

# ECB monetary policy: Past, present and future

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## **Abstract**

This paper considers the past, present, and future of the ECB monetary policy. Looking backwards, the ECB has succeeded in navigating through several crises. Looking forward, the paper examines some of the main challenges confronting the ECB in the years ahead with climate change, digitalisation, inequality, sovereign indebtedness, and the completion of Banking Union complicating the pursuit of the price stability primary objective.

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## LIST OF ABBREVIATIONS

<b>APP</b>	Asset purchase programme
<b>CBDC</b>	Central Bank Digital Currencies
<b>CHIPS</b>	Clearing House Interbank Payment System
<b>CMDI</b>	Crisis Management and Deposit Insurance
<b>CSPP</b>	Corporate Sector Purchase Programme
<b>ECB</b>	European Central Bank
<b>ECJ</b>	Court of Justice of the European Union
<b>EDIS</b>	European Deposit Insurance Scheme
<b>ELA</b>	Emergency Liquidity Assistant
<b>EMU</b>	Economic and Monetary Union
<b>EP</b>	European Parliament
<b>ESCB</b>	European System of Central Banks
<b>ETS</b>	EU emissions trading system
<b>EU</b>	European Union
<b>FOLTF</b>	Failing or Likely to Fail
<b>GDP</b>	Gross domestic product
<b>GFC</b>	Global financial crisis
<b>HANK</b>	Heterogeneous Agents New Keynesian
<b>HICP</b>	Harmonised index of consumer prices
<b>MFF</b>	Multi-Annual Financial Framework
<b>MPC</b>	Marginal propensity to consume
<b>NCB</b>	National Central Bank
<b>PEPP</b>	Pandemic emergency purchase programme
<b>RANK</b>	Representative Agent New Keynesian

<b>SSM</b>	Single Supervisory Mechanism
<b>SRM</b>	Single Resolution Mechanism
<b>SWIFT</b>	Society for Worldwide Interbank Financial Telecommunication
<b>TFEU</b>	Treaty on the Functioning of the European Union
<b>USD</b>	US dollar

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## EXECUTIVE SUMMARY

- **From its inception until 2008, the ECB demonstrated considerable success in meeting its inflation target of 2% year-on-year growth of the aggregated Harmonized Index of Consumer Prices (HICP) in the euro area.** Challenges emerged for the ECB in achieving its inflation target after the global financial crisis (GFC) in 2008 and the sovereign debt crisis in 2011 and inflation was below target for a considerable period. The fight against inflation has also proven to be a challenge since 2021 when inflation rates surged significantly above the inflation target.
- **The euro remains the second most important currency after the US dollar.** Maintaining this international role will largely depend on whether it succeeds in ensuring a stable value and whether the EU is confident and assertive on the international stage in terms of diplomacy and trade policy.
- **Household inequality affects monetary policy and, vice versa, monetary policy can exacerbate inequality.** New macroeconomic models have improved considerably our understanding of how differences between households – i.e., their unequal income and wealth – change the transmission mechanism of monetary policy. Household heterogeneity should be taken into account insofar as it alters the effects of monetary policy. At the same time, the ECB must ensure that redistributive effects, which are an inherent element of any monetary policy measure, are kept to a minimum. The competent fiscal authorities remain first and foremost responsible for addressing social inequalities and implementing redistributive measures.
- **Heterogeneity among Member States also poses a challenge to the effectiveness of the ECB monetary policy transmission.** Fiscal policy responsibility rests with the Member States; the new fiscal rules should strengthen fiscal discipline, a prerequisite for ensuring price stability.
- **Digitalisation has reached the shores of central banks including the ECB.** While the ECB must keep up with digital private payment methods and private digital currencies, like stablecoins, the digital euro is an important future project, whose functions and design must be thoroughly scrutinised. But there is no rush into this digital space; other important central banks, like the US Federal Reserve, are advancing slowly and with great caution in this area.
- **Climate change is not only a challenge for the real economy, but also for the financial markets and its participants.** Sustainable finance is a project that the ECB must tackle together with other actors at all levels. While the ECB must ensure that it addresses the risks associated with climate change within the scope of its supervisory duties, it must proceed with utmost caution in the conduct of monetary policy. Climate change is first and foremost a governmental and intergovernmental responsibility.

## 1. INTRODUCTION

The euro is marking its 25<sup>th</sup> anniversary in 2024. This presents an opportunity to reflect on the currency's development on the international currency markets and the ECB's performance in providing a stable payment unit to the European people. The ECB has had to navigate the euro through various crises and difficult times, including the global financial crisis, the European debt crisis, the global recession triggered by the COVID-19 pandemic and – so far – the Russian invasion of Ukraine. The stability of the euro area has been tested on numerous occasions. Despite these challenges, the euro area has successfully withstood them. However, future challenges have arisen, which the ECB, national governments, and the European Commission must address.

This paper examines, from legal and economic perspectives, the past, present, and future of ECB monetary policy. Following this introduction, Section 2 considers the euro at 25 by looking backwards at its history, considering the ECB's mandate and assessing the evolution of the ECB's analytical and policy framework as well as its monetary policy toolkit and its performance in the control of inflation. Section 3 outlines some of the main factors and challenges that may affect price and financial stability in the coming years or have important implications for the implementation of monetary policy. In particular, the paper discusses climate change, digitalisation, inequality, the fiscal-monetary interaction, the international role of the euro, and the Banking Union. This study is important in the light of the upcoming monetary policy strategy review planned for 2025. The paper finishes with some concluding observations.

## 2. THE EURO AT A GLANCE

This section analyses the history and significance of the euro as an international currency after 25 years. It assesses the mandate of the ECB and evaluates its performance in controlling inflation.

### 2.1. Inflation control in the last 25 years

From the inception of the EMU until 2008, the ECB demonstrated considerable success in meeting its inflation target of two percent year-on-year growth of the aggregated Harmonized Index of Consumer Prices (HICP) in the euro area over the medium term (Figure 1). The actual euro area inflation rate consistently fluctuated narrowly around the 2% target. However, challenges emerged for the ECB in achieving its inflation target following the onset of the global financial crisis (GFC) in 2008 and the sovereign debt crisis in 2011. Despite the implementation of a variety of unconventional monetary policy measures to counteract disinflationary pressures, headline inflation declined and, until the beginning of 2017, was often below the inflation target, and even negative on brief occasions between 2014 and 2016 and in 2020.

#### Box 1: The ECB's mandate

**The ECB's mandate** is laid out in Art. 127 TFEU. Price stability is the ECB's primary objective in the conduct of monetary policy according to Art. 127(1) TFEU.

**"Price stability"** is not spelt out in the treaties and its interpretation has changed over time. The original meaning of the term has been discussed at length in the academic literature. Resorting to the economic theory of the time and the Maastricht-criteria for accession to the euro area, price stability was interpreted as aiming at an inflation rate of close to, but below 2% annual increase in the Harmonized Index of Consumer Prices (HICP). The ECB Governing Council revisited this understanding during the monetary policy strategy review in July 2021 and concluded that this definition no longer reflects the macroeconomic situation and needs of the euro area. In conclusion, it adopted instead a symmetric 2% inflation target over the medium term.<sup>1</sup>

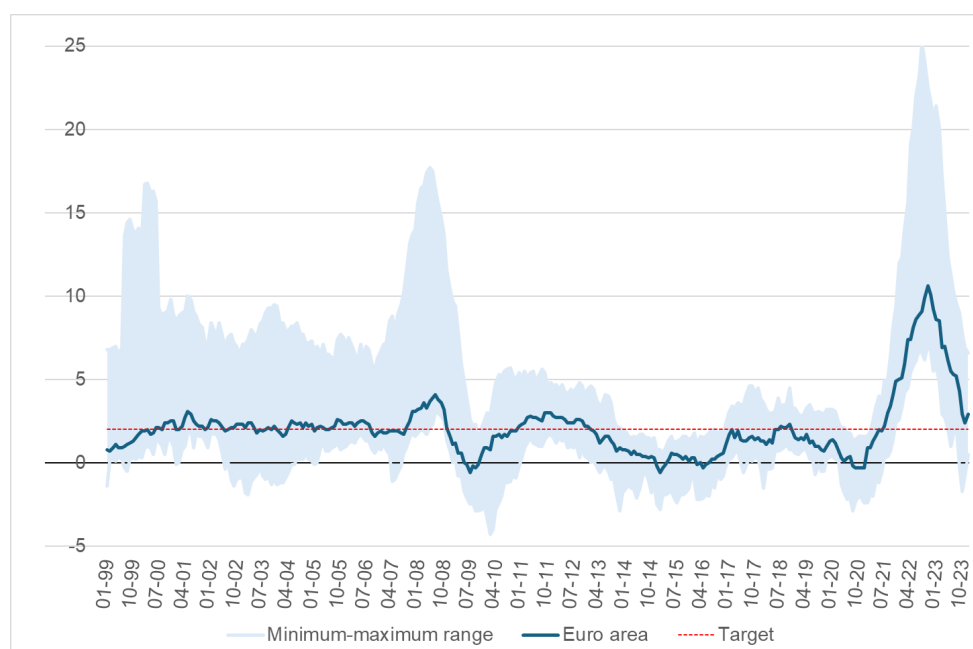
Article 127(2) TFEU defines the secondary objective of the ECB as follows: "[W]ithout prejudice to the objective of price stability, the ESCB shall support the general economic policies in the Union with a view to contributing to the achievement of the objectives of the Union as laid down in Article 3 of the Treaty on European Union". The wording of this provision reflects the competence structure in EMU: while monetary policy is centralized at Union level and is the exclusive competence of the ECB, economic policies remain decentralized at the level of the member states.<sup>1</sup> The scope of the secondary objective has been a focal point of discussion in the last years with regard to the question of whether and to what extent the ECB may also contribute to other policy objectives beyond price stability; for example, sustainability and the fight against climate change (see below 3.3).

**Financial stability** is a contributory task of the ECB pursuant to Art. 127 (5) TFEU. In line with the so-called Tinbergen rule and the tradition of the Bundesbank, the Treaty founders decided that the ECB should focus on one primary objective – price stability – in the conduct of monetary policy. Though after the global financial crisis other jurisdictions changed their central banking legislation (for example the U.K.) to give financial stability equal ranking to price stability, the Treaty was not changed. This means that though *de facto* financial stability is key for a sound monetary policy, *de jure* the ECB is not mandated to address risks to financial stability.

The independence of the ECB (Art. 130 TFEU) vis-à-vis EU and national institutions is an integral part of its mandate. The ECB was granted independence from political control in order to be able to control inflation. Yet, in a democratic system, independence is only one side of the coin; accountability is of essence.

In March 2020, the COVID-19 pandemic caused a global economic standstill and once more fuelled deflation concerns. To address this, the ECB resumed its asset purchase programmes and launched the new Pandemic Emergency Purchase Programme (PEPP), while governments provided significant subsidies and loans to support the private sector's collapsing revenues and economic activity. Monetary and fiscal policy measures successfully averted the risk of deflation after several months of falling prices. However, from mid-2021, the pendulum then swung in the other direction and HICP headline inflation in the euro area began to rise well above the inflation target. This increase can be attributed, in part, to global supply constraints and an escalation of energy prices triggered by Russian invasion of Ukraine. In October 2022, overall inflation reached a record high 10.6 %, a level five times higher than the ECB's inflation target. Since then, inflation has continuously declined and stood in the euro area at 2.8% as of January 2023 according to the Eurostat January 2024 flash inflation estimate.

**Figure 1:** Headline Inflation, measured by HICP (in %)



Source: Macrobond and own calculations.

Notes: The minimum-maximum range indicates the lowest and highest value of headline Inflation in the cross-section of euro area Member States. The latest data is for December 2023.

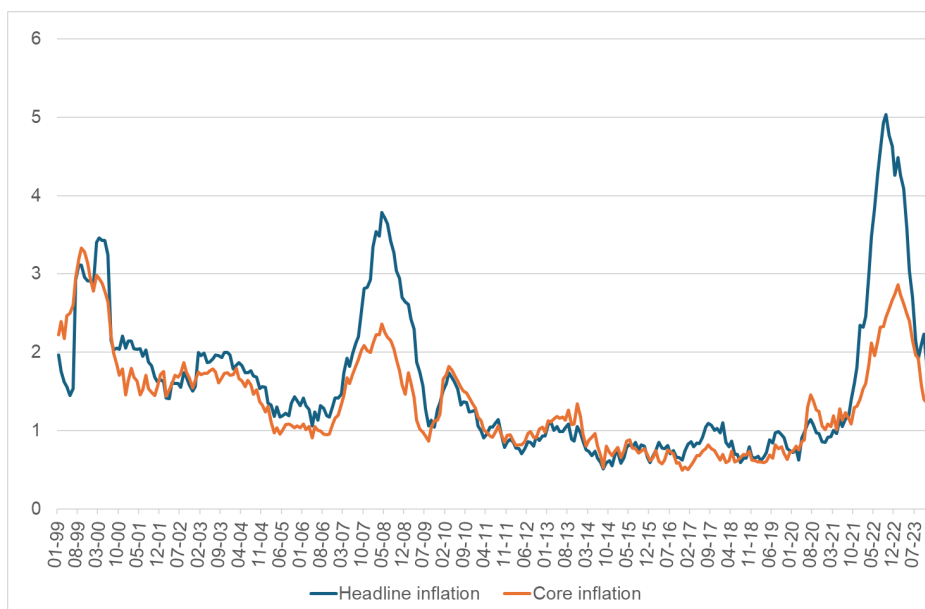
All in all, it has been a bumpy ride with many challenges for the ECB. Nevertheless, we conclude that if the ECB succeeds in bringing the current inflation rate back closer to its target again the next months ahead, it will have fulfilled its primary mandate of maintaining price stability.

In a monetary union, however, it is also advisable to look not only at average inflation, but also at inflation dispersion across all Member States. Inflation divergences within a single currency framework, especially with a one-size-fits-all monetary policy, can pose challenges. Differences in inflation rates have the potential to amplify heterogeneity in the business cycles among Member States, making it more probable that the common monetary policy may not be suitable for individual countries. Furthermore, if inflation differentials persist over an extended period, they can contribute to the accumulation of real exchange rate misalignments by fostering disparities in price levels. This, in turn, can have adverse effects on international competitiveness and lead to more asynchronous business cycles between Member States, thus impeding the conduct of monetary policy.

The shaded area depicted in Figure 1 represents the range between the smallest and highest values of headline inflation across euro area member states. Figure 2 illustrates the (unweighted) standard deviation of headline and core inflation rates observed across euro area countries. Particularly in times

of crisis, we see that the dispersion of inflation rates increases. Conversely, in the post-crisis period between 2011 and the end of 2021, inflation was relatively homogeneous across euro area Member States, which facilitated the ECB's single monetary policy. However, since the beginning of the surge in inflation at the end of 2021, we also observe a marked increase in inflation dispersion that has exceeded the peak experienced in the run-up to the Great Recession. The evolution of the energy component is a significant factor, as demonstrated by the difference in standard deviation between overall (blue) and core (orange) inflation.<sup>1</sup> Energy price inflation varies significantly across countries due to differences in the structural features of energy markets and the national energy mix, as well as household utility contracts and regulation. Different government intervention measures in the Member States to mitigate price increases at the consumer level also play a role, so that the divergence in inflation trends is also an expression of a lack of political coordination. With the recent decrease in energy prices, inflation dispersion has also resumed, but it is still at a high level.

**Figure 2:** Standard Deviation of Headline and Core Inflation (in %)



Source: Macrobond and own calculations.

Notes: The standard deviation gives the average percentage point deviation around the average inflation rate of the euro area member countries. The more dispersed the inflation rates are, the higher is the standard deviation.

## 2.2 Second most important currency in the world

The euro has the necessary preliminary settings to be an international currency. There are no restrictions on its purchase, sale, or holdings. Global exporters can invoice sales in euros, while private and public institutions can issue in euros. Additionally, the euro provides value stability comparable to that of the US dollar in terms of inflation and exchange rates (Dabrowski, 2020).

However, although the euro currently holds an international status, it is certainly not the most dominant currency in the international monetary system. The euro remains the second most important currency after the US dollar, according to various indicators of international currency use, such as holdings of foreign exchange reserves, international debt and loans, global payment currency (SWIFT), or foreign exchange turnover (ECB, 2023). About 60 countries have chosen to use the euro as their own currency or to peg their currency to the euro. However, the euro tends to be more a regional currency, i.e. it is used to a significant extent for (cross-border) transactions concentrated in the European

<sup>1</sup> Further, core inflation is still almost twice as high as before the latest inflation episode, suggesting that price developments have been heterogeneous across EMU Member States in areas other than energy.

neighborhood, while the use of the US dollar for cross-border transactions and banking activities is global.

The European Commission has repeatedly emphasised the importance of a strong international role for the euro in joint communications with the European Parliament, the Council, the Commission, and the ECB (EU Commission, 2019 and 2021). An important reason for this is the increasing reliance on economic instruments to achieve political goals. The use of currency-related legislation allows a nation to extend its extraterritorial reach for unilateral sanctions. This trend is exemplified by various measures in US foreign policy, such as the “America first” approach, as well as US sanctions against Iran and the Nord Stream 2 project. Thus, a strong international role for the euro plays a crucial role in increasing the autonomy of European businesses and governments. In turn, this strengthens economic sovereignty by reducing the European Union’s (EU) financial risks, increasing resilience to US sanctions and refining the EU’s sanctions framework.

### 3. CHALLENGES FOR MONETARY POLICY IN THE FUTURE

This section outlines some main factors and challenges that may affect price and financial stability in the coming years or have important implications for the implementation of monetary policy. These will be important in light of the upcoming monetary policy strategy review planned for 2025.

#### 3.1. Inequality

Monetary policy affects the distribution of economic outcomes, but more crucially it affects (wealth and income) inequality in society, which in turn also has repercussions on monetary policy and its transmission.

Households are different across many dimensions – their income, their assets and liabilities, and their socioeconomic characteristics. All of these differences can be summarised under the definition of household heterogeneity or household inequality. Monetary policy always has distributional effects. Interest rate changes affect macroeconomic variables and may contribute to the increase or reduction in income or wealth inequality. Unconventional monetary policy measures also show substantial (re-)distributional effects, benefitting some Member States, market participants, or groups of society at the expense of others. Thus, understanding how income and wealth inequality affect the strength of monetary policy is crucial. If monetary policy displays such income and wealth effects, it is inevitably charged with a political dimension, which must be in line with the ECB's mandate and institutional set up. Recent years have seen a significant increase in the public interest in the topic of income and wealth inequality (e.g. seminal work such as Atkinson, Piketty, and Saez, 2009).

Standard macroeconomic Representative Agent New Keynesian (RANK) models have long abstracted from the differences between households by using a representative agent setup (Gali 2005). In this framework, the representative agent optimises his/her decisions about work, leisure, consumption, savings, and others. Aggregate consumption dynamics are then just the aggregated outcomes of this single representative agent scaled up for the whole economy. In this set-up, the rational, optimising individual reacts to interest rate changes by adjusting their consumption and saving more or less respectively for a later period. Thus, the overall effect of monetary policy is mainly driven by an intertemporal substitution of spending from today to tomorrow. Keynesian aggregate output effects, as in the classical IS-LM-AS-AD, have a relatively weak contribution to aggregate dynamics of the economy.<sup>2</sup>

The recent findings and developments from the Heterogeneous Agents New Keynesian (HANK) macroeconomic literature however disprove the thesis that such models replicating the average or median ("representative agent") value of key macroeconomic variables are enough for a proper macroeconomic analysis. These models introduce different dimensions of household heterogeneity, but most importantly they impose idiosyncratic risks in the economy, which agents cannot insure against because markets are incomplete. The inability of agents to insure against individual or macroeconomic shocks then leads to inequality in outcomes – income and wealth. This then drives consumption behaviour to diverge from the standard framework and delivers differences in macroeconomic dynamics after macroeconomic shocks or policy changes.<sup>3</sup>

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<sup>2</sup> The IS-LM-AS-AD is the classical model of aggregate supply and aggregate demand where economic output and prices are determined by the interactions on goods, financial and labour markets. The standard New Keynesian models address these relations through modelling one single, representative agent – individual or household. Extensions of the standard model introduced a simplifying assumption of two types of households – Keynesian and optimising, rational households (Galí, López-Salido and Vales, 2007). While this changed the relative contribution of the aggregate income and intertemporal substitution channels to macroeconomic dynamics, it did not change the logic behind it fundamentally.

<sup>3</sup> Seminal papers milestones in the development of this literature include work by Bewley (1983), Imrohroglu (1989), Huggett (1993), and Aiyagari (1994).



The combination of growing computational capabilities alongside detailed microeconomic evidence on household balance sheets, consumption behaviour, and income enable these heterogeneous agents models to describe the dynamics for the whole distribution of individual agents following shocks and policy changes. In the euro area, the ECB Household Finance and Consumption Survey is the data source providing such detailed information.

HANK models extend the mainstream New Keynesian model by focusing on the relationship between interest rate changes and consumption responses. The monetary policy transmission mechanism is affected in HANK by amending consumption behaviour so that the model replicates heterogeneous MPCs of households, earnings inequality between different household types, and percentiles and heterogeneous household balance sheets.<sup>4</sup> The seminal work of Kaplan, Moll and Violante (2018) shows how the transmission of monetary policy changes when households are different - the effects of monetary policy on consumption are then dominantly driven by the indirect effects of interest rate changes on income, taxes, and labour supply, instead of intertemporal substitution as in the classical RANK model. Further, Auclert (2019) shows that after a monetary policy change there are implicit channels of redistribution between households along their different income, nominal assets, and interest rate exposures. Thus, heterogeneity changes both the strength of the transmission of monetary policy and the relative role of its different channels. Changes in aggregate income and redistribution become relatively more important and drive the broader consumption and output changes in the economy after an interest rate change. This new understanding has implications for how monetary policy is designed and for decision-making in the Euro area – it opens new avenues, as well as challenges for the setting of interest rates, as they have a well-analysed distributional implication, but the distribution of income and wealth also plays a vital role for monetary policy itself.

Thus, turning to the legal aspect of this relationship, inequality and monetary transmission demonstrates a reciprocal interaction. With regard to the impact of inequality on the monetary policy transmission, Art. 127 TFEU mandates the ECB to take into account all aspects that are relevant for the conduct of a price stability oriented monetary policy including equality considerations. As the economic analysis demonstrates, inequality affects the monetary policy transmission. Therefore, the ECB must understand to what extent the increasing heterogeneous wealth distributions impact its monetary policy measures. Equality considerations feed directly into the primary task of the ECB with regard to price stability (Art. 127 (1) 1 TFEU). Financial stability is also affected by wealth distribution, as financial crises may exacerbate economic inequality among financial market participants, households, and businesses.<sup>5</sup>

In its 2021 Monetary Policy Strategy Review, the ECB decided to take steps toward accounting for inequalities by adapting the Harmonised Index of Consumer Prices (HICP) with the inclusion of owner-occupied housing costs in a process of four stages to be completed by 2026. This adaptation of the HICP gives a more realistic picture of consumption expenditures by households and, hence, also provides a better basis to understand the transmission of monetary policy.<sup>6</sup>

The principle of proportionality enshrined in Art. 5 (4) TEU requires the ECB to consider the side effects of its measures within its proportionality assessment. Art. 127 (1) 2 TFEU makes reference to the objectives of the Union – including equality objectives – thus requiring the ECB to take equality considerations into account. Although the ECB enjoys broad discretion when conducting its monetary

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<sup>4</sup> Kaplan, Moll and Violante (2018) show that the differences in household MPCs are central for replicating realistic consumption responses to macroeconomic shocks.

<sup>5</sup> See Monnin (2018) with further references; Čihák and Sahay (2020), p. 18 ff.

<sup>6</sup> See also Schnabel (2021a).



policy<sup>7</sup>, it must explain and justify its measures, especially with regard to its side-effects if they show substantive distributional effects.

As the ECJ emphasised with regard to the ECB's duty to state reasons in accordance with Art. 296 TFEU: *"[I]t should be recalled that, in situations such as that at issue in the present case, in which an EU institution enjoys broad discretion, a review of compliance with certain procedural safeguards — including the obligation for the ESCB to examine carefully and impartially all the relevant elements of the situation in question and to give an adequate statement of the reasons for its decisions — is of fundamental importance"*.<sup>8</sup>

This duty to state reasons entails the obligation to thoroughly assess the potential positive and negative effects of its monetary policy measures both with regard to its effectiveness to safeguard price stability and with regard to other side-effects. The ECB must analyse, describe, and explain which distributional effects the envisaged monetary policy measure will entail according to its prognosis and why expected positive effects for price stability outweigh distributional effects.<sup>9</sup> This duty is important also from an accountability perspective.

### 3.2. Climate change

Climate change can have serious macroeconomic implications that are important for monetary policy makers and the euro area as a whole. The EU has set itself ambitious goals in the area of climate change and the reduction of greenhouse gas emissions to become the first-climate neutral continent by 2050. This goal is embedded as part of the European Green Deal, which constitutes the EU "new growth strategy". It is further expanded by the Fit for 55 Package<sup>10</sup>, launched in mid-2021 with an upwards revision of targets for emissions reduction. The macroeconomic contribution of the European Green Deal will be to reduce the risks of climate change and future climate disasters, which would otherwise represent an immense burden on the global and EU economy.

The importance of climate change for macroeconomic outcomes and for monetary policy comes, first and foremost, from the tail risks that climate change can create for the global and the EU economy. Most importantly, the physical impact of extreme weather can have detrimental effects on economic output and growth. Such effects can be a result of destruction of capital and infrastructure, displacement or migration due to weather risks, and/or productivity losses spurring from all these developments (Bank of England 2022). In addition, shocks to economic activity and output can have a negative inflation effect, albeit temporary and short-lived. Furthermore, and importantly, a long-term increase in global temperature will reduce labour productivity, harm human capital accumulation and human health, and may increase political instability, most probably in a non-linear way (Dell et. al 2012, Felbermayr and Gröschl 2014).

In the EU, policies have been introduced to address and reduce climate-related risks. These policies also have real economic and, ultimately, inflationary implications, which is why they need to be taken into account by the ECB when considering the consequences of climate change for price stability. For instance, carbon pricing is one of the main tools for the reduction of greenhouse gas (GHG) emissions in the euro area and worldwide. Carbon pricing imposes additional costs to production by factoring in the economic and social costs imposed on the economy from carbon emissions. These additional costs

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<sup>7</sup> ECJ, Judgement of the Court of 11 December 2018, Case C-493/17, Weiss, ECLI:EU:C:2018:1000, para. 73: "since the ESCB is required, when it prepares and implements an open market operations programme of the kind provided for in Decision 2015/774, to make choices of a technical nature and to undertake complex forecasts and assessments, it must be allowed, in that context, a broad discretion (judgment of 16 June 2015, Gauweiler and Others, C62/14, EU:C:2015:400, paragraph 68 and the case-law cited)."

<sup>8</sup> ECJ, Judgement of the Court of 11 December 2018, Case C-493/17, Weiss, ECLI:EU:C:2018:1000, para. 30.

<sup>9</sup> See also Dietz (2023), p.1377 ff.

<sup>10</sup> See [Fit for 55](#).

should provide incentives to firms to pursue investment and technologies that decrease carbon emissions. Carbon pricing in the EU is implemented dominantly through the EU emissions trading system (ETS), as well as through different environmental and carbon taxes. The macroeconomic consequences of these higher carbon prices hinge on various factors. In general, however, they are expected to influence economic activity and inflation through elevated energy costs. The effectiveness will then depend on the credible implementation and how these policies are communicated, influencing investment and consumption decisions. An efficient transition will have the effect of transforming the economy by incentivising firms to replace carbon intensive production with greener, carbon-free production. This transition to more sustainability also bears distributional effects, especially with regard to consumption as higher prices will play a more significant role for low-income households than for high-income households. The macroeconomic effects of these higher prices will reduce aggregate demand in the economy due to lower household income and corporate profits (Brand, Coenen, Hutchinson, and Saint Guilhem 2023).

It will be for fiscal policy to address these complex interactions in terms of aggregate demand and the distributional effects on lower-income households in response to carbon pricing. Select policy initiatives require that fiscal revenue gathered through higher carbon pricing be redistributed to the most affected households. So far, most such programmes have been kept at the national level with the exception of the Just Transition Fund, which is part of the current EU Multi-Annual Financial Framework (MFF) 2021-2027 but is relatively limited in scope. Besides carbon pricing to reduce emissions, the EU Green Deal will also largely be implemented through significant public investments to decarbonise EU economies.

The ECB embedded some of the challenges of climate change and the envisaged transition to a CO<sub>2</sub>-neutral economy within its new monetary policy strategy made public in July 2021<sup>11</sup> by announcing its Climate Change Action Plan.<sup>12 13</sup> In this plan, the ECB declared its goal to better incorporate climate change considerations into its monetary policy operations: (1) by restructuring its Corporate Sector Purchase Programme (CSPP) to gradually decarbonise the corporate bond holdings (the so-called 'tilting' exercise); (2) by amending the collateral framework to include climate-related disclosure requirements for collateral; and (3) by strengthening its risk assessment tools and capabilities and management relating to climate risks.<sup>14</sup> Additionally, rating agencies will have to incorporate climate risks into their ratings.<sup>15</sup>

In its Press Release on the ECB's actions to fight climate change, the ECB stressed that the proposed *"measures are designed in full accordance with the Eurosystem's primary objective of maintaining price stability. They aim to better take into account climate-related financial risk in the Eurosystem balance sheet and, with reference to our secondary objective, support the green transition of the economy in line with the EU's climate neutrality objectives. Moreover, our measures provide incentives to companies and financial institutions to be more transparent about their carbon emissions and to reduce them"*<sup>16</sup>.

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<sup>11</sup> ECB (2021).

<sup>12</sup> Further information on the new monetary policy strategy is found in ECB (2021a). A historical overview of the development of the ECB's approach to its primary mandate in relation to climate concerns can be found at Smits (2022). See also Dietz (2022), p. 398 f. Lastra and Skinner (2023) provide a comparative analysis of the approaches taken by the ECB, Bank of England, and Federal Reserve System with regard to climate change.

<sup>13</sup> At the end of January 2024, the ECB also published its new Climate and Nature Plan 2024-2025, but since it was after the cut-off of this report, we do not explore it here in detail.

<sup>14</sup> ECB (2022).

<sup>15</sup> Lastra and Dietz (2024).

<sup>16</sup> ECB (2022).

The decisive question arises: is the Eurosystem really sticking to its mandate or is it – though with best of intentions – overstressing its competencies with its new green monetary policy?

Without a doubt, as analysed above, climate-related risks influence the price level and the monetary transmission channels<sup>15</sup>; therefore these are a necessary part of the conduct of monetary policy.<sup>17</sup> “Greening” monetary policy, by integrating climate-related risks in the conceptualization of the monetary policy strategy, the risk assessment, and the collateral framework, is an integral part of the ECB’s mandate to safeguard price stability according to Article 127 (1) 1 TFEU and to support financial stability according to Article 127 (5) TFEU. The ECB must be “climate-conscious”.<sup>18</sup>

Thus, measures that support sustainability objectives are in conformity with the ECB’s mandate as long as they do not discriminate against market participants or financial instruments that are considered less sustainable.<sup>19</sup> Enhancing disclosure with regard to the carbon footprint of financial assets is a useful measure to support environmental-friendly financial instruments and incentivize market participants to be more conscious about their carbon footprint. Such measures fall within the ECB’s mandate in accordance with Article 127 (1) 1, 2 and (5) TFEU when defining and implementing monetary policy (see also Article 3.1 of the ESCB Statute).<sup>20</sup>

With regard to the CSPP in particular, whether the ECB may support the green transition more directly by buying more green bonds within its corporate bond purchases is a much-debated topic.<sup>21</sup> Such measures directly discriminate against “brown” counterparties, bonds, or assets by treating “green” bond issuers and corporations more favourably. Before the ECB introduced these ‘tilting measures’, it adhered to the so-called principle of market neutrality when implementing its bond purchases and purchased bonds proportionally to market capitalization. Some scholars and central bankers support departing from this principle of market neutrality in favour of purchases according to the principle of market efficiency, i.e. buying more “green” bonds (bonds from climate-friendly, non-polluting industries).<sup>22</sup> In our view, this is a slippery slope: discriminatory measures can overstretch the ECB’s mandate and should be the competence of democratically elected bodies and not of technocratic independent institutions tasked with price stability.

In conclusion, climate change and the policies related to the reduction of greenhouse gas emissions and the green transition may have a significant impact on the macroeconomy of the monetary union, depending on numerous, partly uncertain, factors. These effects will be stronger on aggregate demand, investment, and economic activity and, thus, may push prices higher, consequently increasing inflation. This will have direct implications for monetary policy decision-making. As long as the ECB’s primary mandate is price stability, monetary policy will need to react to climate change and the green transition only to the extent that these developments push inflation above the inflation target in the medium-term and, therefore, require a monetary policy response.

### 3.3. Digitalisation

Digitalisation presents challenges and opportunities for the ECB. Digitalisation has been reshaping payments for some time; it is now also reshaping money and central banking. Central Bank Digital

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<sup>17</sup> See also Zilioli and Ioannidis (2021), p. 1065 f. concerning the incorporation of climate-related risks into the collateral framework.

<sup>18</sup> Dietz (2022), p. 416.

<sup>19</sup> See generally Dietz (2022), p. 417 ff.

<sup>20</sup> Zilioli and Ioannidis (2021), p. 1063 and p. 1065; de Boer and van’t Klooster (2021), p. 9 f. See also van’t Klooster and de Boer (2022) and Dietz (2022), p. 417 ff.

<sup>21</sup> Zilioli and Ioannidis. (2021), p. 1065.

<sup>22</sup> See, for example, Honohan (2019), pp. 17 f.; de Grauwe (2019); Schnabel (2021).

Currencies (CBDCs) are a manifestation of public digital money, while stablecoins and other unbacked crypto-currencies are forms of private digital money.<sup>23</sup>

On June 28, 2023, the Commission unveiled a comprehensive legislative package, including a proposed regulation on the establishment of the digital euro and a proposed regulation on the legal tender of euro banknotes and coins.<sup>24</sup> This 'single currency package' sets out a framework for the introduction of a digital euro as a complement to physical cash. If/when the proposal is adopted by the European Parliament and the Council (probably in a revised form), it will ultimately be for the ECB to decide if the digital euro should be introduced at all, when to issue the digital euro, and for what amount it should be issued. This development has been hailed as a significant step in the potential adoption of CBDC in a major monetary area, which is also likely to have ripple effects in other major jurisdictions, including the UK<sup>25</sup> and the US<sup>26</sup>, and should be of great importance in maintaining the ECB's independence. The introduction of a digital euro is motivated by concerns about the current financial system following the 2008 financial crisis and the emergence of private cryptocurrencies like Bitcoin. Furthermore, other countries are considering implementing their own digital currencies, which could enhance their position as issuers of an international trading currency. The ECB is concerned about potential currency competition and the possibility of the euro losing ground in the international currency structure if it fails to introduce a digital currency (Greitens, 2023). Additionally, the ECB aims to defend its state currency monopoly by introducing a digital currency to maintain the effectiveness of its monetary policy, especially in light of the decreasing importance of cash.

The digital euro has the potential to offer several benefits, including the ability to implement negative interest rates, generate seigniorage profits for the ECB, and reduce transaction costs. Additionally, transitioning to a digital euro could have a disciplining effect on commercial banks and potentially increase the equity ratio (Chapman et al., 2023). The European Central Bank (ECB) argues that a digital euro serves as a "monetary anchor function". It provides Europeans with a secure means of payment without counterparty risk, even in the digital age. Additionally, it reduces dependence on non-European payment infrastructures, thereby helping to secure the monetary sovereignty of the euro area (ECB, 2023a).

Art. 133 TFEU provided the legal basis for the proposed digital euro regulation. Art. 133 TFEU reads as follows: "[w]ithout prejudice to the powers of the European Central Bank, the European Parliament and the Council, acting in accordance with the ordinary legislative procedure, shall lay down the measures necessary for the use of the euro as a single currency. Such measures shall be adopted after consultation of the European Central Bank".

Note issue is considered to be part of the exclusive competence of the Union for the Member States whose currency is the euro pursuant to Article 3(1) TFEU. The responsibility for authorising the issuance

<sup>23</sup> The name stablecoin is a bit of a misnomer. Stablecoins are cryptocurrencies that peg their market value to some external reference for the purpose of maintaining stability over time. Despite the common name, however stablecoins have different operational structures and reserve compositions. On 31 May 2023, the EU adopted the Markets in Crypto-Assets (MiCA) Regulation, which governs stablecoins (and other crypto assets) in the EU.

<sup>24</sup> See European Commission (2023) and the European Central Bank's website on the Digital Euro ([https://www.ecb.europa.eu/paym/digital\\_euro/html/index.en.html](https://www.ecb.europa.eu/paym/digital_euro/html/index.en.html)) for an analysis of the digital euro proposal.

<sup>25</sup> In the UK the Bank of England's and HM Treasury's Consultation Paper on the digital pound (Bank of England and HM Treasury (2023)) and the accompanying Bank's Technology Working Paper (Bank of England (2023)), a framework for the adoption of a digital pound was set up. The Financial Markets and Services Act 2023, which received Royal Assent on June 29, 2023, classifies crypto as a regulated financial activity and stablecoins as a means of payment under existing laws. The Act also introduces new secondary objectives for the Financial Conduct Authority and the Prudential Regulation Authority – to facilitate the growth and international competitiveness of the UK economy. The Act is central to the Government's vision to grow the economy and create an open, sustainable, and technologically advanced financial services sector. The House of Lords published a rather sceptical report in 2022: House of Lords Economic Affairs Committee (2022).

<sup>26</sup> In the USA, two draft bills published in 2023 – namely the [Democratic Compromise draft](#) "To provide requirements for payment stablecoin issuers, research on a digital dollar, and for other purposes" ([Ranking Member Waters](#)) and the Republicans' [bill](#) "To provide for the regulation of payment stablecoins, and for other purposes" ([Chairman McHenry](#)) – are an early indication of legislative intent.

of the digital euro by the ECB or the NCBs lies with the ECB. This is important in light of Art. 128 TFEU which reads as follows:

*"1. The European Central Bank shall have the exclusive right to authorise the issue of euro banknotes within the Union. The European Central Bank and the national central banks may issue such notes. The banknotes issued by the European Central Bank and the national central banks shall be the only such notes to have the status of legal tender within the Union.*

*2. Member States may issue euro coins subject to approval by the European Central Bank of the volume of the issue. The Council, on a proposal from the Commission and after consulting the European Parliament and the European Central Bank, may adopt measures to harmonise the denominations and technical specifications of all coins intended for circulation to the extent necessary to permit their smooth circulation within the Union."*

Accordingly, in November 2023, the ECB officially launched the preparatory phase for the introduction of a digital euro<sup>27</sup>. In terms of design, the digital euro, as outlined in the proposals, will take the form of a retail CBDC (not wholesale) and will not bear interest. By going for a retail CBDC, the EU takes a different path than other jurisdictions. The Swiss National Bank, for example, is interested in a wholesale CBDC that could be used to facilitate interbank settlements<sup>28</sup>. The digital euro shall be a direct liability of the ECB or the NCBs.

However, the advent of CBDCs also raises concerns regarding the conduct of monetary policy and the future of the banking system. One such concern are financial stability considerations in line with Art. 127 (5) TFEU, since it is feared that an unrestricted use of digital euro could have adverse effects on credit provision to the economy by credit institutions. Some banks have expressed this fear of disintermediation, worrying that too attractive a digital euro could lead savers to withdraw their money from bank deposits and store it in safer digital euro accounts backed by the central bank. If such a move were to happen too quickly, it could pose a risk to financial stability in the euro area. Therefore, the digital euro should primarily be used as a means of payment rather than a store of value. To prevent the withdrawal of deposits, there is a discussion of volume- and price-based measures. Volume-based measures would restrict the use of the digital euro with limits, while price-based measures would create incentives through interest or fees to discourage excessive holdings of digital currency.

Currently, there are discussions about quantity-based holding limits for private individuals and companies. In most cases, the amount of 3,000 euros per person is mentioned (ECB, 2023a). The legislative proposal of the EU Commission also supports this direction, although it allows for some flexibility (Art. 16 of the proposed Regulation, EU Commission, 2023). Greitens (2023) highlights that a legal provision preventing the central bank from competing with commercial banks on interest rates with the digital euro and ensuring that the digital currency remains interest-free would also mitigate the risk of disintermediation.

However, quantity-related limits have a major impact on the attractiveness for users and the design of payment methods. These requirements make a digital euro very complex to use and restrict technical innovations (Greitens, 2023; Schäfer 2023). Schäfer (2023) emphasises that the digital euro would not therefore be a fully-fledged transaction medium because payments would only be possible with automatic recourse to bank money.

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<sup>27</sup> [https://www.ecb.europa.eu/paym/digital\\_euro/timeline/html/index.en.html](https://www.ecb.europa.eu/paym/digital_euro/timeline/html/index.en.html).

<sup>28</sup> [Project Helvetia Phase II: settling tokenised assets in wholesale CBDC \(bis.org\)](#).



Bofinger (2023) criticises the fact that it remains unclear which problems are to be solved and which specific goals are to be achieved with the introduction of a digital euro. From a regulatory perspective, the entire concept suffers from the fact that the ECB has not yet been able to diagnose a clear market failure that would justify such far-reaching state intervention. Bofinger (2023) and Schäfer (2023) argue that, by focusing on the introduction of a digital euro, the ECB may be missing the opportunity to create a European payment system for more strategic autonomy and that alternative approaches, such as the European Payments Initiative, could potentially be more effective.

Its implications for financial stability, privacy, and several aspects of public and private law deserve further study. As with any further extension in central bank powers, a digital euro must be accompanied by commensurate measures of accountability. In addition, the costs and risks must be carefully weighed against the benefits of such a large-scale project.

### 3.4. Fiscal-monetary interaction

Monetary and fiscal policy are closely linked in a monetary union, like the EMU. In this union, a single central bank conducts monetary policy, while national governments are responsible for fiscal policy. This division of responsibilities can lead to tensions over risk and cost sharing, which could ultimately undermine the political and public will for a common Europe.

For example, fiscal policy can significantly impact a central bank's ability to achieve price stability. Conforming with the 'Fiscal theory of the price level' (Leeper, 1991; Woodford 1994), a central bank's ability to stabilize prices hinges predominantly on the fiscal authority's credibility in stabilizing a large fiscal imbalance. If the fiscal authority is not seen as entirely responsible for addressing current fiscal imbalances, the private sector anticipates an inflation increase to secure the sustainability of the national debt. Consequently, while monetary policy could still influence the cyclical component of inflation, it would no longer be able to control the trend component of inflation due to the higher fiscal burden (see e.g. Sargent and Wallace 1981; Leeper 1991; Sims 1994; Woodford 1994, Bianchi and Melosi, 2022). Therefore, current high levels of national debt in most euro area countries will pose a major challenge for the ECB in the coming years.

Thus, the effect of fiscal policy on persistent inflation can either assist or impede a central bank in fulfilling its mandate of maintaining price stability. For instance, by categorizing government transfers into funded and unfunded transfers, Bianchi, Faccini, and Melosi (2023) demonstrate that unfunded spending significantly contributes to inflation dynamics in the United States. During the post-Millennial period, it countered a deflationary bias resulting from non-policy factors, such as persistent cost-push shocks and favourable technology shocks. Therefore, fiscal policy has supported the US Fed. During the COVID-19 pandemic recession, unfunded fiscal shocks played a significant role in boosting real activity and preventing a deflationary episode. However, in the end, US inflation was well above its two % inflation target. In this case, therefore, fiscal policy hindered the work of the US Federal Reserve in achieving its goal of price stability. Given that the combination of high public debt and dwindling fiscal credibility could lead to persistently high inflation, setting clear limits for fiscal policy is of paramount importance.

Monetary policy can also have a significant impact on fiscal matters, as e.g. through asset purchase programmes (APPs). Treaty provisions, specifically Article 123 and Article 125 TFEU, establish clear limits on the extent to which the ECB can support individual Member States facing difficult fiscal situations. However, large fiscal imbalances can lead to severe disruptions in government bond markets, which may hamper the transmission of monetary policy measures. Yet the Treaty does not explicitly give the ECB the power to address disruptions in sovereign debt markets.<sup>29</sup> Therefore, the

<sup>29</sup> See Bernoth et al. (2023), p. 19 f.

ECB must always balance the risk of overstressing its mandate under Article 127 TFEU and the need to facilitate the effective transmission of monetary policy when activating APPs.

Given the strong interdependencies between monetary and fiscal policy, we conclude that the ECB, as an independent institution, should avoid measures that would inevitably lead to situations described as “fiscal dominance” and/or “financial dominance” i.e. a situation where the ECB is no longer driven primarily by monetary policy considerations, but by the fiscal and financial needs of Member states and market participants. To prevent such a situation in the first place, the ECB must refrain from measures that intertwine the ECB’s balance sheet with the financial situation of Member States and market participants.<sup>30</sup>

Moreover, it is important to stress that economic and fiscal measures must be taken by the competent and democratically accountable institutions and policy makers. The existing forms of coordination between the ECB and economic and fiscal policy makers are important to ensure an adequate level of information and better understanding between both policy fields. However, we also need a legally binding and effective set of rules that sets limits and clearly defines responsibilities and under which the Member States nevertheless retain sufficient room to manoeuvre. Thus, the reform of the European fiscal framework under discussion is of paramount importance and should address the challenge of how to reduce the high levels of public debt in the euro area without cutting the spending needed to cover the rising costs associated with the digital transformation, climate change, and the ageing population.<sup>31</sup> As stated in Bernoth et al (2023), the proposed reform addresses many shortcomings of the current fiscal framework. However, it still lacks transparency and leave too much room for discretion, which may open the door to clientelism as well as endless discussions. Yet, there is still time to remedy these deficiencies in order to place EMU on a more stable position in the long term.

### 3.5. Strengthening the international role of the euro

So far, the euro area has enjoyed some of the exorbitant macroeconomic privileges that come with providing an international currency, without facing much of the obligations that the US Federal Reserve has to fulfil in providing the world's dominant currency.<sup>32</sup> This is quite a favorable position, and any consideration of how to challenge the supremacy of the US dollar and make the euro the dominant currency should first answer the question of whether it is even advisable from an economic and political perspective – let alone whether this project could be realized at all. Given the relative inertia and network externalities of international currencies, European efforts to challenge the dominant position of the US dollar are likely to have a disproportionately small impact. What is important in any case, however, is to maintain the euro's high degree of internationalization and protect it from further dependence on the US dollar.

In recent history, shocks and crises on the international economic scene have rarely or slowly triggered changes in the international use of currencies. Nevertheless, it is important to keep in mind that geopolitical tensions may lead to significant shifts in the international use of currencies. There is, for instance, a risk that countries not fully aligned with the sanctions that Western countries have imposed

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<sup>30</sup> Bernoth et al (2023).

<sup>31</sup> See also Bernoth et al. (2023).

<sup>32</sup> The benefits of having a global or international currency include reduced capital costs, stable access to finance for businesses and governments, as well as decreased costs and risks associated with international trade. Additionally, adopting an international currency can generate income from seigniorage and from the spread between the returns on foreign assets and the cost of foreign liabilities. Holding the dominant currency carries risks and duties, such as currency appreciation during times of global stress, which can reduce export competitiveness. Additionally, global demand for the dominant currency can create incentives for overconsumption and current account deficits, posing risks for domestic and global imbalances. As noted by Lastra (2015, p. 342), TFEU introduced a new Article 138 with regard to the international role of the euro. This provision empowers the Council to adopt European decisions ‘in order to secure the euro’s place in the international monetary system’ (paragraph 1) and to adopt ‘appropriate measures to ensure unified representation within the international financial institutions and conferences’. In both cases (European decisions and ‘appropriate measures’), the Commission has the right of initiative and the European Central Bank must be consulted.

on Russia, i.e. the freezing of the central bank's foreign exchange reserves and the exclusion of Russian banks from the SWIFT international financial messaging system for cross-border payments, reduce their exposure to the currencies of the sanctioning countries, including the euro, in the future (ECB, 2023).

Studies show that the choice of reserve currency(ies) is significantly determined by strategic, diplomatic, and military power (Eichengreen et al., 2019). If a country has such power, foreign governments will consider it in their geopolitical interest to conduct their cross-border transactions in its currency. The more dependent a country's security is on the US armed forces, the more dollar reserves they will hold. This means that the EU's self-confidence and assertiveness on the international stage in the Ukraine conflict could also help to further strengthen the euro in the international currency structure. A prerequisite would be for the EU to position itself more independently of the USA in terms of its defense and security aspects.

Moreover, the attractiveness of a currency is, to a large extent, a matter of private sector preference. Consequently, increased trade and financial links with the euro area contribute to the global adoption of the euro. A highly competitive market right now is that for green and sustainable technologies. It is important that national governments and the European Commission provide the necessary infrastructure and financial framework to become internationally competitive in this relatively young sector with high global demand. It is strategically advisable to keep production facilities in the EU and avoid a migration to the USA or China in order to force a nomination in euros (Bernoth and Meyer, 2023).

The attractiveness of the euro as an international reserve currency is often said to increase with the availability of safe euro-denominated assets. The ECB's monetary tightening process will increase the overall amount of safe euro assets available for investment purposes on financial markets. However, it is even more important that the current discussed reforms of the EU economic governance framework be designed to achieve sustainable debt levels across all Member States, which will ultimately also increase the amount of euro denominated safe assets.

Finally, the euro area should aim to decrease its reliance on the US financial infrastructure, including payment card systems and the Clearing House Interbank Payment System (CHIPS) payment coordination. This dependence is currently so significant that exclusion from this infrastructure is tantamount to exclusion from global trade. Therefore, it is important to further consider and develop European alternatives.<sup>33</sup>

### 3.6. Banking Union

The Banking Union is the most significant change in the history of European integration since the advent of the euro<sup>34</sup>. A "game changer" for the EU's financial landscape is represented by the centralization of competences at the EU level for supervision, with the establishment of the Single Supervisory Mechanism (SSM) and, for resolution, the establishment of the Single Resolution Mechanism (SRM). This shift in competences took place in tandem with a worldwide move – after the Global Financial Crisis – from bail-out to bail-in, following the publication in 2011 of the Financial Stability Board "Key Attributes for the Effective Resolution of Cross-Border Financial Institutions". Article 127(6) TFEU – the 'Sleeping Beauty' provision – was activated to transfer the responsibility for supervision of significant credit institutions from the national competent authorities

<sup>33</sup> See Nölke (2022) for an overview.

<sup>34</sup> Lastra (2015), chapter 10. See also Arnal-Martínez et al. (2024).



to the ECB in 2013 (SSM Regulation)<sup>35</sup>. The ECB is therefore no longer just a monetary authority. It is now also a supervisory authority and the institution that typically declares when an institution is FOLTF – failing or likely to fail – pursuant to SRM Regulation.<sup>36</sup>

But the European Banking Union remains an incomplete building. While the Eurogroup's statement of June 2022 proposed that *'as an immediate step, work on the Banking Union should focus on strengthening the common framework for bank crisis management and national deposit guarantee schemes (CMDI framework). Subsequently, we will review the state of the Banking Union and identify in a consensual manner possible further measures with regard to the other outstanding elements to strengthen and complete the Banking Union'* and in April 2023 the Commission published a package of proposals to amend the Bank Crisis Management and Deposit Insurance (CMDI) framework<sup>37</sup>, the proposed reforms are of a limited nature<sup>38</sup>. Member states decided to leave the completion of the Banking Union for a later stage. The 'third pillar' of the Banking Union, the European Deposit Insurance Scheme (EDIS), remains at the level of proposal (2015)<sup>39</sup> and what Lastra has referred to as 'the missing pillar' of the Banking Union<sup>40</sup>, namely the provision of Emergency Liquidity Assistant (ELA) by the ECB, remains the competence of the National Central Banks (Article 14(4) of the ESCB Statute). In a Banking Union there is also the need for harmonization of national bank liquidation procedures<sup>41</sup>.

Notwithstanding the principle of separation from monetary policy, according to Art. 25(2) of the SSM Regulation (Lastra, 2015, chapter 10), the involvement of the ECB in supervision and, to some extent, crisis management (via early intervention) brings it into the 'muddy waters' of dealing with credit institutions (the ECB pulls 'the trigger' by declaring an institution failing or likely to fail, thus bringing it into resolution), in particular when they are in distress. Thus, the transfer of competences is the source of new challenges to its mandate and independence. There is also a reputational risk for any central bank engaged in supervision. Charles Goodhart reminds us that supervision is a thankless task, in which successes are not publicised and any failure is magnified.<sup>42</sup>

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<sup>35</sup> Council Regulation (EU) No 1024/2013 of 15 October 2013 conferring specific tasks on the European Central Bank concerning policies relating to the prudential supervision of credit institutions, OJ L 287, 29.10.2013, pp. 63–89 (<https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32013R1024>).

<sup>36</sup> Regulation (EU) No 806/2014 of the European Parliament and of the Council of 15 July 2014 establishing uniform rules and a uniform procedure for the resolution of credit institutions and certain investment firms in the framework of a Single Resolution Mechanism and a Single Resolution Fund and amending Regulation (EU) No 1093/2010, OJ L 225, 30.7.2014, pp. 1–90 (<https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32014R0806>).

<sup>37</sup> Directorate-General for Financial Stability, Financial Services and Capital Markets Union (2023).

<sup>38</sup> See Arnal-Martínez et al. (2024). The CMDI proposal provides the ECB with a direct legal basis for early intervention measures. It also includes an obligation for the supervisor to notify the resolution authority as soon as it considers that there is a material risk that an institution meets the conditions for being assessed as FOLTF.

<sup>39</sup> See the European Commission's website on the European deposit insurance scheme ([https://finance.ec.europa.eu/banking/banking-union/european-deposit-insurance-scheme\\_en](https://finance.ec.europa.eu/banking/banking-union/european-deposit-insurance-scheme_en)).

<sup>40</sup> See Rosa Lastra, *International Financial and Monetary Law* (Oxford University Press, 2015), Chapter 10. See also Lastra, "Reflections on Banking Union, Lender of Last Resort and Supervisory Discretion", in *From Monetary Union to Banking Union, on the Way to Capital Markets Union – New Opportunities for European Integration*, (ECB Legal Conference), European Central Bank, 2015, pp. 154–173 and Lastra, "Lender of Last Resort and Banking Union" Chapter 6 in *European Banking Union. Prospects and Challenges* (ed. By Juan E. Castañeda, David, G. Mayes and Geoffrey Wood) Routledge, 2015, pp. 109 – 128.

<sup>41</sup> UNIDROIT is developing via a Working Group a legislative guide on bank insolvency, that can steer further harmonization in this area in the EU. One of the authors, Lastra, is a member of this Working Group. See the UNIDROIT website on Bank Insolvency (<https://www.unidroit.org/work-in-progress/bank-insolvency/>).

<sup>42</sup> Goodhart (2000) pp. 30–31.

## 4. CONCLUSION

This paper considers the past, present, and future of ECB monetary policy. Looking backwards, we contend that, in the light of its mandate, the ECB has succeeded in navigating through several crises. Looking forward, the paper examines some of the main challenges confronting the ECB in the years ahead with climate change, digitalization, inequality, sovereign indebtedness, fiscal-monetary interaction and the completion of Banking Union complicating the pursuit of the price stability primary objective.

If the ECB manages to successfully overcome the current inflationary period in the coming months, it can be concluded that the ECB has achieved its goal of ensuring price stability in the euro area on average in the first 25 years of its existence, despite the numerous economic crises that had to be overcome. Thus, it need not hide behind other large and long-established central banks.

However, it is also important to learn lessons from the first 25 years and to develop answers and a strategy for the challenges that the ECB is already facing today and in the near future.

The ECB is facing multiple forms of heterogeneity. Although the EMU fiscal rules aim to ensure a sufficient level of harmonized macroeconomic variables across Member States, the fiscal condition and sovereign debt ratios vary widely. While this heterogeneity hampers monetary policy transmission, the ECB must be cautious in the exercise of its monetary policy powers, staying within its clearly defined mandate.

Climate change is confronting all EU institutions - including the ECB – and its Member States. The ECB must abide by its primary and secondary mandates. Monetary policy can and should play its part in setting incentives for financial markets to support the green transition. However, the ECB must stay within the boundaries of its mandate – not only because the rule of law and the competence structure in the EU needs to be safeguarded but also because the ECB would overload itself with political tasks that it is not equipped to address.

Digitalisation presents both challenges and opportunities for the ECB. Further study is required to fully understand the potential implications of introducing a digital euro for financial stability, privacy, and various aspects of public and private law. Before central bank powers are extended to include a digital euro, the costs and risks of such a large-scale project must be carefully weighed against its benefits.

The ECB, as an independent institution, must ensure price stability first and foremost. This is no easy task as the last two years have shown. This ‘monetary focus’ should not be overridden by fiscal and other policy considerations like the fight against climate change or ensuring fiscal stability of the member states. Moreover, in a democratic system, independence is only one side of the coin; accountability is of essence.<sup>43</sup>

Overburdening the ECB with tasks that bring it closer to the political agenda will not only hinder a well conceptualized price stability-oriented monetary policy, but also threaten the ECB's independence in the long-term.

To prevent an increase in inflation dispersion caused by heterogeneous policy measures during future crises, it is advisable to promote effective economic policy coordination among EMU Member States. This will prevent placing unnecessary additional stress on the ECB and simplify the implementation of a standardized monetary policy.

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<sup>43</sup> See Lastra (1992), (1996), (1997), (2006), (2015), (2010); (2011); (2020); Lastra and Shams (2001); Lastra and Miller (2001) and Amtenbrink and Lastra (2008). See also House of Lords Economic Affairs Committee (2023).

## REFERENCES

- Aiyagari, S. Rao (1994). "Uninsured Idiosyncratic Risk and Aggregate Saving". *Quarterly Journal of Economics* 109 (3), pp. 659-684. <https://academic.oup.com/qje/article-abstract/109/3/659/1838287>
- Amtenbrink, F. and Lastra, R. (2008). "Securing Democratic Accountability of Financial Regulatory Agencies – A Theoretical framework", in: De Mulder (ed.), "Mitigating Risk in the Context of Safety and Security. How Relevant is a Rational Approach?", *Erasmus School of Law*: pp. 115–132.
- Arnal-Martínez, J., Lannoo, K. and Lastra, R. (2024). "Is CMDI what Banking Union needs?", *CEPS Policy Brief*, <https://www.ceps.eu/ceps-publications/is-cmdi-what-the-banking-union-needs/>
- Atkinson, A. B, Piketty, T. and Saez, E. (2011). "Top Incomes in the Long Run of History". *Journal of Economic Literature*, American Economic Association 49(1): pp 3-71. <https://www.aeaweb.org/articles?id=10.1257/jel.49.1.3>
- Auclert, A (2019). "Monetary Policy and the Redistribution Channel". *American Economic Review* 109(6): pp. 2333-67. <https://www.aeaweb.org/articles?id=10.1257/aer.20160137>
- Bank of England (2022). "Climate change: possible macroeconomic implications". *Quarterly Bulletin* 2022 Q4. <https://www.bankofengland.co.uk/quarterly-bulletin/2022/2022-q4/climate-change-possible-macroeconomic-implications>
- Bank of England (2023). "The digital pound". *Technology Working Paper*. <https://www.bankofengland.co.uk/-/media/boe/files/paper/2023/the-digital-pound-technology-working-paper.pdf>.
- Bank of England and HM Treasury (2023). "The digital pound: a new form of money for households and businesses?". *Consultation Paper No 797*. <https://www.bankofengland.co.uk/-/media/boe/files/paper/2023/the-digital-pound-consultation-working-paper.pdf>.
- Bernoth, K., Dietz, S., Lastra, R. and Rullière, M. (2023). "Monetary-fiscal interaction: Achieving the right monetary-fiscal policy mix in the euro area". *Monetary Dialogue Papers*. <https://www.europarl.europa.eu/cmsdata/274970/Final%20DIW%20Sept%202023.pdf>.
- Bernoth, K. and Meyer, J. (2023). "US Inflation Reduction Act Demands Quick Strategic Action from the EU". *DIW Weekly Report* 6/2023: pp. 53-60. [https://www.diw.de/de/diw\\_01.c.865413.de/publikationen/weekly\\_reports/2023\\_06\\_1/us\\_inflation\\_reduction\\_act\\_demands\\_quick\\_strategic\\_action\\_from\\_the\\_eu.html](https://www.diw.de/de/diw_01.c.865413.de/publikationen/weekly_reports/2023_06_1/us_inflation_reduction_act_demands_quick_strategic_action_from_the_eu.html).
- Bianchi, F. and L. Melosi (2022). "Inflation as a Fiscal Limit". *Working paper series, Federal Reserve Bank of Chicago* No. 2022-37. <https://www.chicagofed.org/publications/working-papers/2022/2022-37>.
- Bianchi, F., Faccini, R. and Melosi, L. (2023). "A Fiscal Theory of Persistent Inflation". *The Quarterly Journal of Economics* 138(4): pp. 2127–2179. <https://doi.org/10.1093/qje/qjad027>.
- de Boer, N. and van't Klooster, J. (2021a). "The ECB's Neglected Secondary Mandate: An inter-institutional Solution". *Positive Money Europe*. [http://www.positivemoney.eu/wp-content/uploads/2021/10/The-ECBs-neglected-secondary-mandate\\_v6.0.pdf](http://www.positivemoney.eu/wp-content/uploads/2021/10/The-ECBs-neglected-secondary-mandate_v6.0.pdf).
- Bofinger, P. (2023). "Digitaler Euro: hohe Kosten bei nicht erkennbaren Vorteilen". *Wirtschaftsdienst* 103(12): pp 811-817.
- Brand, C., Coenen, G., Hutchinson, J. and Saint Guilhem, A. (2023). "The macroeconomic implications of the transition to a low-carbon economy". *ECB Economic Bulletin*, Issue 5/2023.

[https://www.ecb.europa.eu/pub/economic-bulletin/articles/2023/html/ecb.ebart202305\\_01~a6ff071a65.en.html](https://www.ecb.europa.eu/pub/economic-bulletin/articles/2023/html/ecb.ebart202305_01~a6ff071a65.en.html)

- Brunnermeier, M. and Landau, P. (2020). "Central banks and climate change". *VoxEU Column*. <https://voxeu.org/article/central-banks-and-climate-change>.
- Chapman, J. et al. (2023). "Central Bank Digital Currencies and Banking: Literature Review and New Questions", Bank of Canada, *Staff Discussion Paper* 2023-4, <https://www.bankofcanada.ca/wp-content/uploads/2023/02/sdp2023-4.pdf>.
- Čihák, M. and Sahay, R. (2020). "Finance and Inequality". *IMF Staff Discussion Note* 20/01. <https://www.imf.org/-/media/Files/Publications/SDN/2020/English/SDNEA2020001.ashx>.
- Dabrowski, M. 2020. "Increasing the International Role of the Euro: A Long Way to Go," CASE Reports 0502, CASE-Center for Social and Economic Research. [https://www.case-research.eu/files/?id\\_plik=6490](https://www.case-research.eu/files/?id_plik=6490)
- Dell, M., Jones B. F. and Olken, B. A. (2012). "Temperature Shocks and Economic Growth: Evidence from the Last Half Century". *American Economic Journal Macroeconomics* 4 (3): pp. 66-95.
- Dietz, S. (2022). "Green Monetary Policy between Market Neutrality and Market Efficiency". *Common Market Law Review* 59(2): pp. 395–432. <https://kluwerlawonline.com/journalarticle/Common+Market+Law+Review/59.2/COLA2022030>.
- Dietz, S. (2023). "Central Banks and Inequality". *Common Market Law Review* 60(5): pp. 1349–1382. <https://kluwerlawonline.com/journalarticle/Common+Market+Law+Review/60.1/COLA2023095>.
- Directorate-General for Financial Stability, Financial Services and Capital Markets Union (2023). "Reform of bank crisis management and deposit insurance framework". [https://finance.ec.europa.eu/publications/reform-bank-crisis-management-and-deposit-insurance-framework\\_en?prefLang=de](https://finance.ec.europa.eu/publications/reform-bank-crisis-management-and-deposit-insurance-framework_en?prefLang=de).
- Eichengreen, B., Mehl, A. and Chițu, L. (2019). "Mars or Mercury? The geopolitics of international currency choice". *Economic Policy* 34 (98): pp. 315–363. <https://doi.org/10.1093/epolic/eiz005>.
- European Central Bank (2020). "Report on a digital euro". [https://www.ecb.europa.eu/pub/pdf/other/Report\\_on\\_a\\_digital\\_euro~4d7268b458.en.pdf](https://www.ecb.europa.eu/pub/pdf/other/Report_on_a_digital_euro~4d7268b458.en.pdf).
- European Central Bank (2020a). "The Household Finance and Consumption Survey: results from the third wave". *Statistical Paper Series* No. 36 / March 2020. <https://www.ecb.europa.eu/pub/pdf/scpsps/ecb.sps36~0245ed80c7.en.pdf>
- European Central Bank (2021). "ECB's governing council approves its new monetary policy strategy". *Press Release*. <https://www.ecb.europa.eu/press/pr/date/2021/html/ecb.pr210708~dc78cc4b0d.en.html>.
- European Central Bank (2021a). "The ECB's monetary policy strategy statement". [https://www.ecb.europa.eu/home/search/review/html/ecb.strategyreview\\_monopol\\_strategy\\_statement.en.html](https://www.ecb.europa.eu/home/search/review/html/ecb.strategyreview_monopol_strategy_statement.en.html).
- European Central Bank (2022). "ECB takes further steps to incorporate climate change into its monetary policy operations". *Press Release*. <https://www.ecb.europa.eu/press/pr/date/2022/html/ecb.pr220704~4f48a72462.en.html>.
- European Central Bank (2023). "A stocktake on the digital euro, Summary report on the investigation phase and outlook on the next phase".

[https://www.ecb.europa.eu/paym/digital\\_euro/investigation/profuse/shared/files/dedocs/ecb.de/docs231018.de.pdf](https://www.ecb.europa.eu/paym/digital_euro/investigation/profuse/shared/files/dedocs/ecb.de/docs231018.de.pdf).

- European Commission (2018). "Towards a stronger international role of the euro", 15 December. [https://commission.europa.eu/publications/towards-stronger-international-role-euro-commission-contribution-european-council-and-euro-summit-13\\_en](https://commission.europa.eu/publications/towards-stronger-international-role-euro-commission-contribution-european-council-and-euro-summit-13_en)
- European Commission (2021). "The European economic and financial system: fostering openness, strength and resilience", 19 January. [https://finance.ec.europa.eu/publications/communication-european-economic-and-financial-system-fostering-openness-strength-and-resilience\\_en](https://finance.ec.europa.eu/publications/communication-european-economic-and-financial-system-fostering-openness-strength-and-resilience_en)
- European Commission (2023). "Single Currency Package: new proposals to support the use of cash and to propose a framework for a digital euro". *Press Release* [https://ec.europa.eu/commission/presscorner/detail/en/ip\\_23\\_3501](https://ec.europa.eu/commission/presscorner/detail/en/ip_23_3501).
- Felbermayr, G. and Gröschl, J (2014). "Naturally negative: The growth effects of natural disasters". *Journal of Development Economics*, Elsevier, 111(C): pp. 92-106. <https://www.sciencedirect.com/science/article/pii/S0304387814000820>
- Gali, J. (2005). "Monetary Policy, Inflation, and the Business Cycle: An Introduction to the New Keynesian Framework". *Princeton University Press*. <https://press.princeton.edu/books/hardcover/9780691164786/monetary-policy-inflation-and-the-business-cycle>
- de Grauwe, P. (2019). "Green Money without Inflation". *Vierteljahreshefte zur Wirtschaftsforschung* 88(2): pp. 51–54. <https://elibrary.duncker-humboldt.com/article/11144/green-money-without-inflation>.
- Greitens, J. (2023). „Der digitale Euro aus einer historischen Perspektive“. *Wirtschaftsdienst* 103(12): pp. 807-810. <https://www.wirtschaftsdienst.eu/inhalt/jahr/2023/heft/12/beitrag/der-digitale-euro-aus-einer-historischen-perspektive.html>
- Goodhart, C. (2000). "The Organizational Structure of Banking Supervision" LSE Financial Markets Paper No. 127.
- Goodhart, C. and Lastra, R. (2017). "Populism and Central Bank Independence". *Open Economies Review* 29: pp. 49–68. <https://doi.org/10.1007/s11079-017-9447-y>.
- Honohan, P. (2019) "Should Monetary Policy Take Inequality and Climate Change into Account?". *PIIE Working Paper No 19-18*. <https://www.piie.com/sites/default/files/documents/wp19-18.pdf>.
- House of Lords Economic Affairs Committee (2022). "Central bank digital currencies: a solution in search of a problem?". *HL Paper No 131*. <https://publications.parliament.uk/pa/ld5802/ldselect/ldeconaf/131/131.pdf>.
- House of Lords Economic Affairs Committee (2023). "Making an Independent Bank of England Work Better". *HL Paper No 10*. <https://publications.parliament.uk/pa/ld5804/ldselect/ldeconaf/10/10.pdf>.
- Huggett, M. (1993). "The risk-free rate in heterogeneous-agent incomplete-insurance economies". *Journal of Economic Dynamics and Control* 17 (5): pp. 953-69.
- Imrohorglu, A. (1989). "Cost of Business Cycles with Indivisibilities and Liquidity Constraints". *Journal of Political Economy* 97(6): pp. 1364-83. [https://econpapers.repec.org/article/ucpjpolec/v\\_3a97\\_3ay\\_3a1989\\_3ai\\_3a6\\_3ap\\_3a1364-83.htm](https://econpapers.repec.org/article/ucpjpolec/v_3a97_3ay_3a1989_3ai_3a6_3ap_3a1364-83.htm)



- Jappelli, T. and Pistaferri, L. (2014). "Fiscal Policy and MPC Heterogeneity". *American Economic Journal Macroeconomics* 6(4): p. 10736. [https://econpapers.repec.org/article/aeaajmac/v\\_3a6\\_3ay\\_3a2014\\_3ai\\_3a4\\_3ap\\_3a107-36.htm](https://econpapers.repec.org/article/aeaajmac/v_3a6_3ay_3a2014_3ai_3a4_3ap_3a107-36.htm)
- Kaplan, G., Moll, B. and Violante, G. L. (2018). "Monetary Policy According to HANK". *American Economic Review* 108(3): pp. 697-743. <https://www.aeaweb.org/articles?id=10.1257/aer.20160042>
- Sims, C. A. (1994). "A Simple Model for Study of the Determination of the Price Level and the Interaction of Monetary and Fiscal Policy". *Economic Theory* 4: 381–399. <https://www.jstor.org/stable/25054771>
- Lastra, R. (1992). "The Independence of the European System of Central Banks". *Harvard International Law Journal* 33(2): pp. 475–520.
- Lastra, R. (1996). "Central Banking and Banking Regulation". *Financial Markets Group of the London School of Economics*.
- Lastra, R. (1997). "Accountability of the Bank of England". *House of Commons. Treasury Committee: First Report Session 1997-1998*. <https://publications.parliament.uk/pa/cm199798/cmselect/cmtreasy/282i/ts0102.htm>.
- Lastra, R. (2006). "Legal Foundations of International Monetary Stability". *Oxford University Press*.
- Lastra, R. (2010). "Central Bank Independence and Financial Stability", in: Banco de España, *Estabilidad Financiera No* 18: pp. 49–66. <https://www.bde.es/f/webbde/Secciones/Publicaciones/InformesBoletinesRevistas/RevistaEstabilidadFinanciera/10/May/Fic/REF201018.pdf>.
- Lastra, R. (2011). "Keeping tabs on the Bank. Or, as they say, Quis custodiet ipsos custodes?". *Parliamentary Brief July 2011*.
- Lastra, R. (2015). "International Financial and Monetary Law". *Oxford University Press*.
- Lastra, R. (2020). "Accountability Mechanisms of the Bank of England and of the European Central Bank". *Study for the Committee on Economic and Monetary Affairs, Policy Department for Economic, Scientific and Quality of Life Policies, European Parliament*. [https://www.europarl.europa.eu/cmsdata/211623/1\\_LASTRA-final.pdf](https://www.europarl.europa.eu/cmsdata/211623/1_LASTRA-final.pdf).
- Lastra, R. and Miller, G. (2001). "Central Bank Independence in Ordinary and Extraordinary Times", in: Kleinman (ed.), "Central Bank Independence. The Economic Foundations, the Constitutional Implications and Democratic Accountability", *The Hague: Kluwer Law International*, pp. 31–50.
- Lastra, R. and Shams, H. (2001). "Public Accountability in the Financial Sector", in: Ferrán and Goodhart (eds.), "Regulating Financial Services and Markets in the XXIst Century", *Hart Publishing*, pp. 165–188.
- Lastra, R. and Skinner, C. (2023). "Sustainable Central Banking". *Virginia Journal of International Law* 63 (3): pp. 397–446. [https://static1.squarespace.com/static/5f0a3654a47d231c00ccd14f/t/64dd42b7e2566f6d52f7c567/1692222135355/Vol\\_63.3\\_Article\\_Skinner\\_Lastra.pdf](https://static1.squarespace.com/static/5f0a3654a47d231c00ccd14f/t/64dd42b7e2566f6d52f7c567/1692222135355/Vol_63.3_Article_Skinner_Lastra.pdf).
- Lastra, R. and Dietz, S. (2024). "Accountability of Greening the ECB". *Maastricht Journal of European and Comparative Law*, forthcoming.
- Leeper, E. M. (1991). "Equilibria Under Active and Passive Monetary and Fiscal Policies". *Journal of Monetary Economics* 27: 129–147. <https://www.sciencedirect.com/science/article/pii/030439329190007B>

- Nölke, A. (2022). "The weaponization of global payment infrastructures: A strategic dilemma". *SAFE White Paper No. 89*. [https://safe-frankfurt.de/fileadmin/user\\_upload/editor\\_common/Policy\\_Center/SAFE\\_White\\_Paper\\_89.pdf](https://safe-frankfurt.de/fileadmin/user_upload/editor_common/Policy_Center/SAFE_White_Paper_89.pdf).
- Monnin, P. (2018). "Financial Stability and Inequality: A Challenge for Macroprudential Regulation". *CEP Council on economic policies*. <https://www.cepweb.org/financial-stability-and-inequality-a-challenge-for-macroprudential-regulation/>.
- Rogoff, K. (2021). "Risks to Central Bank Independence", in: Pastén/Reis (ed.), "Independence, Credibility and Communication of Central Banking", *Central Bank of Chile, Series on Central Banking, Analysis and Economic Policies* 28: pp.27–54.
- Sargent, T. and Wallace, N. (1981). "Some Unpleasant Monetarist Arithmetic". *Federal Reserve Bank of Minneapolis Quarterly Review* Fall: pp. 1–17.
- Schäfer, S. (2023). „Digitales Zentralbankgeld: Dabei sein ist nicht alles" *Wirtschaftsdienst* 103(12): pp. 818–821.
- Schnabel, I. (2021). "From market neutrality to market efficiency". *Welcome address at the ECB DG-Research Symposium Climate change, financial markets and green growth*. <https://www.ecb.europa.eu/press/key/date/2021/html/ecb.sp210614~162bd7c253.en.html>.
- Schnabel, I. (2021a). "Monetary policy and inequality". *Speech of November 9th 2021 at a virtual conference on "Diversity and Inclusion in Economics, Finance, and Central Banking"*. [https://www.ecb.europa.eu/press/key/date/2021/html/ecb.sp211109\\_2~cca25b0a68.en.html](https://www.ecb.europa.eu/press/key/date/2021/html/ecb.sp211109_2~cca25b0a68.en.html).
- Selmayr, M. (2015). "Art. 127 AEUV", in: von der Groeben/Schwarze/Hatje (ed.), "Europäisches Unionsrecht", 7th ed., *Nomos*.
- Smits, R. (2022). "Elaborating A Climate-Friendly Legal Perspective For The ECB". *SSRN Papers*. [https://papers.ssrn.com/sol3/Delivery.cfm/SSRN\\_ID4213617\\_code1103251.pdf?abstractid=4213617&mirid=1](https://papers.ssrn.com/sol3/Delivery.cfm/SSRN_ID4213617_code1103251.pdf?abstractid=4213617&mirid=1).
- Thomadakis, A., Lannoo, K. and Shamsfakhr, F. (2023). "A digital euro beyond impulse. Think twice, act once". *CEPS-ECMI-ECRI Study, Centre for European Policy Studies, Brussels*. <https://cdn.ceps.eu/wp-content/uploads/2023/10/A-digital-euro-beyond-impulse-think-twice-act-once.pdf>.
- van't Klooster, J. and de Boer, N. (2022). "What to Do with the ECB's Secondary Mandate". *Journal of Common Market Studies* 61(3): pp. 730–746. <https://onlinelibrary.wiley.com/doi/10.1111/jcms.13406>.
- van Tilburg, R. and Simić, A. (2021). "Legally Green: Climate change and the ECB mandate", *Sustainable Finance Lab Policy Paper*. <https://sustainablefinancelab.nl/wp-content/uploads/sites/334/2021/07/Legally-Green.pdf>.
- Woodford, M. (1994). "Monetary Policy and Price Level Determinacy in a Cash-in-Advance Economy". *Economic Theory* 4: 345–389. <https://www.jstor.org/stable/25054770>
- Workstream on climate change (2021). "Climate change and monetary policy in the euro area". *ECB Occasional Paper Series No. 271*. <https://www.ecb.europa.eu/pub/pdf/scpops/ecb.op271~36775d43c8.en.pdf>.
- Zilioli, C. and Ioannidis, M. (2021). "Klimawandel und das Mandat der EZB". *Europäische Zeitschrift für Wirtschaftsrecht* 32(24): pp. 1061–1071. <https://beck-online.beck.de/?typ=reference&y=300&z=EUZW&b=2021&s=1061&n=1>.







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This paper considers the past, present, and future of the ECB monetary policy. Looking backwards, the ECB has succeeded in navigating through several crises. Looking forward, the paper examines some of the main challenges confronting the ECB in the years ahead with climate change, digitalisation, inequality, sovereign indebtedness, and the completion of Banking Union complicating the pursuit of the price stability primary objective.

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