

The ECB and the integrity of the euro area: Past and future



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Abstract

The key lesson of the first twenty five years of the euro is that the ECB is embedded in an incomplete and flawed institutional context. Its role has increasingly emerged as an integration agency in the face of existential threats to the euro. The way the world is going to change will put the ECB's status under further stress. The next strategy review will need to address structural changes adding new policy trade-offs to the old ones. The sooner the euro-area governance is reformed leaving politics and dogmatism aside, the better.

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LIST OF ABBREVIATIONS

APP	Asset purchase programme
ECB	European Central Bank
ESM	European Stability Mechanism
EU	European Union
GDP	Gross domestic product
GFC	Global financial crisis
HICP	Harmonised index of consumer prices
MRO	Main refinancing operations
PEPP	Pandemic emergency purchase programme
SGP	Stability and growth pact
TFU	Treaty on the functioning of the European Union
TPI	Transmission protection instrument

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EXECUTIVE SUMMARY

- **The key lesson of the first twenty-five years of the euro** is that the most critical challenge that monetary policy faces in the euro area compared to monetary authorities in standalone countries is that the ECB **operates in an incomplete and flawed institutional context**.
- **By looking backward first, we provide a recollection of the two phases of the euro**, namely 1999-2008 and 2009-22, the latter of which have raised serious **threats to the integrity of euro area**.
- The role of the ECB as increasingly emerged as **an integration agency** in the context of the unresolved **euro area trilemma** – namely that its integrity, monetary orthodoxy and fiscal orthodoxy as dictated by the Treaties cannot be all achieved in the face of large systemic shocks.
- **Going deeper into these events, we highlight the growing political implications** of the ECB's decisions in its peculiar institutional environment. To preserve the integrity of the area and the effectiveness of monetary policy stimuli, the ECB had to revise its strategy, adopt new policy tools and challenges orthodoxy and rigid readings of the Treaties.
- **Looking forward, we discuss the main challenges that the monetary policy strategy** of the ECB will have to address, mostly arising **from important structural transformations worldwide**, from climate change to de/re-globalisation, from digitalisation to demography.
- **The way the world has changed in the first quarter of the 21st century**, and is likely to change in the near future, makes **the foundations of the euro area architecture obsolete**. Yet **substantial political inertia** persists in the face of the ever-growing agenda of reforms: from the completion of the **Capital Union and the Banking Union**, to the predisposition of **emergency backstops** of the euro-area integrity, from the **enlargement of central fiscal capacity** with the provision of **common public goods** to the creation of a **common fiscal stance** and a **common safe asset**.
- **The euro area trilemma is likely to resurge** and challenge the ECB with old and new policy, and political, trade-offs. **The sooner the euro area trilemma is addressed and resolved leaving politics and dogmatism aside, the better**.

1. INTRODUCTION

When the euro was seven years old, Charles Wyplosz wrote about "the dark sides of a major success" (2006). The darkness, according to the author, mostly emanated from some disconnection between economic logic and the principles of the euro area governance as a result of the politics of its creation.

"In the end, a striking characteristic of the whole undertaking is the gap between firm principles and pragmatic decisions [...] Many of these principles are either flawed or outdated. In that sense, the fact that they have not rigorously been applied is reassuring. On the other hand, the tension between principles and actions [...] is unhealthy" (p. 247).

The euro at ten was celebrated at the European Central Bank (ECB) Central Banking Conference on 13-14 November 2008 (ECB, 2008), as the financial turmoil that erupted in the United States was to overwhelm to world economy. Looking backward, the general mood was complimentary: *"the essentials of a monetary union have gone well in the first decade of the euro, perhaps as well as anyone could have hoped ten years ago"* (p. 8). Looking forward, however, the global financial crisis (GFC) was unfolding fast enough as to uncover critical weaknesses in the then "conventional" *modus operandi* of central banks *vis-à-vis* the unanticipated instability of the globalised financial system. Weaknesses that might have been magnified – as it happened – by the unfinished financial infrastructures and institutions of the euro area (Papademos, 2008).

Ten years later, the twentieth anniversary was presented as a

"Tale of Two Decades [...] one – stretching slightly beyond the ECB's mid-point – marked by decent growth in real incomes and a distribution of shocks to inflation almost universally to the upside; and the second – starting well into the post-Lehman period – characterised by endemic instability and crisis, with the distribution of shocks eventually switching from inflationary to continuously disinflationary. Throughout these 20 years, the challenges facing monetary policy have been immense [...] All the while, the ECB had to stand in for missing institutions in EMU's economic governance framework, institutions which in other major economies proved crucial for navigating the global financial crisis and its aftermath" (ECB, 2019, p. 7, 8).¹

In our contribution to the twenty-fifth anniversary of the euro we shall follow the same red thread that can be found in the earlier recollections at the birthdays of the euro: the most critical challenge that monetary policy faces in the euro area compared to standalone countries is that the ECB, the single truly supranational monetary policy-making institution, **operates in an incomplete and flawed institutional context**. This criticality remained latent in early benevolent contingencies to become blatant in the course of the, largely self-concocted, crisis of the early 2010s that led the euro to the brink of dis-integration. Since then, the ECB has been in the eye of the storm taking decisions that stretch well into its future. Has the ECB had to act as an **integration agency of the euro area**, and will it have to act likewise in the future? Does this role of the ECB trespass the limits of its mandate? If the ECB has to retrench within these limits, which institution is going to replace it in this role?

In section 2, we provide a recollection of the "Tale of Two Decades" of the euro's quarter of century, namely 1999-2008 and 2009-22, focusing on the role of the ECB as an integration agency in the context of the unresolved **euro area trilemma** such that its integrity, monetary orthodoxy and fiscal orthodoxy as dictated by the Treaties cannot be all achieved in the face of large systemic shocks. Section 3 goes

¹ Further readings in European Parliament (2019).

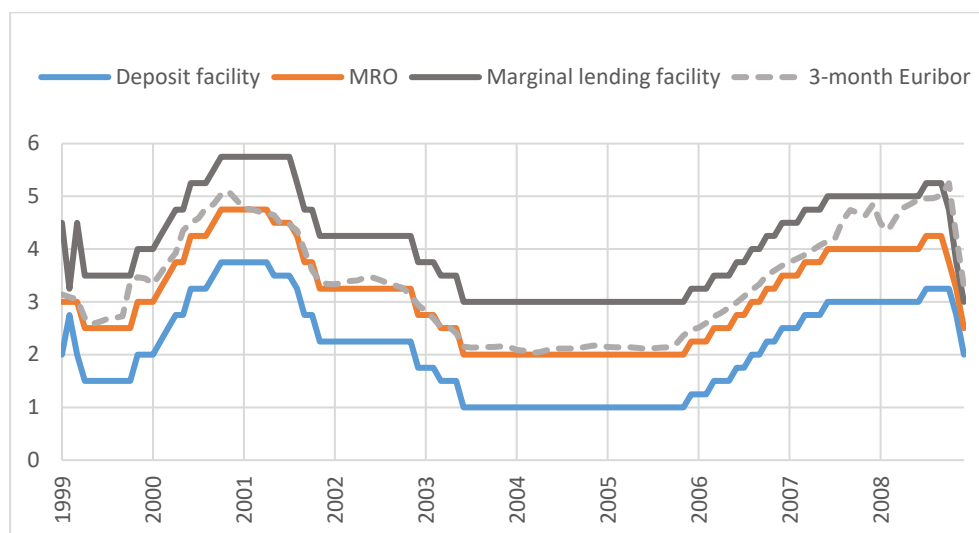
deeper into the events that marked the life of the euro after the GFC and brought the forefront the political implications of the ECB's decisions in its peculiar institutional environment. Finally, in section 4 we look forward and discuss the main challenges that the monetary policy strategy of the ECB will have to address, mostly arising **from important structural transformations worldwide**, from climate change to de/re-globalisation, from digitalisation to demography.

2. THE FIRST QUARTER OF CENTURY

The twenty five years of existence of the euro may broadly be divided into two parts. The first, spanning from 1999 to 2008, was mainly characterised by the ECB's "learning by doing" in an environment that, both within and outside the euro area, was still in continuity with the favourable global climate of the earlier decade known as the **Great Moderation**. The only exception of significant turbulence was the financial and economic crisis on a world scale triggered by the Twin Towers terrorist attack on 11 September 2001, which, at that time, was of considerable magnitude.

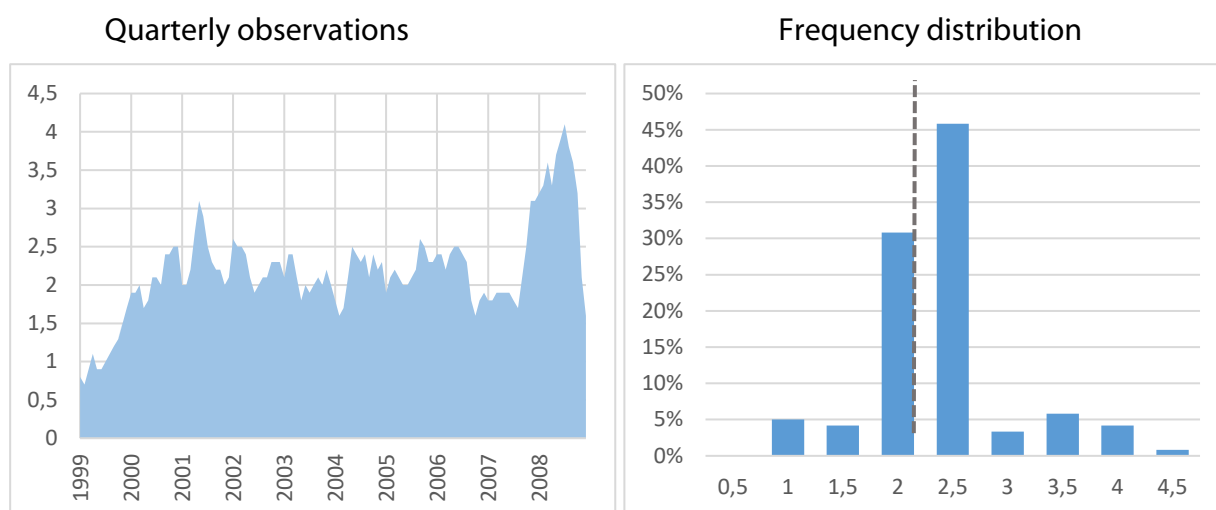
While that recession put under stress the fiscal rules enshrined in the Stability and Growth Pact (SGP), leading to a first revision aimed at taking into account the cyclical factors of public finances, the monetary governance of the euro area entrusted to the ECB seemed to be fit to the purpose. From 1999 to 2008, the "corridor" of the ECB key rates, centred on the main refinancing operations (MRO) rate, proved to be effective as a means to steering the interbank rates. The MRO rate was kept on average at 3.1%, the 3-month Euribor hovered around 3.4% (Figure 1)

Figure 1: The ECB's key interest rates and the 3-month Euribor, 1999-2008



Source: ECB, Interest rate statistics.

After initial low levels, by 2000 the annual inflation rate pointed to, and begun fluctuating around, 2%, scoring an average value of 2.2% up to 2008 (Figure 2). More than 80% of observed inflation fell between 1.5% and 2.5%. These figures were not fully in line with the objective "below but close to 2%", as it was stated in the monetary policy strategy review of 2003. Yet the bulk of upward deviations was concentrated between the end of 2007 and the summer of 2008, with a peak at 4.1% in July, i.e. concomitantly with a world oil rally – an episode that conditioned the response of the ECB at the outbreak of the GFC. Excluding 2008, the average inflation rate was 2.1%. Overall, the image offered by Figure 2 seems more consistent with the revision of the monetary policy strategy issued by the ECB in July 2021, where price stability is defined as an annual inflation rate of 2% to be maintained in a medium term horizon, with negative and positive deviations from the target being regarded as equally undesirable (ECB, 2021a).

Figure 2: Annual inflation rate in the euro area, 1999-2008

Source: authors' elaborations based on ECB Harmonised Index of Consumer Prices.

The 2001-02 world recession was absorbed less painfully than was feared, with Greenspan's Federal Reserve displaying an aggressive monetary easing, more than the ECB. With benefit of hindsight, we now know that the economic aftermath of the Twin Towers attack was not an isolated episode, but the beginning of the end of the post-Cold-War world that had shaped the conception of the euro area governance. The unprecedented systemic shocks that hit the euro area in its second decade, namely the "Europeanisation" of the 2008–9 shock, the sovereign debt crisis, the euro-stagnation of the 2010s, and then the COVID-19 pandemic followed by the global inflation of 2021-22, have posed existential threats to the euro area integrity, and put under question its governance.

2.1. The euro area trilemma

The governance of the euro area was laid on three pillars: 1) **the irreversibility of membership** (the conversion rates between former national currencies and the euro are "irrevocably fixed"²), 2) **monetary orthodoxy** (the priority of price stability and the ban on financing sovereign debts), and 3) **fiscal orthodoxy** (governments of member countries maintain fiscal sovereignty, subject to deficit and debt constraints and market discipline).

The systemic shocks mentioned above witness what Della Posta and Tamborini (2022) have dubbed the **euro area trilemma**. When the euro area integrity is in jeopardy, only two of its three pillars can stand: either monetary orthodoxy or fiscal orthodoxy (or both) should be relaxed.³

The events in the aftermath of the Great Recession can by and large be read in terms of the trilemma. In the course of the acute sovereign debt crisis of the early 2010s, the initial defence of the twin orthodoxies led to the brink of the euro area dis-integration. On the fiscal front, consolidation was deemed imperative. The budgetary rules and consolidation plans were tightened up, not only in the countries with the highest default risk, and a string of reforms of the SGP with this aim was implemented between 2010 and 2012.

² "Unlike the conditions for accession to the EU, which are addressed, even if not exhaustively, in Article 49 TEU, neither the founding treaties (...), nor the successive amending treaties made until the ratification of the Lisbon Treaty, made any provision for a Member State's withdrawal (negotiated or unilateral) from the EU or EMU" (Athanassiou 2009).

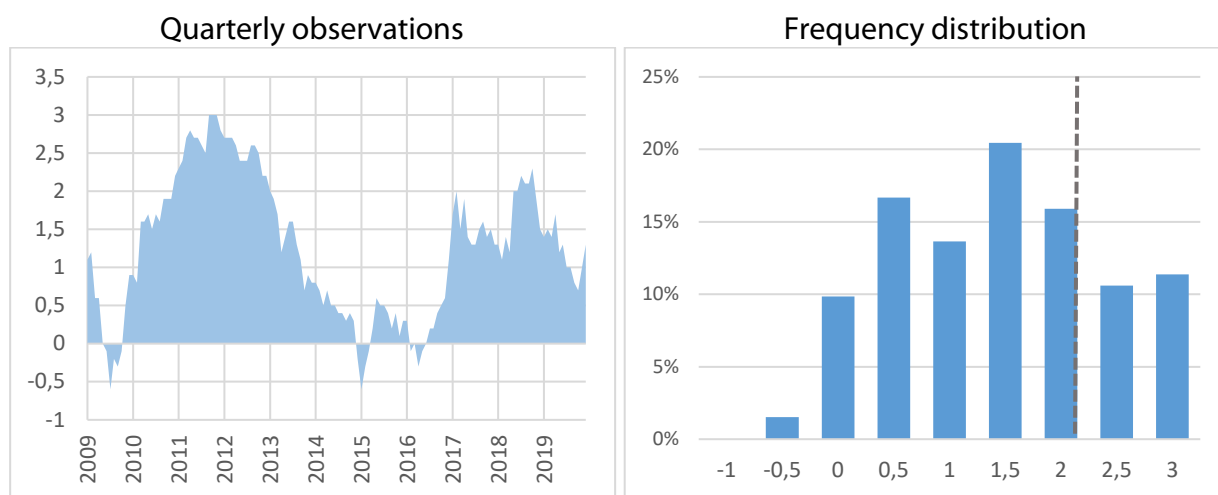
³ We introduced this concept also in our previous Monetary Dialogue paper, Bonatti et al. (2020)

Nevertheless, a key trigger of the crisis was investors' understanding that governments could, at best, commit themselves to debt stabilisation within a limit of fiscal sustainability. Indeed, credibility, in ordinary language, has two meanings: deliver on what has been promised, but also promise what can be done. Hence setting to governments the unconditional commitment to debt stabilisation is non-credible as it may not pass the test of the feasibility constraint. As investors anticipated that the upper bound of fiscal feasibility was approaching, self-fulfilling run-ups were triggered.⁴ Temptations of "exit" gained ground. The financial and currency markets began to price the **risk of redenomination**, i.e. the risk of a country's exiting the euro and reverting to its national currency (Di Cesare et al., 2012, De Santis, 2015).

The move of the ECB into the uncharted territory of "**unconventional monetary policies**" since 2012 was key to the rescue of the euro area integrity (Wyplosz, 2014). Whether, and the extent to which, monetary orthodoxy was trespassed remains highly debated. No doubt, there was large and unprecedented recourse to unconventional tools including purchases of sovereign bonds on secondary markets which, though practiced by other central banks, conflicted with well-established interpretations of the ECB's mandate, as evidenced by the disputes with the German Constitutional Court (see e.g. Siekman and Wieland, 2014, Brunnermeier et al., 2016, Part III; Schnabel, 2020).

At the macro-policy level, the mix between monetary easing and fiscal tightening was unsuccessful. Unlike other advanced economies, the euro area suffered a persistent stagnation throughout the 2010s, a decline in the confidence in the euro and the strengthening of anti-European movements.⁵

Figure 3: Annual inflation rate in the euro area, 2009-2019



Source: authors' elaborations on ECB Harmonised Index of Consumer Prices.

From 2009 to 2019, the euro area displayed a clear deflationary bias: 78% of quarter realisations of inflation were below 2%, and in 7 quarters it was negative (Figure 3). The average inflation rate fell to 1.2%; excluding the short-lived recovery of 2010-11, followed by the double-dip recession of 2012, since 2013 the average rate remained stuck at 0.9%. Most of the time, the euro area recorded negative output gaps as well. The lack of any mechanism or institution in charge with the determination of an **aggregate fiscal stance** *vis-à-vis* the monetary policy stance became patent (Draghi, 2014; Buti and Messori, 2022).

⁴ The sovereign debt crisis prompted a wave of studies on self-fulfilling speculative attacks. Just to mention a few: Attinasi et al. (2009), Caceres et al. (2010), De Grauwe and Ji (2013), Tamborini (2015a).

⁵ See Tamborini (2015b), Orphanides (2020) for overviews. A rich literature has investigated the relationship between the EMU crisis and the surge of euro-sceptic or openly anti-euro movements and parties: see e.g. Tosun et al. (2014), Guiso et al. (2016).

The disastrous economic consequences of the arrival in Europe of the COVID-19 pandemic in early 2020 were initially tackled, once again, by the ECB alone. Frankfurt relaunched its quantitative easing measures with a specific Pandemic Emergency Purchases Programme (PEEP), largely targeted to sovereign bonds, as early as March 2020. The fiscal response at the Union level was hesitant. National governments and the Commission decided to temporarily suspend budgetary rules, as was provided for by the SGP in the presence of exceptionally adverse events, while it was increasingly clear that leaving the capacity for plans of public health, social relief and economic recovery to each single country's "fiscal space" would rapidly increase the risk of collective catastrophe (e.g. Baldwin and Weder di Mauro, eds., 2020).

Lengthy and tense intergovernmental negotiations followed until July 2020, when a large scale EU fiscal plan was launched, **Next Generation EU (NGEU)**, encompassing significant "heterodox" elements such as raising financial resources via the issue of EU bonds. The novelty, with respect to the sovereign debt crisis, was that both the fiscal and the monetary arms were activated to back up the euro area integrity. Whether this seed of common fiscal capacity, and fiscal-monetary coordination, will take hold or will remain a once-and-for-all episode is an open issue, as testified by the ongoing debate about the reform of the fiscal governance framework (European Commission, 2022, Buti et al., 2023).

2.2. Monetary policy and the euro area integrity⁶

A natural question that arises from the previous historical recollection is why the euro area found itself trapped in the trilemma. Two conditioning elements can be recalled. In the first place, the 1980s and 1990s witnessed the paradigmatic shift in economics and politics in favour of self-regulating free markets, of the limitation of the perimeter of state intervention, and of monetary policy, instead of fiscal policy, as panacea for macroeconomic stability.

In the second place, the conception of the euro area was deeply conditioned by political-economic factors specific to Europe and its history, creating the grounds for a battle of ideas and interests at the same time (Bonatti and Fracasso, 2013; Brunnermeier et al., 2016; Gros, 2021). As a result of the mediation between the "monetarist view" – the single currency first – and the "fiscalist view" – fiscal integration first – the ECB's scope of action was restricted to the single mandate of price stability detached from any other responsibility for possible spillovers (negative as well as positive) from monetary policy, while the triple onus of stabilisation, coordination and integration was entirely shifted onto the fiscal shoulders of national governments within the boundaries dictated by the SGP.

The postulate of the separability of the ECB's mandate from the imperative of euro area integrity rested on a mixture of theoretical presumptions and empirical extrapolations. First, there was optimism regarding the virtues and powers of **inflation targeting**, the new orthodoxy of central banking emerged from the macroeconomic quarrels of the 1970s and 1980s.⁷ Monetary policy was grafted onto the presupposition of self-regulating and self-stabilising markets except for some price stickiness giving rise to temporary real effects of aggregate demand shocks to be stabilised by appropriate, rule-based, changes in interest rates. Fundamentally, in that view, the ECB was endowed with all the tools and means necessary to accommodate **aggregate shocks to the area**, and its mandate of price stability would face **no conflict with other relevant objectives**, at least in the long term (ECB, 1999).

Critical was the belief in the **efficiency of financial markets**, the same also underpinning their role as watchdogs of fiscal discipline in the euro area (Leijonhufvud, 2007; Stiglitz, 2014). A corollary was that price stability would also ensure financial stability, and consequently the denial of the need for central

⁶ For a more extended treatment see, Tamborini (2023).

⁷ For historical precision, the ECB moved towards inflation targeting with the policy strategy revision of 2003 (Wyplosz, 2006).

banks to have explicit financial stability targets (Bernanke and Gertler, 2001). But, as Stiglitz wrote later, *"the strangest aspect of modern macroeconomics was that central banks were using a model in which banks and financial markets played no role"* (2014, p. 9).

Second, the only significant threat of divergence across the area was seen in the so-called **asymmetric shocks** hitting single countries, and the "one-size-does-not-fit- all" problem of the single monetary policy (e.g. Dornbusch et al., 1998, Buti and Sapir, 1998, Bofinger and Mayer, 2007). In this respect, there was optimism about the adequacy of the fiscal space for domestic stabilisation warranted by the 3% rule of the cyclical deficit/GDP ratio (Buti and Sapir, 1998). This optimism rested on the past experiences of future Member States, when, however, they also could avail themselves of autonomous monetary policy and flexible exchange rate.⁸

Third, other early criticisms of the SGP were downplayed (e.g. Buiter et al., 1993; Kenen, 1995; Feldstein, 1997) –or perhaps did not withstand in the face of political imperatives. Focused on the single negative externality of one country's excess debt and/or deficit on the area's monetary and financial stability, the other externalities that the SGP itself might generate were ignored. In particular, the compound effect of simultaneous fiscal consolidations in more than country that later did become manifest during the euro-area crisis (Pisani-Ferry, 2013).

As recalled above, these fault lines yawned in the euro area, not as a consequence of asymmetric shocks, but in the aftermath of the first large systemic shock of 2008-09, imported from the US through financial markets, when it became blatant that the blueprint on how to govern and keep the whole system together was **largely incomplete** (European Council, 2012; European Commission, 2017a, 2017b).⁹ Once the dis-integration ignited by the financial markets was in progress, could the ECB remain safely nestled into its statutory neglect for the integration process beyond price stability?

In order to answer to the previous question, it is worth quoting the whole passage of the speech of the then ECB President Draghi (2012) containing his celebrated "whatever it takes" promise.

"[...] we think the euro is irreversible. And it's not an empty word now, because I preceded saying exactly what actions have been made, are being made to make it irreversible. But there is another message I want to tell you. Within our mandate, the ECB is ready to do whatever it takes to preserve the euro. And believe me, it will be enough. There are some short-term challenges, to say the least. The short-term challenges in our view relate mostly to the financial fragmentation that has taken place in the euro area. Investors retreated within their national boundaries. The interbank market is not functioning. It is only functioning very little within each country by the way, but it is certainly not functioning across countries. And I think the key strategy point here is that if we want to get out of this crisis, we have to repair this financial fragmentation." (p. 2)

Notably, the ECB's extension of the scope of its mandate and duties to explicitly include the integrity of the euro area – as an instance of the "no harm" principle if not as an independent objective in its own – was justified by the nexus between **monetary policy and financial stability**, instead of the more traditional safeguard of full employment which appears if the Federal Reserve's mandate. Two orders of new conditions can be seen behind this "game changer" (Wyplosz, 2014).

⁸ The lesson of the collapse of the European Monetary System was apparently unlearned (Corsetti et al. 2020)

⁹ *"From my perspective as President of the ECB, I remember clearly the huge uncertainty about where we were and which direction we should head in. I remain convinced that had central banks across the globe in the advanced economies not come together to chart a course out of the crisis, the outcome could have been a repeat, if not worse, of the '30s [...]. At the same time, in the euro area, the crisis revealed major deficiencies in its governance, ranging from the refusal by some member states to comply with the fiscal rules of the Stability and Growth Pact to a benign neglect of the major divergences in price and cost competitiveness, from the absence of a crisis management and resolution framework, and, finally, to the lack of a banking union"* (Trichet, 2015)

The first was taking place worldwide: the GFC turned the central bankers' consensus that price stability was a necessary and sufficient condition for financial stability upside down (Smets, 2014). The second was specific to the euro area. As the interconnections among the regulation of individual intermediaries (microprudential), the regulation of the intermediaries as a system (macroprudential), and the monetary transmission mechanisms were brought to the forefront, the incompleteness of the financial architecture and infrastructure in which the ECB was operating emerged more dramatically.

The reforms that were envisaged in the so-called **Capital Union** and **Banking Union** (European Commission, 2017a, 2017b) promised to be slow, painful, and fraught with political obstacles – as indeed it turned out to be the case (Bénassy-Quéré et al., 2019). Meanwhile, preventing "**financial fragmentation**", as a precondition for the orderly pursuit of its mandate, would become a new entry in the ECB's pedagogy about its various "unconventional" programmes, from the early **Outright Monetary Transactions** (OMT) launched in the summer of 2012, to the subsequent "**quantitative easing**" programmes, up to the creation of the new **Transmission Protection Instrument** (TPI) in July 2022 (Schnabel, 2020, 2021; Bonatti et al., 2021; ECB, 2021b, 2022). The post-pandemic surge of inflation has made this new view more, rather than less, cogent in order to come to terms with the trade-offs between price and financial stability (Bonatti et al., 2023; Schnabel, 2023b).

Criticisms of the statutory consistency of the ECB's engagement in defence of the euro-area integrity have been countered on economic theoretic grounds as well as on legal grounds (ECB, 2021a, 2021b). However, the events summarised above, the underlying deep modifications in the functioning of the economies worldwide, and the consequent challenges for policy-making in the euro area, have been unfolding in a **persistent climate of substantial political inertia** towards the ever-growing **agenda of the euro area reforms**: from the completion of the Capital Union and the Banking Union, to the predisposition of **emergency backstops of the euro area integrity**, from the enlargement of **central fiscal capacity** with provision of **common public goods**, to the creation of a **common fiscal stance** and of a **common safe asset**. The quest for the ECB retrenchment in the "narrow" inflation targeting is hardly consistent with the resistance towards **further supranational devolution** of competences and powers beside monetary policy. As we shall argue in greater detail in the sections that follow, the point is that the way the world has changed in the first quarter of the 21st century has made the foundations of the **euro area architecture obsolete**, and the underlying political-economic equilibrium untenable. Furthermore, a number of **important structural changes** will test the trilemma in the future and make the ECB face old and new policy, and political, trade-offs. The sooner the euro area trilemma is addressed and resolved, leaving politics and dogmatism aside, the better.

3. THE GROWING POLITICAL ROLE OF THE EUROPEAN CENTRAL BANK

3.1. The architecture of the euro area and the European debt crisis

As remarked in the previous section, the architecture of the euro area was designed in the midst of the intellectual climate of the Great Moderation. A broad academic consensus had emerged against the view, prevailing in the 1960s and 1970s, that the pursuit of price stability might be in conflict with other relevant goals in the economy, and that a central bank could, let alone should, **trade off price stability with such other goals**. In the moderate, "New Keynesian" version, the presence of frictions in the response of nominal prices and wages to demand-supply imbalances would only justify the pursuit of the joint objective of stabilisation of demand-driven business cycles (Clarida et al., 1999).

The prescription was, at any rate, for a monetary policy framework that would protect central banks from government pressure, so as to avoid the former being forced to monetise public deficits and to generate inflation surprises so as to boost economic activity to the advantage of the latter's short-term popularity. Thus, the idea prevailed that keeping inflation low and stable is the best way in which monetary policy can help maximise long-term output growth and to minimise its volatility, by reducing macroeconomic uncertainty and improving the intertemporal allocation of resources (ECB, 1999). In strict compliance with the then dominant (stricter) paradigm, the mandate assigned to the ECB envisages **only one primary objective**—the maintenance of price stability—to which all others are subordinate.¹⁰

Moreover, in addition to guaranteeing its full decision-making and operational independence, the Treaty on the Functioning of the European Union (TFEU), which governs its functioning, prohibits the ECB from **financing the governments of the Member States** in any form, thus regulating the peculiar situation which sees the ECB facing not a single fiscal authority like the other central banks, but as many as there are Member States, which in the original design of the euro area continued to have full responsibility over their respective banking system.

Complementary to this ban were the constraints placed by the SGP on the governments' fiscal deficits and debts. These constraints were motivated not so much by the prospect that—in an integrated European financial market—governments might beggar their neighbours by competing for funds and **"crowding out"** other borrowers, but more by the concern that doubts about the sustainability of some member country's sovereign debt could undermine the **ECB anti-inflationary credibility**. The underlying belief of those pushing to tie the hands of national governments was that curbing the tendency towards **fiscal profligacy** of some Member States (which had been one of the causes of the crisis of the European Monetary System in the early 1990s), thus enabling the ECB to devote itself exclusively to pursue its inflation target, was sufficient for guaranteeing the **financial and macro stability of the euro area**.

Actually, the idea that safeguards against inflation and excessive public deficits would suffice to preserve the stability of the euro area, and that capital market integration would facilitate real convergence between the countries belonging to this area (see, e.g., Blanchard and Giavazzi, 2002),

¹⁰ The mandate of the US Federal Reserve, instead, contemplates the pursuit of the best possible trade-off between the maximum sustainable employment and price stability. The TFEU specifies that "without prejudice to the objective of price stability", the ECB shall also support the general economic policies in the European Union with a view to contributing to the achievement of the Union's objectives, that include balanced economic growth, a highly competitive social market economy aiming at full employment and social progress, and a high level of protection and improvement of the quality of the environment.

inspired the “benign neglect” whereby authorities and investors looked at the **imbalances that began to emerge** within the euro area.

As a matter of fact, the elimination of (nominal) exchange risk and the ECB anti-inflationary credibility brought about a decline in the perceived country risk for the countries of the so-called “Periphery” (Greece, Ireland, Italy, Portugal, Spain), thus leading their market interest rate to converge to those of the so-called “Core” (Austria, Germany, the Netherlands). In its turn, cheaper access to credit for the periphery led to **financial cycle divergence** between Core and Periphery, which had its counterpart in the build-up of **macroeconomic imbalances**.

These growing imbalances amounted to widening positive gaps between domestic demand (“absorption”) and GDP in the Periphery that mirrored negative gaps in the Core. Over time, in the 2000s, these flow imbalances led to the Periphery’s accumulation of huge external debts, mirrored by the Core’s accumulation of large positive net foreign asset positions (stock imbalances). In parallel, the expansion of domestic demand bloated by external borrowing drove the rapid growth in the Periphery of the sectors not exposed to foreign competition (construction, public and personal services, retail...), thus raising prices and wages in these sectors, and therefore appreciating the Periphery’s real exchange rate. The resulting decline in competitiveness contributed to contract the Periphery’s tradable sectors, while the acceleration of GDP growth lowered the incentives to conduct prudent fiscal policies (Ireland and Spain, in particular, had no problem in complying with the 3% limit on the public deficit/GDP ratio thanks to fast growing tax revenues) and implement structural reforms aimed at increasing productivity.

In sum, policy-makers and financial markets’ optimistic beliefs about the stability and real convergence between Core and Periphery that the euro should have brought with it **turned out to be self-defeating**, since they triggered a sequence of events that ultimately led to their dispelling (Bonatti and Fracasso, 2019).

Meanwhile, the **US financial crisis** (2008-09) represented a major blow to the complimentary view of the Great Moderation age. With benefit of hindsight, the relative macroeconomic stability that characterised that period owed much to the promptness with which the Federal Reserve repeatedly “backstopped” asset markets on the occasion of sharp price declines (the so-called **Greenspan put**). At the same time, however, the Greenspan put contributed to creating an illusion of control, namely the overestimation of the authorities’ ability—at least in an advanced economy with fully developed financial markets—to guarantee financial stability even in the presence of bubbles and severe macro imbalances. A growing awareness of the role of central banks in **avoiding financial crises** thus developed and foreshadowed the existence of a potential trade-off between this role and other objectives of monetary policy.

The GFC changed market sentiments worldwide, drastically reducing the appetite for risk and determining a flight to quality. In this climate, the benign neglect whereby financial markets had looked at the euro area imbalances came to an end with the revelation (October 2009) that Greek government deficit was much higher than previously reported. This brought **sudden stops and reversals of capital inflows** in those Peripheral countries that had run large current account deficits and accumulated a sizeable negative net foreign asset position in previous years (Greece, Ireland, Portugal, Spain). The contagion spread, and even Italy, that had not run either of them, started having serious problems in rolling over its huge public debt. In general, a crisis that—with the notable exception of Greece—had not been caused by governments’ fiscal profligacy was turning into a sovereign debt crisis because of the growing need for governments to rescue domestic banks that were heavily exposed to sectors whose growth had been fuelled by the credit bubble of previous years.

Nowadays, the mainstream academic view, shared at main central banks, is that our economies are affected by a sufficient array of imperfections and "frictions" such that the pursuit of price stability may generate undesirable side effects on other economic variables (Lane, 2020).¹¹ Indeed, the art of central banking consists in finding a balance between the considered desirable effects of one's policies and the inevitable negative side-effects of the same. These effects vary over time due to changes in the structure of the economy. Furthermore, the trade-offs on which central banks focus their attention depend on the theoretical vision that inspires their action, as well as on the objectives that politics assigns to them (Blinder, 1998).

3.2. In the aftermath of the European debt crisis

It is not within the scope of this paper to reconstruct in detail the sequence of measures with which between 2010 and 2012 the European governments, the European Commission and the ECB, with the involvement of the International Monetary Fund, tried to counter the wave of mistrust that had spread on the ability of the euro area Peripheral countries to preserve access to markets and even to remain in the euro. The essence of this story is that the financial turmoil subsided only when President Draghi announced in July 2012 that the ECB would do "whatever it takes" to preserve the euro.

This announcement amounted to the launch of the already mentioned OMT programme, namely a programme of government bond purchases in the secondary markets of euro area states that have subscribed to an **European Financial Stabilisation Mechanism** (later turned into the **European Stability Mechanism**, ESM) adjustment programme, and which may be activated also for Member States already under an adjustment programme "when they will be regaining bond market access".

The purpose of OMT was to contrast "risk rewards that are related to fears of the reversibility of the euro" (the so-called "redenomination risk"), which were deemed "unacceptable" by the ECB press communiqué of 2 August 2012.¹² The ECB has never needed to implement the OMT programme, since—as noted by many commentators—its announcement was sufficient to mark a change of regime, as *"it was the decision to let the central bank act without preset limits as a lender of last resort in selected government bond markets"* (Micossi, 2023). In fact, the OMT announcement placed the ECB's stated objective of guaranteeing price stability alongside the objective of avoiding the exit of any member State from the euro alongside (or possibly, according to some accounts, it subordinated the former to the latter), and the possible implementation of the OMT would have "de facto" circumvented the TFEU's prohibition for the ECB to finance any member state.

The arguments that the ECB used to demonstrate that the OMT was fully compatible with its mandate and the TFEU were substantially accepted by the European Court of Justice in the Preliminary Ruling of June 2015 on the compliance of the OMT with the TFEU. These arguments have their conceptual basis in the distinction between the component of the differentials between euro area sovereign interest rates ("spreads") due to **country fundamentals** and the component of these differentials due to the **redenomination risk**. If with respect to the former the ECB is required not to intervene, with respect to the latter the ECB must intervene because it depends on the peculiar architecture of the euro, that is the currency of a union of sovereign Member States, which as such leaves open the possibility that some of them leave the euro area and return to having their own national currency (Schnabel, 2020, 2021).

Associated with this is the distinction between economic policy interventions (which the ECB is not allowed to undertake) and monetary policy actions (which are the prerogative of every central bank).

¹¹ The exceptions were dubbed a "divine coincidence" by Blanchard and Gali (2007).

¹² <https://www.ecb.europa.eu/press/pressconf/2012/html/is120802.en.html>

In the case of the ECB, interventions in the financial markets aimed at preventing **self-fulfilling dynamics** that widen spreads without justification in the countries' fundamentals are considered monetary policy actions. This is because these dynamics would fragment the financial markets of the euro area on a national basis, and thus hinder the **smooth transmission of monetary policy** impulses throughout the area. It is apparent that, if these distinctions may make sense on a conceptual level, it is difficult in practice to discern to what extent a widening of the spreads between euro area assets reflects market speculation rather than ongoing changes in the fundamentals of some country. This gives the ECB a wide margin of discretion as to whether, when and how much to intervene in these cases, but at the same time exposes it to criticism and political pressure.

On the other hand one could argue that in substance not much changes, other than its formal compatibility with the TFEU, if the OMT is interpreted as an instrument which the ECB could use to tackle the unsustainable effects of the redenomination risk, rather than as an instrument through which it could act as a **lender of last resort** to protect the most indebted Member States of the euro area.

The **conditionality** attached to the OMT, i.e. the obligation for a country requesting to use the OMT to sign up to and fully comply with a painful and unpopular structural adjustment package, was supposed to reassure the euro area Core countries that the new OMT programme would not encourage the moral hazard of the countries more prone to fiscal profligacy, i.e. it would not have led the governments of these countries to relax fiscal discipline. However, this was not sufficient to get the green light from the Core countries for such a substantial derogation from the no-bail-out principle embedded in the TFEU. It has, in fact, been underlined by many observers that the ECB was allowed to launch the OMT thanks to a political deal, that had the ECB's President Draghi and the German Chancellor Merkel among the main protagonists, on the basis of which the ECB adopted the OMT programme only after the euro area Peripheral countries had implemented **fiscal austerity** and **structural reforms** packages (see, e.g., Barber and Steen, 2012; Sinn, 2014; Dettmer, 2021; Micossi, 2023).

In that phase, in fact, there was more than one episode in which the ECB intervened directly on the governments that most needed it to support their debt, indicating to them the economic policies they had to undertake if they wanted it to purchase their bonds on the secondary market.¹³ In general, it was inevitable that the inclusion of the ECB in the so-called "**Troika**", the pool created *ad hoc* to manage the bailouts of Cyprus, Greece, Ireland and Portugal, would lead it to play a role with clear political implications. Even when the Greek crisis reignited in 2015, following the decision of the newly-elected Greek government not to respect the agreement that the previous government had negotiated with the Troika, it was the ECB, with an apparently technical decision, but actually of major political implications, namely ending **emergency liquidity assistance** to Greek banks, that determined the outcome of the ongoing tug-of-war between the Greek government and its creditors to the latter's advantage.

3.3. From the quantitative easing to our days

We have seen how the European sovereign debt crisis has confronted the ECB with the need to make choices, which, while not openly transgressing the TFEU and not *per se* in conflict with its primary monetary policy competence, could strongly interfere with political processes and conflicts strictly

13 The most well known episode was probably the Trichet-Draghi [letter](#) to the Italian government, by which on 5 August 2011 the outgoing and incoming presidents of the ECB wrote a "secret" letter to the Italian government, detailing the policy measures deemed necessary for the ECB support. The leak of this letter, that was soon made public by the press, caused a political turmoil that contributed to the fall of Prime Minister Berlusconi and his replacement with Mario Monti, considered more willing to follow the policies indicated by the ECB (see Scacchioli, 2014).

within the competence of sovereign States. Thus, it is not surprising that its conduct in this period was at the centre of controversies that went beyond the technical aspects of its policy measures.

Moving forward to the second half of the 2010s, less heated, but still not free from controversy, was the debate on **unconventional monetary policies** (quantitative easing, forward guidance, targeted longer-term refinancing operations, negative interest rates) to which the ECB also resorted, as other central banks of advanced economies were already doing to avoid a deflationary spiral and boost GDP growth once their policy rates had hit the zero lower bound. Apart from the criticism aimed at all central banks undertaking unconventional monetary measures, such as that of stimulating asset price bubbles (thus favouring the asset holders) and altering the risk components of the various assets (thus inefficiently steering credit to certain specific sectors), the ECB has been attacked—particularly in some countries—because of **two features peculiar to the euro area**.

The first is that the effects of monetary policy are largely assessed and evaluated by each government looking at the effects it has on its own country. The distributional effects of low long-term interest rates caused by quantitative easing tend to favour net debtor countries, while they tend to penalise creditor countries (and within the latter, those with present or future incomes depending heavily on accumulated savings, such as pensioners and workers close to retirement). Secondly, there is a widespread perception that ECB's massive purchases of euro area government bonds, even if in compliance with its capital key (i.e. ensuring that the share of the bonds of each country purchased by the ECB in the total is equal to the share of the ECB's total capital subscribed by that country), raise the risk of fiscal dominance because of some member countries' high public debt levels.

The evaluation of ECB policies done on an almost exclusively national basis, which reached its peak during the European sovereign debt crisis, has therefore not disappeared in the subsequent years. The spread and rise of **nationalist and populist movements and parties** which has affected almost all euro area countries has certainly played a role in this. In fact, the introduction of the euro in itself has created ideal conditions for the surge of populist parties and movements.

In line with this interpretation, with the introduction of the euro there is no longer that immediately visible causal relationship which, as long as there were national currencies, linked unsustainable national macroeconomic policies to the consequent increase in inflation and depreciation of the domestic currency (and to a possible financial crisis), and thus to the deterioration of people's living conditions. It therefore becomes easy for southern European populists, who are wont to depict the EU institutions as a technocratic oligarchy hostile to the people they claim to represent, to attack the ECB for refusing to unconditionally support their country's sovereign debt or to provide unlimited liquidity to their domestic banks, as well as for raising its policy rates when necessary to keep inflation under control. Furthermore, once in power, populists tend to use European institutions as scapegoats for their failure to deliver on the promises they made to their voters regarding the economy. Symmetrically, in central and northern Europe, populists accuse EU institutions of being too accommodating towards dissolute southern European countries, to the detriment of their own virtuous voters.

The **COVID-19 pandemic** has exalted the role of central banks as lenders of last resort to their governments with massive purchases of public debt allowing them to bring their budget deficits to unprecedented levels in peacetime. In particular, on 12 March 2020 the ECB added an *ad hoc* programme of monthly purchases of securities, the **Pandemic Emergency Purchase Programme** (PEPP), to the one already in place, the Asset Purchase Programme (APP), with the possibility of temporary deviations from the Eurosystem capital key in the allocation of purchases of public sector securities. In the event of market turbulence, this allowed the ECB to support the government debt of

countries that were temporarily facing a higher cost of borrowing.¹⁴ The evidence is that PEPP helped to offset the effects of the debt surge due to the pandemic and reduced the sovereign spreads by withdrawing debt from the market, thus improving the debt sustainability of high-debt countries (see e.g. Alberola-Ila et al., 2022).

In summer 2022 it became clear that the ECB monetary stance would have to remain restrictive for a sufficiently long period to counteract the rise in inflation that had began the year before following the **disruptions to the production chains and logistical bottlenecks** due to the pandemic, then exacerbated by increases in energy and agricultural commodity prices following the **Russian aggression against Ukraine**. Indeed, in 2021, central banks had been caught by surprise by the continuing increase in the prices of goods and services, and they reacted, with a few months' delay (in particular the ECB), by switching from an expansionary stance to a restrictive one. The Eurosystem's forecasting model, which had systematically overestimated inflation in the period preceding the pandemic in which it remained stubbornly below the ECB target, had evidently not entirely captured the upward push on the prices of many goods and services caused by the enormous liquidity created by central banks around the world, combined with supply limitations due to the pandemic.

In any case, there was some fear that, with the rise in policy rates and the imminent start of the reduction of the ECB balance sheet, the euro area countries that had emerged from the pandemic with the highest public debt could find themselves in serious difficulty and the interest rate spreads across the euro area could have gone up. Moreover, the huge amount of **government securities** held by the Eurosystem (which amounted to approximately EUR 3.6 trillion at the end of 2022, of which 2.5 were held under the APP and 1.6 under the PEPP) represented (and still represents) a source of hard choices for the ECB, since its decisions on the quantities and timing of its disinvestment from euro area government bonds as part of its disinflationary strategy have in fact great relevance not only for the securities markets, but also for the high-debt countries.

In this climate, on 22 July 2022 the ECB was induced to launch a new instrument, the **Transmission Protection Instrument** (TPI), which, like the OMT in 2012, is supposed to prevent the interest rate spreads from widening thanks to targeted purchases by the ECB of the securities of countries in trouble. The activation of the TPI, like that of the OMT, is also conditional, given that it depends on the ECB assessment that the country involved is running sound policies and respect all the policy recommendations of the European institutions. As Micossi (2023) writes,

"Thus, the ECB would find itself in the uncomfortable position of either refusing to activate the TPI in the presence of rising financial tensions in certain markets or having to indicate appropriate policy adjustments in the relevant countries. [...] The same paradox arises here that was already evident with OMT. The TPI works smoothly as long as it is not used; the process of activating it, which would notably involve raising questions of policy conditionality, would likely excite financial instability rather than tame it".

Looking ahead, the possible presence of sovereignist governments in high-debt countries, little or not willing to accept adjustment programs and structural reforms recommended by EU institutions, could exacerbate these tensions and place the ECB to face with difficult dilemmas.

The forecast errors of the recent past do not appear to have affected the credibility of the ECB, if it is true that the medium-to-longer term inflation expectations of market participants are aligned with the ECB target, thus allowing core inflation to fall considerably over the course of the 2023. Whether this

¹⁴ In a sense, the launch of the PEPP acted as a counterweight to the phrase said a few days earlier in a press conference by ECB President Lagarde: "We are not here to close spreads, there are other tools and other actors to deal with these issues".

decline will consolidate in the near future depends partly on **structural factors** and partly on **geopolitical developments** that are difficult to predict. As discussed in the next section, these factors, as well as the remaining institutional flaws affecting the euro area, will continue to pose a twofold challenge for the ECB: on the one hand, they require to adjust models and forecasting assumptions so as to deal with a large number of economic and socio-political shocks; on the other hand, they may create new trade-offs among EU-level objectives that the ECB, as in the past, will be forced to address notwithstanding its seemingly restrictive mandate. In our view, this is something that the next review of the ECB's monetary policy strategy will have to tackle.

4. STRUCTURAL CHANGES AND EXTREME SHOCKS: NEW CHALLENGES AHEAD

The 2021 review of the monetary policy strategy took stock of what happened in the two previous decades and also tried to anticipate the important drivers of change the ECB has foreseen. The main lessons learnt from the past decades regarded the challenges that arose during the GFC (in particular the macro-financial nexus and the financial segmentation risks) and the difficulties associated with ensuring the transmission of monetary policy in an environment characterised by persistently low inflation. Looking forward, the new strategy acknowledged that climate change complicates monetary policy and central banking. The ECB set a plan of action to incorporate climate change considerations into its monetary policy framework and to revise the assessment of risks, considering that extreme weather events reduce the predictability of the economy, increase volatility and cause financial instability. Given the emphasis that the 2021 review put on the macro-financial nexus, the risk-related dimensions of climate change received particular attention in the actual implementation of the strategy.

In this section, we shall argue that **the next review of the ECB monetary strategy will need to focus on the possible changes in structural trends**. In our view, the ECB will face a world characterised not only by more and larger idiosyncratic shocks, but also by important structural transformations.

The current strategy already attributes an important role to structural trends. The overview of the 2021 strategy explains that the new economic analysis (on which decision-making is based) must give “*due emphasis ... to the regular analysis of structural trends and their implications for inflation, potential output and the equilibrium real rate of interest*” (ECB 2021a, p. 14). In fact, the 2021 ECB’s monetary policy strategy statement refers only to a few structural factors, in particular those that at the time helped to explain the low natural interest rate and the low inflation rates observed in the 2010s. “*A robust new strategy hinges on a thorough understanding of why inflation has been persistently low – and below the ECB’s inflation aim – since 2013. The evidence indicates that a combination of interconnected factors is required to explain persistently low inflation*” (ECB 2021a, p.3)

Future structural trends, however, may be different from those observed in the past: new factors may have (will) become relevant and old factors may lead to different outcomes. **Identifying new structural trends in GDP and inflation is the first dimension** that the next review should address: in what follows, we shall suggest a few factors that we consider worth of attention. **A second dimension** that the review should address is **the explanation of how the ECB intends to react to changes in structural trends that are associated with policy-relevant structural factors**. As the last two decades have shown, the policy trade-offs that the ECB faces are numerous, notwithstanding the restrictive list of ordered objectives enshrined in the Treaties and in the Statute. As explained elsewhere in this paper, we believe that such trade-offs will remain in the future and may even potentially increase.

Before introducing the phenomena that we believe could be associated with important changes in structural trends, we would like to stress a methodological aspect that the new strategy should also address. **Distinguishing large but temporary shocks from structural transformations** is a complicated task, whose difficulty depends on the nature of the change/shock and on the adjustment mechanisms.

In our view, the use of more refined macroeconomic models and statistical data in the economic analysis is necessary, but it cannot suffice. In fact, the ECB is and will be called upon to make **predictions regarding non-economic factors**, such as the evolution of geopolitical tensions and regional wars, the effects of new technologies in production, the size and patterns of migration flows,

and the continuous changes in collective psychology and behaviour. We suggest that the new strategy will envisage the possibility of integrating/accompanying the economic analysis with the insights from studies in other disciplines. And the new strategy will have to clarify how the insights from these analyses will be incorporated in actual policy-making.

Currently, the risk assessment section of the monetary statement explores and discusses the risks to price stability over different time horizons. At first sight, one could argue that the risk assessment section is the most appropriate place where to collocate the discussion of non-economic factors. In fact, the risk assessment section typically regards upside and downside risks to inflation due to short-to-medium run shocks, not shocks to structural trends. What is the right place to discuss them?

Climate change is the first transformative factor that could modify structural trends. There is no doubt that relative prices will need to adjust in order to reflect shifts in supply and demand of energy, carbon taxes and emission limits, changes in the agricultural and food systems (as well as in tourism destinations and activities), the transition from internal-combustion-engine vehicles toward electric vehicles, and the like. While we know that such transformations both entail and require a revision of relative prices, it is still unclear how inflation trends will be affected: the adjustment toward climate neutrality may produce both long-lasting inflationary pressures (due to higher abatement costs, carbon taxes, energy shortages) and prolonged deflationary pressures (due to lower economic activity). This is the first problem that the ECB will have to consider.

Beyond the uncertainty surrounding the impact of climate change on future inflation trends, another key question for the next review is how the ECB will intend to deal with the effects of climate-related structural shocks on trends in inflation and GDP. Will the ECB conduct policy “leaning against the wind” at any sign of climate-related inflation pressures? Will it adopt a benign neglect of climate-related price trends? Given that climate neutrality is an objective enshrined in EU law, how will the ECB react to price variations that are consistent with the green transition but at odds with price stability? Can this create a new trade-off among EU-level objectives? The medium-term orientation of the current strategy provides enough policy flexibility to allow the ECB to look through temporary climate-related shocks that may dissipate with no second-round effects on inflation. But the point we raise is different: how should the ECB respond to the implications of the structural changes associated with the green transition?

Another factor to consider is **globalisation**. The 2021 strategy review addressed the impact of globalisation on productivity, the natural rate of interest, inflation trends and monetary transmission (ECB 2021a, 2021c). The ECB’s 2021 monetary policy strategy statement mentioned globalisation (together with digitalisation, the threat to environmental sustainability and changes in the financial system) as a factor that poses challenges for the conduct of monetary policy. It affects the transmission of shocks, including policy shocks, and it alters the responsiveness of domestic inflation to internal conditions. Interestingly, globalisation was recognised in 2021 as a global trend that, interacting with downside cyclical drivers, contributed to the low inflation environment observed in the 2010s: *“Over the last decade, there has been a shift towards disinflationary shocks during and after the global financial crisis. Cyclical drivers, notably the disinflationary impact of the 2009 and 2012 twin recessions, have interacted with ongoing structural trends (such as globalisation, digitalisation and demographic factors) in a context in which the effective lower bound means that disinflationary shocks cannot easily be offset by interest rate policy”* (ECB 2021a, p.3). The features of globalisation that the review mainly addressed were those that could help to explain the persistently low inflation observed after the EU debt crisis.

Concerns have clearly changed after the inflation outburst in 2022. Thus, the ECB might have to reconsider globalisation and its impact on the structural trends of inflation and GDP. First, it will need to recognise the increasing importance of large and repeated external shocks capable of affecting

European production, consumption, good prices and stock prices.¹⁵ Second, it will have to consider the long-lasting transformations that the adaptation to a less integrated international environment might bring about (Goodhart and Pradhan 2020). The ECB, for instance, will have to consider the effect of re-shoring and near-shoring, as well as of the ongoing regionalisation of the production networks.¹⁶ These phenomena raise a delicate political dimension as they stem from more assertive industrial strategies, tougher environmental requirements, more intense trade remedies and other restrictive responses to national security threats. How will the ECB respond to changes in structural trends that stem from strategic policy decisions?¹⁷ For instance, how should the ECB react to large and long-lasting inflationary shocks stemming from a geopolitical (or military) confrontation?

In the 2021 review, the ECB recognised the importance of **digitalisation** as a factor that affects the environment in which monetary policy operates (ECB, 2021d). Digitalisation alters the nature of firms' investments (towards the intangibles) and the sources of external finances, thereby modifying the transmission channel of monetary policy. Its impact on productivity growth can influence the natural rate of interest, raising the expected returns from economic activity. It also exerts direct deflationary pressures through the reduction of the prices of technological goods. Furthermore, the profound modifications in labour demand that it generates may modify the slope of the Phillips curve, which alters the effectiveness of monetary policy. These considerations remain all true also for the future. But the diffusion of the **generative artificial intelligence** (AI) has the potential to modify the environment in a more radical way. The potential boost in productivity due to AI is massive and its impact on the natural interest rate far from negligible.¹⁸ New professions (such as machine learning engineers and AI ethicists) could be created, increasing labour demand. AI-powered technologies may complement human workers, mitigate their biases and increase their productivity through data-driven insights. By increasing the analytic capacity of companies and financial investors, AI may enhance firm efficiency and improve the allocation of financial resources. On the other hand, the potential displacement effects of AI on workers employed in highly exposed occupations is large: reasoning and communicating will stop being exclusively performed by humans.¹⁹

In sum, the next review of the monetary strategy will need to clarify what impact AI is expected to have on the natural rate of interest and on inflation and GDP trends in the euro area. And it will have to devise a strategy that performs well if a mistake (i.e., a misperception of the natural rate) is done (De Fiore et al., 2023). Given that AI is likely to impact negatively on financial practices (exacerbating the problems associated with algorithmic trading) and on financial volatility (due to the diffusion of fake news), the role of AI on the macro-financial nexus may be the object of the revision of the strategy.²⁰

Finally, the 2021 review statement mentioned **demographic factors** only as determinants of declining trend growth and lower real equilibrium interest rates observed in the previous decade. As explained, in 2021 the ECB felt the urgency to update its strategy to reflect the perceived reduction in the natural rate of interest and the subsequent lower space for monetary easing, as well as the perceived flattening of the Phillips curve. In fact, whether the Phillips curve may have turned steeper is now open to

¹⁵ This could be particularly important in case of state-dependent (Costain et al., 2022) and shock-dependent (Phelan and L'Huillier, 2023) price-setting mechanisms.

¹⁶ Conversely, as pointed out by Schnabel (2023a), European firms could choose to relocate outside the euro area, thereby reducing potential output, if energy prices and the cost of improving energy efficiency were persistently high.

¹⁷ As mentioned before, the growing importance of policy- and military-related shocks represents also a challenge to the ECB's ability to forecast the economy and complicates its risk assessment.

¹⁸ For a concise account of the uncertain impact of AI on growth and employment, we refer to Ilzetzki and Jain (2023).

¹⁹ In fact, given the economic, financial and social risks associated with potential abuses of AI, it is possible that stronger regulations may eventually restrict the range of AI-powered technologies.

²⁰ Clearly, new insights from AI-related and data science can also support central bank policies (credit risk analysis, forecasting and nowcasting, ...). We refrain from discussing these issues here.

discussion. Population ageing might interact with significant changes occurring in work preferences: several surveys and studies have shown an increasing attention of individuals towards higher salaries, more job security, greater flexibility, better work-life balance, shorter working times, and greater inclusion (European Commission, 2023; WEF, 2023).

These factors, together with important changes in the composition of labour demand, might have **structurally tightened labour markets** (Doornik et al., 2023). Skilled labour shortages and unfilled vacancies emerged in several sectors and countries in 2022, and more important shortages appeared in sectors affected by the green and digital transitions and by the disruptions in international supply-chains.²¹ As pointed out by Goodhart and Pradhan (2020), the size of the working age population in the advanced world will be reduced due to the fall in effective supply of workers in China and in most advanced countries (with India and Africa being the most notable exception to a declining demographic trend), and there will be an increase in the share of the population that depends on others and on past savings for pensions and medical support: these structural phenomena, which could strengthen the recovery in labour bargaining power in advanced economies, may lead to a reversal of the disinflationary trends observed in the last few decades.²²

As the reduction of inflation from its 2022 peak has been achieved in the euro area through wage moderation, it remains unclear how workers and trade unions will negotiate wage adjustments in the future. According to the European Commission (2023), moderate long-term inflation expectations and the sound businesses' profit margins indicate room to further increase wages. This may also exert a long-lasting effect on labour supply. In considering whether labour markets have structurally changed and whether this justifies a revision of the strategy, the ECB might consider the impact that monetary policy exerts on labour supply, a channel that has attracted growing interest in recent academic literature.²³

²¹ As pointed out by Schnabel (2023a), there is some uncertainty about the importance of these forces given that similar trends in unfilled vacancies in the US and in the different countries of the euro area may be compatible with different degrees of labour market tightness.

²² It is worth noticing that Goodhart and Pradhan (2020)'s predictions are based on standard explanations of the long-term decline in real interest rates associated with underlying forces governing desired saving and investment. For a different and equally interesting take on other forces (i.e., global monetary factors), see Borio et al. (2022).

²³ See, for instance, Bergman et al. (2020), Graves et al. (2023), Hubert and Savignac (2023), Singh et al. (2022), Zens et al. (2020).

5. CONCLUSION

A red thread can be found across the earlier recollections at the birthdays of the euro: the most critical challenge that monetary policy faces in the euro area compared to standalone countries is that the ECB **operates in an incomplete and flawed institutional context**. In our own contribution to the twenty-fifth anniversary of the euro, we have followed that same thread.

By looking backward first, we have provided a recollection of the two phases of the euro, namely 1999-2008 and 2009-22, the latter of which has raised serious threats to the integrity of euro area. The role of the ECB has increasingly emerged as **an integration agency** in the context of the unresolved **euro area trilemma** – namely that its integrity, monetary orthodoxy and fiscal orthodoxy as dictated by the Treaties cannot be all achieved in the face of large systemic shocks. Going deeper into these events, we have highlighted the growing component of political implications of the ECB's decisions in its peculiar institutional environment. Looking forward, we have discussed the main challenges that the next monetary policy strategy of the ECB will have to address, mostly arising **from important structural transformations worldwide**, from climate change to de/re-globalisation, from digitalisation to demography.

The events that we have examined, and the consequent challenges for policy-making in the euro area, have been unfolding in a **persistent climate of substantial political inertia** regarding the completion of the Capital Union and the Banking Union, the predisposition of emergency backstops of the euro-area integrity, the enlargement of central fiscal capacity and the provision of common public goods, the creation of a common fiscal stance and a common safe asset. The point is that the way the world has changed in the first quarter of the 21st century, and is likely to change in the near future, make the foundations of the **euro area architecture obsolete**, and the underlying political-economic equilibrium untenable. The euro area trilemma is likely to resurge in the future and challenge the ECB with old and new policy, and political, trade-offs. The sooner the euro area trilemma is addressed and resolved leaving politics and dogmatism aside, the better.

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The key lesson of the first twenty five years of the euro is that the ECB is embedded in an incomplete and flawed institutional context. Its role has increasingly emerged as an integration agency in the face of existential threats to the euro. The way the world is going to change will put the ECB's status under further stress. The next strategy review will need to address structural changes adding new policy trade-offs to the old ones. The sooner the euro-area governance is reformed leaving politics and dogmatism aside, the better.

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