in driving a robust recovery in 2021.

The ECB introduced the Pandemic Emergency Purchase Programme (PEPP) to stabilize financial markets and lower borrowing costs for governments, businesses and households in reaction to the crisis. This unconventional monetary measure, together with other liquidity-proving operations, worked to lessen the economic harm by maintaining a favorable financing conditions and increasing confidence.

The ECB's interventions helped avoid a prolonged economic downturn by keeping interest rates low, facilitating the flow of credit, and allowing for government spending to boost the economy. These measures, which aimed to help economic recovery once lockdowns ended and activity picked up, contributed in part to the graph's significant improvement in 2021. The drop seen post-2022 may suggest a deceleration after the initial recovery, potentially impacted by inflation and policy normalization.

The COVID-19 crisis reinforced several important lessons learned from previous crises and further strengthened the ECB's role as a central stabilizing force in the euro area. As during the global financial crisis and the subsequent sovereign debt crisis, the pandemic demonstrated the ECB's ability to act quickly and decisively to safeguard the financial system. However, the scale and immediacy of the response during the pandemic highlighted the ECB's increasing reliance on unconventional monetary policy measures, such as the Pandemic Emergency Purchase Programme (PEPP) and the expanded use of targeted longer-term refinancing operations (TLTROs). These instruments once again required the ECB to go beyond its traditional mandate, blurring the lines between monetary and fiscal policy in order to stabilize markets and ensure liquidity.

The pandemic also highlighted persistent structural vulnerabilities within the euro area, in particular the absence of a fully realized fiscal union. As Member States struggled to coordinate their fiscal responses, the ECB became the de facto crisis manager, taking on responsibilities that would normally fall to fiscal authorities. This further highlighted the need for stronger economic governance and a more integrated fiscal framework in the EU. The ECB's actions during the pandemic, as in previous crises, were necessary to prevent an economic meltdown, but they also reflected the continued reliance on monetary policy to address deep-rooted structural challenges beyond its primary mandate of price stability.

In essence, the COVID-19 crisis reinforced the ECB's evolution into an institution capable of intervening not only in the monetary but also in the quasi-fiscal sphere. While this expanded role was crucial for crisis management, it also raises questions about the long-term sustainability of relying on the ECB to fill gaps left by the absence of a unified fiscal policy. As Europe moves forward, the lessons of the pandemic underscore the need to reassess the ECB's mandate and, more broadly, the governance structure of the euro area to ensure that the tools needed for crisis management are aligned with the institutional responsibilities of both monetary and fiscal authorities.

Conclusions

Throughout the chapters of this thesis, it has been shown how the European Central Bank has repeatedly gone beyond its mandate to ensure the financial and monetary stability of the euro area. The unconventional measures adopted over the years have proved to be more incisive than the traditional ones, as they have managed to respond immediately and positively to adverse economic situations. From Draghi's iconic speech mentioned at the beginning of this paper to the recently implemented Pandemic Economic Purchase Programme, through the production of graphs, it has been possible to observe the wide range of instruments at the ECB's disposal and their effectiveness in countering economic difficulties.

In the course of the analysis, structural criticisms emerged that influenced not only the ECB's response but also the challenges it faced, such as the financial fragmentation of the euro area or the slow pace of the post-pandemic recovery. The ECB has proved to be a malleable institution, able to adapt to needs while maintaining its institutional identity. It has been able to capitalize on the experience gained in previous crises, proposing and extending the measures introduced in the first part of the two decades and applying them successfully even in the most recent phases of the economic and financial crises in the euro area.

Another important consideration is the ECB's growing role as a banking supervisor in the European Banking Union. Its ability to integrate the monetary mandate with financial system supervision will be crucial to preventing future crises and strengthening the resilience of financial institutions. This, together with a more coordinated supervisory policy, will be essential to prevent financial imbalances from jeopardizing the stability of the euro area as a whole. Furthermore, the debate on the introduction of a common European fiscal policy will have to remain a priority in order to avoid the ECB being forced to act beyond its mandate to fill fiscal gaps, as has happened in the past.

The difficulties that the euro area will face in the future will continue to be greater than in other economic areas, as the charts also show, because of its complex nature, characterized by a plurality of nations and heterogeneous economies. The ECB's monetary policy management will always have to take this diversity into account, which will require a constant balancing of the needs of different countries. It will be crucial to continue to strive for closer fiscal policy coordination in support of monetary policy, as demonstrated during the pandemic crisis.

Finally, monitoring the evolution of long-term inflation expectations and the perception of the ECB's credibility by markets and citizens will be crucial. Its ability to maintain confidence in its policies will be essential not only to address the challenges ahead, but also to ensure that the euro area can thrive in an increasingly globalized and interconnected economic environment.

To ensure the long-term economic stability of the euro area, it will be crucial to maintain a high degree of transparency and effective communication with markets in order to avoid instability and anchor economic expectations. These elements, together with continued adaptability, will be key to meeting future challenges.

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