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The European Central Bank's strategy, environmental policy and the new inflation:

A case for interest rate differentiation

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Contents

Summary

How the European Central Bank (ECB) raises interest rates this year will shape the European economy for the next few decades. In particular, a sharp rise in funding costs could potentially gravely harm investments needed today for clean energy production, energy efficiency and adaptation to increasingly extreme weather and environmental degradation. Cutting off investments now would make the EU economy more vulnerable to geopolitical and climate-related inflationary shocks.

Although at its creation the ECB's monetary strategy was focused on consumer prices on a two- to five-year time horizon, its 2021 strategy suggests a much longer-term orientation. A myopic hike in interest rates would ignore lessons learned during the eurozone crisis, and should be prevented at all costs.

To ensure its adequate long-term orientation, the ECB should use the full range of tools it has at its disposal. Now that net Pandemic Emergency Purchase Programme (PEPP) purchases have come to an end, the ECB should develop a new instrument that effectively counters fragmentation in sovereign debt markets. The ECB should also profoundly rethink its Targeted Longer Term Refinancing Operations (TLTROs). Rather than boosting demand, the instrument should be used to align bank lending with the EU's long-term economic strategy, in particular the May 2022 REPowerEU action plan.

1. Introduction

With eurozone inflation hovering around 8% at the start of July 2022, the European Central Bank (ECB) was set to start raising rates at its meeting later in the month. Today's high prices are being driven by specific supply-side sectoral dynamics, while the interest rate tool only targets demand. As Table 1.1 documents, the main culprit is energy prices, up 37.5% on a year ago. However, the overall picture resists easy summary. When demand picked up in 2021, global supply chains came crashing down. Failed harvests, wars and commodity speculation are now driving up food prices at a dramatic rate. Even parts of the service sector are seeing inflation way above the ECB's target of 2%. This is an ironic turn of events after a two-year strategy review in which the ECB reflected mostly on dealing with low inflation.

Now that some monetary policy response is inevitable, this report turns to how the ECB could implement its rate rise. Monetary policy will, unavoidably, only be part of the story. A targeted and effective hike may not only contribute to reining in inflation but also counteract some of the undesirable side-effects of the current low interest rate environment. However, while a rate rise can bring down excessive spending it does not increase the supply of natural gas from Russia or create alternative sources of energy.

Table 1.1. Weighting and annual change (%) in the Harmonised Index of Consumer Prices (HICP) and its main components in the euro area, April 2021–June 2022

		Annual change (%)				
	Weight	April 2021	November 2021	February 2022	April 2022	June 2022
HICP (all items)	100	1.6	4.9	5.1	7.4	8.6
Food, alcohol, tobacco	20.80	0.6	2.2	4.2	6.3	8.9
Energy	10.90	10.4	27.5	32	37.5	41.9
Non-energy industrial goods	26.50	0.4	2.4	3.1	3.8	4.3
Services	46.60	0.9	2.7	2.5	3.3	3.4

*Source: Eurostat, **prc_hicp_inw** and **prc_hicp_manr***

How the ECB raises interest rates this year will have a profound impact on the EU's next decade, potentially fatally undermining much-needed investments. To pre-empt future inflationary shocks, governments and firms need to invest today in clean energy production, energy efficiency and adaptation to increasingly extreme weather caused by climate change. Cutting off those investments to make prices go down in the short run would make the EU economy more vulnerable to climate-related economic shocks (Schmidt et al., 2019; Voldsgaard et al., 2022). As the war in Ukraine brutally reminds us, the green transition is also a pressing matter of energy security.

This report draws attention to some of the important lessons learned from the past few decades regarding the economic pre-conditions for price stability, as contained in the ECB's 2021 strategy. The ECB's 1998 and 2003 strategies had an unduly narrow and short-term orientation, reducing deliberations by the Bank to a narrow objective of steering consumer prices on a two- to five-year time horizon. After 2008, the ECB greatly improved its understanding of the economic pre-

conditions for price stability: the need for a stable financial system and long-term economic resilience. These lessons, learned at great cost, should continue to inform the ECB's approach as it raises rates.

Unconventional tools will remain crucial for long-term monetary and financial stability and while the ECB already possesses most of the tools it needs, some are under-acknowledged. This report highlights the unfulfilled potential in the existing toolbox, focusing on the Pandemic Emergency Purchase Programme (PEPP) and Targeted Long-Term Refinancing Operations (TLTRO) programmes. The ECB should stand ready to monitor spreads in government bond markets and continue the flexible approach to purchases inaugurated by the PEPP. Meanwhile, new TLTRO criteria should align monetary policy with the EU's economic strategy for the next decade.

The past decade of deflation saw lively debates on how to align monetary policy with long-term prosperity, the lessons of which should continue to inform monetary policy in the coming years. This report revisits lessons learned on the interaction between monetary policy and sovereign debt markets.[1] For private sector investments, it focuses in particular on interest rate differentiation.[2] [3] The aim of the report primarily is to suggest that all these arguments continue to apply, and may in fact become more relevant, as the ECB moves out of its earlier deflationary environment.

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[1] See De Grauwe, 2011; De Grauwe and Ji, 2013; Gabor and Ban, 2016; Corradin, Heider and Hoerova, 2017; Dafermos, Nikolaidi and Galanis, 2018; Tooze, 2018; Gabor, 2021; van 't Klooster, 2022.

[2] See Lonergan and Greene, 2020; van 't Klooster and van Tilburg, 2020; Böser and Colesanti Senni, 2021; NGFS, 2021; Svartzman et al., 2021.

[3] For more general reflection on how to implement green monetary policy, see, for example, Campiglio et al., 2018; D'Orazio and Popoyan, 2019; Dafermos et al., 2020; Oustry et al., 2020, Schoenmaker, 2021; and Dikau et al., 2021.

2. The time horizon of the 1998 and 2003 ECB strategies[4]

At its creation the ECB's monetary strategy was focused on consumer prices in the medium term, typically understood to mean a two- to five-year period. The strategy lacked a sufficiently long-term orientation. As a consequence, it did not prepare the central bank well for the years after 2008.

Historically, central bank mandates have typically sketched the objective of price stability in general terms, as part of a broader notion of monetary and financial stability of a nation (van den Berg, 2004). The 1957 Bundesbank mandate talks of "safeguarding the currency" (Art. 3) as well as "supporting the general economic policy of the Federal Government" (Art. 12). The Irish Bank Act of 1942 includes "safeguarding the integrity of the currency and ensuring that, in what pertains to the control of credit, the constant and predominant aim shall be the welfare of the people as a whole" (Section 6 (1)). Before 1998, one of the remits of the Dutch central bank was to "regulate the value of the Netherlands' monetary unit in such a manner as will be most conducive to the nation's prosperity and welfare, and in so doing seek to keep the value as stable as possible" (Section 9 (1), Bank Act 1948).

The ECB's mandate contains similarly general provisions concerning the objectives and instruments of monetary policy (de Boer and van 't Klooster, 2020). Its primary objective is price stability. A second provision holds that "without prejudice to the objective of price stability, the [ECB] shall support the general economic policies in the Union". The ECB is required to support those broader economic policies while contributing the objectives of the EU as outlined in Article 3 TEU (Ioannidis et al., 2021). Ultimately, many key questions are left to the ECB: it should not merely 'implement' but also 'define' its monetary policy. The ECB's strategies set out the central bank's evolving interpretation of that mandate.

Its early strategy imposes on the ECB the task of pursuing medium-term price stability, for which it steered short-term interest rates (ECB, 1998, 2003). Its objective of price stability was defined as year-on-year consumer price inflation over a two- to five-year time horizon, where inflation was measured using the Harmonised Index of Consumer Prices (HICP). The operations that the ECB used to achieve that objective were refinancing operations and standing facilities. It is a strategy in which the ECB used one instrument to pursue one simple objective.

Under this old strategy, the ECB Governing Council would set interest rates to prevent inflation. In so doing, it studied financial markets primarily as a predictor of medium-term price developments. Its monetary policy was informed by two types of analysis, both concerned with the future prices of consumer goods (see Figure 2.1). It performed an *economic analysis* that focused on the business cycle and the long-term potential of the economy. Reflecting an older Bundesbank tradition, the ECB also drew on a *monetary analysis*. Under this pillar, the ECB studied growth in monetary aggregates as a predictor of real economy consumer prices.

Despite its overriding importance, the ECB has always held that it should not 'mechanically' pursue price stability. Facing a supply shock, price pressures are concentrated in specific sectors and due to causes that monetary policy cannot directly address. Although ultimately bringing down demand will affect the overall price level, the costs of such an intervention are high. If temporary, the ECB would therefore accept inflation going above target within the two- to five-year time frame.

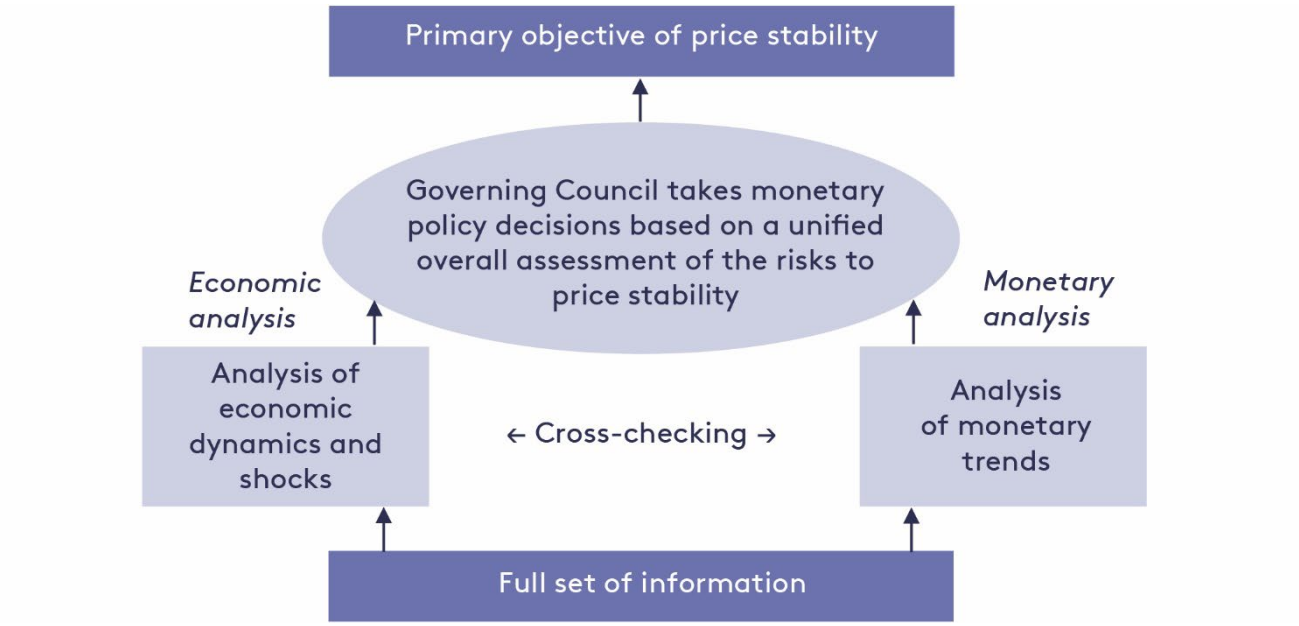
[4] The analysis of the ECB's old and new strategies in this section and the next builds on Van 't Klooster & Grünewald (2022).

As the central bank explained in the 2003 strategy review:

> *[M]onetary policy needs to be tailored to the nature of the shocks hitting the economy, and their size, source and potential for propagation. On this basis, the key ECB interest rates must evolve in such a way that the path of future inflation remains in line with the ECB's objective of price stability over the medium term.* (ECB, 2003, p. 88).

The ECB's focus remained first and foremost on medium-term price stability, which could at best be delayed by a few years.

Figure 2.1. The decision-making structure of the ECB as set out in its strategy of 2003



Source: ECB (2003)

However, overall the 2003 analytical framework rested on a narrow interpretation of the price stability mandate, which gave policymaking an unduly short time horizon. Such a short time horizon fits business practice, but the state should have a less myopic perspective (Offer, 2022). The state alone can bring a long-term orientation to a market society. The ECB's focus on real economy drivers of inflation led it to miss the dramatic build-up of instability in the financial system preceding 2008. The resulting crisis forced the central bank into a new role as the EU's frontline crisis fighter. In the eurozone crisis, the ECB again was slow to recognise spreads in government bond markets as pre-conditions of economic stability. Although its mandate was drafted with careful attention to allowing secondary market purchases, the ECB's 2003 strategy did not provide for any role of the central bank in backstopping markets (De Grauwe, 2011; De Grauwe and Ji, 2013; van 't Klooster, 2022). Facing pervasive disruptions from late 2009 onwards, the central bank only reluctantly identified bond market spreads as an obstacle to its ability to implement monetary policy (Gabor and Ban, 2016; Tooze, 2018). Focusing narrowly on its medium-term inflation objective, the central bank raised interest rates too early in 2011. With the start of Christine Lagarde's new presidency, these experiences led the ECB to restart its postponed strategy review, originally scheduled for 2008.

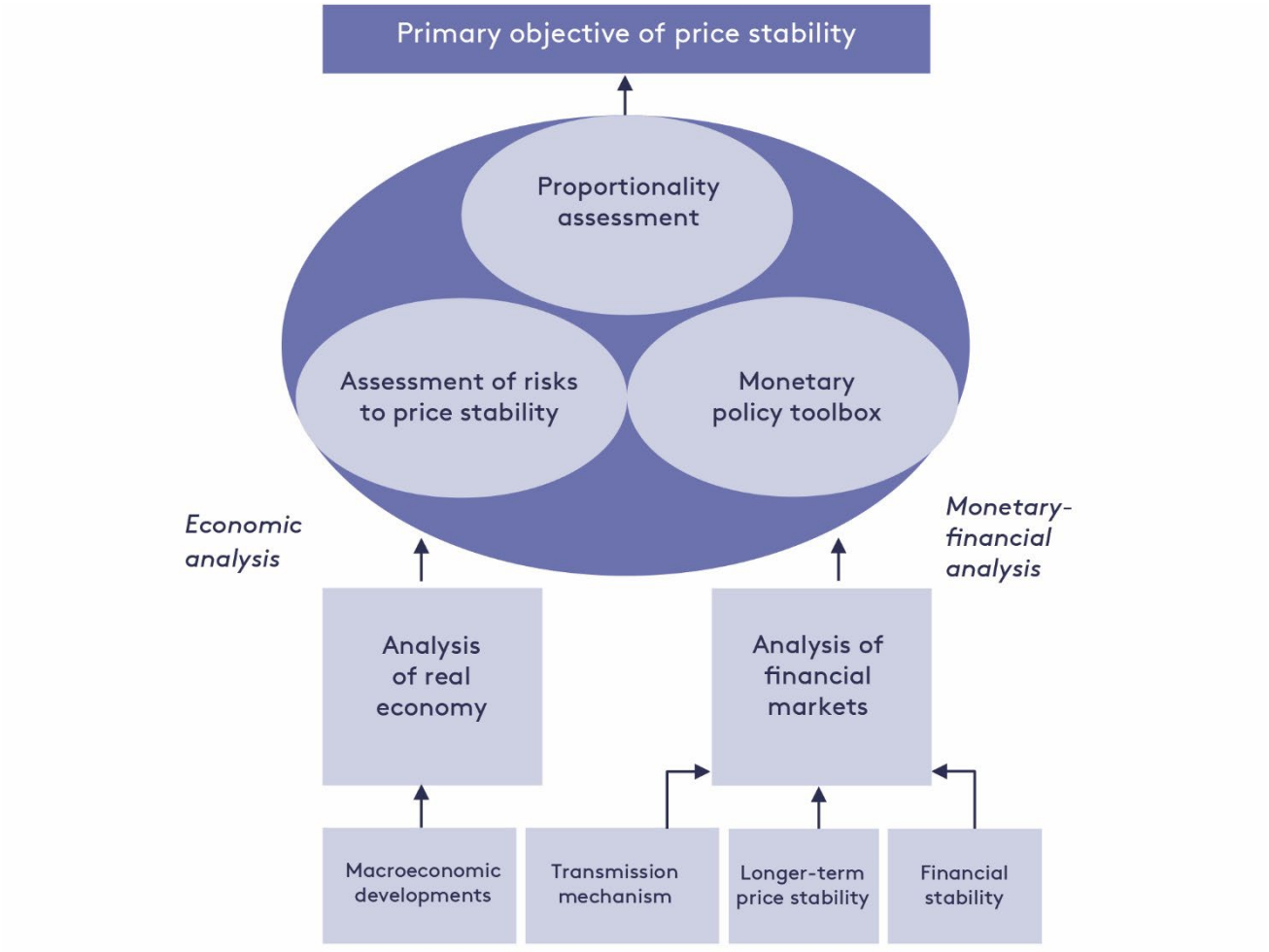
3. The long-term orientation of the 2021 strategy

The 2021 strategy review provides the ECB with a new orientation towards the transmission mechanism of monetary policy, financial stability and long-term price stability. In this way, the ECB has come to acknowledge the need to pursue both year-on-year stability of consumer prices and the long-run economic pre-conditions for price stability.

The new analytical framework

The ECB's analytical framework broadens deliberation in the Governing Council with regard to topics and time horizons. Like the earlier strategy, it has two pillars (see Figure 3.1). The economic pillar remains focused on consumer price inflation within the ECB's medium-term orientation on consumer prices. A second pillar turns to ways of pursuing price stability. A revised 'monetary-financial' pillar sets out the factors that the ECB considers in deciding how to fight inflation. Although this second pillar may appear like the previous monetary pillar, the two could not be more distinct.

Figure 3.1. The ECB's decision-making structure as set out in its 2021 strategy



Source: Van 't Klooster & Grünewald (2022)

Under its new monetary-financial pillar, the ECB is to consider three ways in which conditions in financial markets may shape its policy. First, the ECB has now formalised its role in monitoring market stability with an eye to the transmission of monetary policy. It is via markets that its interventions are transmitted to the real economy. The Governing Council will ensure that market disruption, in particular large spreads in government bond markets, do not hamper the

effectiveness of rates. Second, the ECB is now also much more keenly aware of the complex interactions between its monetary policy and financial stability objectives (Albertazzi et al., 2021). Third, the ECB considers how financial market dynamics can impact longer-term economic developments. In this context, the ECB will conduct a "systematic evaluation of the longer-term build-up of financial vulnerabilities and imbalances and their possible implications for the tail risks to output and inflation" (ECB, 2021).

Across these three dimensions of monetary-financial analysis, the ECB has promised to be particularly vigilant where it concerns interactions with environmental policy, "ensuring that the Eurosystem fully takes into account the implications of climate change and the carbon transition for monetary policy and central banking" (ECB, 2021).

Through the second pillar, the ECB has committed itself to taking into account a range of factors that should caution against a haphazard rate hike. The new insights gained with regard to government bond markets and long-term stability are as follows:

- **First, in raising rates, the ECB should again keep a close eye on government bond markets.** From the perspective of the transmission mechanism, spreads between member states could undermine the transmission of rates to the real economy. Without monitoring spreads, the hike would potentially be strongest where inflation is currently not very high to begin with. In member states such as Italy and Portugal inflation has been comparatively low. After the sovereign debt crisis of the early 2010s, it took the ECB years to get inflation back on target.
- **Second, the ECB should also ensure that its strategy towards current inflation does not undermine long-term economic resilience.** To make the economy more robust to inflationary shocks, governments and firms need to invest today in clean energy production, energy efficiency and adaptation to increasingly extreme weather (IEA, 2021; EC, 2022). However, crucial sectors such as renewable energy involve large upfront investments and are vulnerable to changing financing conditions (Schmidt et al., 2019; Voldsgaard et al., 2022). Cutting off much-needed investments to make prices go down in the short run would make the EU economy more vulnerable to climate-related economic shocks (Batten et al., 2016; Batten, 2018; NGFS, 2020; van Tilburg and Simić, 2021). In reflecting on these considerations, the ECB is meant to take into account more than just "the appropriate monetary policy response to a deviation of inflation from the target" to also "cater for other considerations relevant to the pursuit of price stability" (ECB, 2021). Price stability today and price stability tomorrow cannot both be guaranteed if the ECB raises interest rates across the board.

The proportionality assessment

The new analytical framework informs the ECB's new proportionality assessment, which requires taking into account both (i) the broader economic pre-conditions for price stability and (ii) the need to not go beyond what is necessary to achieve its objectives. As the ECB explains:

> *[T]he Governing Council recognises the need to limit possible side effects of the new policy instruments and therefore remains committed to continuing to perform careful proportionality assessments and to adapting the design of measures related to these instruments with a view to minimising side effects, without compromising price stability.* (ECB, 2021, p. 9)

The proportionality assessment remains relevant now that the ECB faces a type of inflation for which raising interest rates across all sectors is not a particularly effective tool. As part of its proportionality assessment, the ECB should be cautious about raising rates in the face of supply shocks. A sudden hike will sooner or later bring economic activity to a standstill: it stops consumer spending and corporate investment, which brings down prices across the economy, but bystanders unavoidably get hurt. Accordingly, the ECB should consider to what extent it can

deviate from 2% in the medium term, as it did under its 2003 strategy. Beyond evaluating its trajectory of hikes, proportionality also requires that the ECB design its operation in ways that cater to a stable transmission mechanism, financial stability and long-term price stability.

For its instruments, the ECB mandate always provided it with broad discretion and ample room for developing targeted tools. The mandate asks the ECB "to define and implement the monetary policy of the Union" (TFEU[5], Article 127 (2)). To this end, the ECB can engage in any financial market transactions it sees fit (ECB and ESCB Statutes, Articles 18 and 20). Article 123 TFEU prohibits the direct purchase of public debt but was drafted with the express intent to allow for trading in government bond markets.

As Jan Tinbergen explained in his treatise *On the Theory of Economic Policy* (1952), to achieve more than one objective policymakers need more than one tool. A tool in Tinbergen's sense, however, need not be itself a programme. Instead, any variable that is under the control of policymakers can be used to achieve an objective; collateral requirements on refinancing operations are an example of an instrument in Tinbergen's sense. Indeed, as Claudio Borio (2001) once explained, when it comes to implementing monetary policy there are a hundred ways to skin a cat.

Today's inflation again requires making extensive use of the ECB's toolbox. To address the challenge of the zero lower bound, the ECB has already relied extensively on three types of additional instruments: asset purchases and longer-term refinancing operations in the form of LTROs and TLTROs. By using differentiation instruments, the ECB can minimise the undesirable side-effects of raising interest rates, and promote long-term monetary and financial stability. Fundamentally, the same concerns that came to inform the ECB's monetary policy during a deflationary environment continue to apply today.

[5] The TFEU is the Treaty on the Functioning of the European Union.

4. Using the ECB's toolbox in an inflationary environment

In the coming years, member states and firms will need to make huge investments to ensure energy security, rapid decarbonisation and a smooth transition to climate neutrality. Stable and reliable funding conditions will facilitate clean energy production, energy efficiency and adaptation to increasingly extreme weather. In contrast, a delayed transition and investment going to outdated fossil fuel infrastructure will set up the EU economy for another decade of monetary and financial disruption.

Meeting the demands of the moment requires taking a close look at instruments already available in the ECB's toolbox. In the past few years the ECB has learned that price stability is about more than consumer prices two years down the road. It should not forget that lesson now that inflation is back on the horizon. Already having a range of instruments at its disposal, the ECB should rethink how it uses them, to find the most effective way of making policy. It can make fine-grained choices in how to communicate, what assets to include in the purchase programme and how to set the conditions of its TLTROs.

Countering fragmentation

To ensure stable funding conditions for governments, the ECB should remove self-imposed limitations on the size of its government bond purchase programmes. In March 2020, the ECB took up a crucial role in backstopping bond markets, buying member state debt equal to 92% of expected deficits in that year. Had it not done so the record issuances of public debt would have unavoidably destabilised debt markets. It would also have been impossible for governments to effectively fight the pandemic. At the time, the Pandemic Emergency Purchase Programme (PEPP) was presented as a response to an "extraordinary and acute economic crisis, which could jeopardise the objective of price stability and the proper functioning of the monetary policy transmission mechanism" (Decision [EU] 2020/440).

A key feature in containing bond market spreads is its flexible allocation relative to the ECB's capital key. In contrast to the 2014 Public Sector Purchase Programme (PSPP), the PEPP need not adhere to the ECB's capital key (a proportion determined by population and size of GDP of individual member states). Instead, the technical specification of the PEPP merely states that "the benchmark allocation across jurisdictions of the euro area will be guided by the key for subscription of the ECB's [capital key]" (Decision [EU] 2020/440). In 2020, actual PEPP purchases ranged from 11% of the benchmark allocation (Estonia) to 113% (Italy) (van 't Klooster, 2022).

In March 2022, the ECB stopped net purchases under the PEPP, which currently stand at €1.6 trillion (ECB, 2022b). However, the PEPP will continue to be reinvested in a 'flexible' way:

> *The maturing principal payments from securities purchased under the PEPP will be reinvested until at least the end of 2024. In any case, the future roll-off of the PEPP portfolio will be managed to avoid interference with the appropriate monetary stance.* (Decision [EU] 2020/440)

Because net purchases have ended, the ECB bond market backstopping is again limited in volume. Unlike the 2012 Outright Monetary Transactions (OMT) programme, this makes the PEPP's firepower limited in the same way that the 2010 Security Market Programme (SMP) was. Among analysts, the view is already taking hold that these reinvestments will not be sufficient to accommodate member state borrowing in the coming year (Claeys et al., 2022; Kral, 2022). In 2022, reinvestments of the ECB's government debt portfolio will amount to €450 billion, while governments will need to issue debt for a total volume of €2.2 trillion.

While the ECB may prefer to stop net purchases, it should still ensure sufficient flexibility and a sufficiently large envelope for its purchase programmes should it be necessary to restart. The ECB should also communicate its resolve to adapt the size when necessary. This will deter speculation

against the individual member states, while also signalling the ECB's changed policy stance. Ultimately, however, such measures are a temporary fix rather than an answer to the Economic and Monetary Union's underlying imbalances and persistent macro-financial fragility.

The ECB is not the appropriate political actor to resolve fundamental political disagreement on member state economic policy and long-term debt sustainability (Ioannidis et al., 2021). Instead, these issues need to be resolved by the member states, after which it should inform high-level coordination with the EU's political institutions. The 2012 OMT was the most successful case of fiscal monetary coordination in the ECB's existence, since it made the European Stability Mechanism the ultimate arbiter on the use of central bank support. This approach, suitably adapted to the EU's long-term economic strategy, would combine the effectiveness of the central bank with democratic legitimation by the EU and member states' political institutions.

Looking to the future, the issue of bond market fragmentation should be tackled as part of the ongoing discussions around the EU's fiscal rules (EC, 2021). The main concern in the Court of Justice of the European Union's rulings on the OMT and PSPP programmes is the fear that ECB asset purchases may undermine member states' sound monetary policy. Market discipline, however, was never meant to serve this role and is a profoundly destructive way to constrain government spending (Delors Committee, 1989; Van 't Klooster, 2022). The proper place to resolve these issues is in the review of the EU's economic governance framework.

Revised TLTROs

To ensure that its monetary policy does not undercut long-term investments, a revised TLTRO programme should incorporate the EU's long-term economic policy into its eligibility criteria. For now, to benefit from the TLTROs' exceptionally low interest rates (up to -1%), banks need to do sufficient 'real economy' lending. This means that any loan to non-financial corporations and non-mortgage loan to households qualifies. TLTRO loans are much cheaper than the ECB's Long Term Refinancing Operations, which banks can access irrespective of their lending decisions. A similar process of interest rate differentiation happens by providing banks with a rebate on negative interest rates under the ECB's programme of deposit tiering. Although the ECB has moved forward forcefully on its asset purchase programmes and collateral policies, its refinancing operations are conspicuously absent from its climate action plan (ECB, 2022a).

Now that the era of cheap money is coming to an end, the TLTROs' blanket promotion of consumer spending and firm investment needs to stop. As currently designed, the programmes reflect the ECB's accommodative policy stance, where all lending to the real economy was deemed desirable. In particular, the ECB should stop subsidising consumer credit, which boosts spending on manufactured goods where price rises are currently concentrated. When interest rates go up, deposit tiering can also be phased out.

The end of the current TLTRO programmes should not give way to a LTRO-led hike, which would raise the cost of investment across the board. In its recurring assessments, the ECB consistently finds that most banks lack adequate systems with which to incorporate the EU's energy and climate agenda into their lending decisions (ECB, 2022c). This means that the low rates unduly support investment in fossil fuel infrastructure while providing insufficient funding for firms to transition. Adequate firm-level investments, however, are key to making the EU economy more robust to future supply shocks and nudging forward a smooth low-carbon transition. A less favourable funding environment directly undermines the investment needed for the EU's 2030 environmental objectives. This is hard to reconcile with the ECB's secondary mandate for supporting the broader economic policies in the EU (de Boer and van 't Klooster, 2021; Dikau and Volz, 2021; Ioannidis et al., 2021).

Table 4.1. Alternative options for ECB refinancing operations

	Use of funds	Medium-term price stability	Sustainable monetary and financial stability
Current TLTRO criteria (promote consumer credit and loans to non-financial firms)	Energy-inefficient investments, combustion engine cars, etc.	Designed to drive up real economy activity in the short run	Future deflationary and inflationary shocks
Undifferentiated LTROs	Energy-inefficient investments, combustion engine cars, etc.	Allows ECB to meet inflation target by cutting off consumption and investment	Future deflationary and inflationary shocks
Revised TLTRO criteria (promote EU transition strategy)	Projects that fit EU's 2030 economic strategy inc. REPowerEU and 55% emission reduction target	Allows ECB to meet inflation target without cutting off long-term investment	Smooth transition in line with long-term potential of the economy

Key among these objectives is the aim of reducing net greenhouse gas emissions by at least 55% by 2030 compared with 1990 levels. The European Commission's REPowerEU action plan contains a number of measures that will make the EU economy more robust to future inflationary shocks: an increase from 9% to 13% of the binding Energy Efficiency Target and campaigns to boost energy savings. Perhaps most importantly, it also contains a range of measures to achieve an increased target of 45% renewable energy usage. To that end, the Commission proposes a range of projects that will require extensive private sector investment (see Box 4.1). At the same time, the EU is to introduce a host of measures to encourage replacing coal, oil and natural gas in industry.

New criteria should emphasise the ECB's mandate for long-term price stability, implying the need to closely articulate monetary policy with the EU's economic strategy (Lonergan and Greene, 2020; van 't Klooster and van Tilburg, 2020; Böser and Colesanti Senni, 2021; NGFS, 2021). It could do this directly by making low rates conditional on supporting the REPowerEU agenda, although here data limitations are a key operational concern. Drawing lessons from the Bank of Japan (BoJ, 2021), the ECB could also reduce the administrative demands of such a programme (as noted by Drudi et al., 2021), by providing banks with discretion in how to screen for eligibility: low rates could be made available for lending by banks that meet the expectations set out in the ECB's *Guide on climate-related and environmental risks* (ECB, 2020). Differentiation of refinancing costs would help cut off myopic lending, thereby contributing to medium-term price stability. It would also continue to secure long-term price stability by rewarding banks that lend according to sufficiently long-term screening criteria.

Energy-efficient housing should have a prominent within any future TLTRO programmes. Buildings account for 43% of energy consumption in the EU, and a targeted programme to support targeted lending to increase energy efficiency could produce quick returns in terms of lower energy demand. In the current economic environment, energy supply is very inelastic. This means that a reduction in energy demand would have large impacts on prices, hence supporting the ECB's immediate objective of lowering inflation.

Box 4.1. REPowerEU measures to achieve the EU's 2030 target of 45% renewable energy

The measures include:

- An EU Solar Strategy to double solar photovoltaic capacity by 2025 and install 600GW of new capacity by 2030.
- A Solar Rooftop Initiative to limit permitting times and create a legal obligation to install solar panels on new public and commercial buildings and new residential buildings.
- Doubling of the rate of deployment of heat pumps, and measures to integrate geothermal and solar thermal energy in modernised district and communal heating systems.
- A target of 10 million tonnes of domestic renewable hydrogen production and 10 million tonnes of imports by 2030, to replace natural gas, coal and oil in hard-to-decarbonise industries and transport sectors.
- A Biomethane Action Plan that sets out tools including a new biomethane industrial partnership and financial incentives to increase production to 35bcm by 2030.

Source: EC (2022)

Conclusion

Today's high rate of inflation confronts the ECB with new challenges, which will require combining day-to-day inflation-fighting with a concern for the EU's broader economic strategy. To meet these challenges the Bank needs to design instruments that target specific markets, sectors and interest rates, while taking into account the short-, medium- and long-term impacts of its operations.

Monetary policy cannot solve all the challenges that the EU faces today – far from it. However, by setting the cost of investment, unavoidably it has a profound impact on the long-term orientation of economic development. It could cause lasting damage to the EU's objective of energy security, hinder decarbonisation and set it up for a rocky, delayed low-carbon transition. Against that background, the proposals in this report are first and foremost about preventing harm.

Raising interest rates to bring down inflation today should not be done at the expense of future economic stability. This would be myopic, in ways that contradict both the ECB's current strategy, its price stability objective and its legal obligation to support the broader economic policies in the EU. Rather than steering just one rate, the new inflation asks for a carefully calibrated programme of interest rate differentiation.

The ECB should use the full range of instrument available in its toolkit. A well-designed anti-fragmentation tool should ensure stable funding conditions for governments as they rush towards a 55% net reduction in greenhouse gas emissions by 2030. While raising bank funding costs, the ECB should continue to facilitate ample funds for firms' long-term investment. If the ECB's monetary policy instruments do not support the EU's vision of the future, they will work against it. This should be avoided at all costs.

References

Albertazzi U, Martin A, Assouan E, Tristani O, Galati G et al. (2021) *The role of financial stability considerations in monetary policy and the interaction with macroprudential policy in the euro area*, Occasional Paper Series. 272. European Central Bank.

Batten S, Rhiannon M, Tanaka M and Young C (2016) *Let's talk about the weather: the impact of climate change on central banks*. Staff Working Paper 603. London: Bank of England.

Batten S (2018) *Climate change and the macro-economy: a critical review*, Bank of England working papers. 706. Bank of England.

van den Berg C C A (2004) *The Making of the Statute of the European System of Central Banks*. Amsterdam: Dutch University Press.

de Boer N and van 't Klooster J (2020) The ECB, the courts and the issue of democratic legitimacy after Weiss, *Common Market Law Review*, 57(6), pp. 1689–1724.

de Boer N and van 't Klooster J (2021) *The ECB's neglected secondary mandate: an inter-institutional solution*. Brussels: Positive Money Europe.

Bank of Japan [BoJ] (2021) *Establishment of 'Principal Terms and Conditions of the Funds-Supplying Operations to Support Financing for Climate Change Responses'*. Tokyo: Bank of Japan.

Borio C (2001) *A hundred ways to skin a cat: comparing monetary policy operating procedures in the United States, Japan and the euro area*. Basel: Bank for International Settlements (BIS Working Papers, 9).

Böser F and Colesanti Senni C (2021) *CAROs: Climate Risk-Adjusted Refinancing Operations*. Working Paper 21/354. ETH Zurich. https://doi.org/10.3929/ethz-b-000421404.

Campiglio E, Dafermos Y, Monnin P, Ryan-Collins J, Schotten G and Tanaka M (2018) Climate change challenges for central banks and financial regulators, *Nature Climate Change*, 8(6), p. 462. https://doi.org/10.1038/s41558-018-0175-0.

Claeys G, Demertzis M and Guetta-Jeanrenaud L (2022) Fragmentation risk in the euro area: no easy way out for the European Central Bank. *Monetary Dialogue Papers,* June 2022. Brussels: European Parliament.

Corradin S, Heider F and Hoerova M (2017) *On collateral: implications for financial stability and monetary policy*. Working Papers Series 2107. Frankfurt am Main: European Central Bank.

Dafermos Y, Gabor D, Nikolaidi M, Pawloff A and van Lerven F (2020) *Greening the Eurosystem collateral framework*. London: New Economics Foundation.

Dafermos Y, Nikolaidi M and Galanis G (2018) Climate Change, Financial Stability and Monetary Policy, *Ecological Economics*, 152, pp. 219–234. https://doi.org/10.1016/j.ecolecon.2018.05.011.

De Grauwe P (2011) *The European Central Bank: Lender of Last Resort in the Government Bond Markets?* 3569. CESifo Group Munich.

De Grauwe P and Ji Y (2013) Self-fulfilling crises in the Eurozone: An empirical test, *Journal of International Money and Finance*, 34, pp. 15–36. https://doi.org/10.1016/j.jimonfin.2012.11.003.

Delors Committee (1989) *Report on Economic and Monetary Union in the European Community*, Committee for the Study of Economic and Monetary Union, Brussels.

Dikau S, Robins N and Volz U (2021) *Climate-neutral central banking: How the European System of Central Banks can support the transition to net-zero*, London: Grantham Research Institute on Climate Change and the Environment.

https://www.lse.ac.uk/granthaminstitute/events/climate-neutral-central-banking-how-the-european-system-of-central-banks-can-support-the-transition-to-net-zero/

Dikau S and Volz U (2021) Central bank mandates, sustainability objectives and the promotion of green finance, *Ecological Economics,* 184, p. 107022. https://doi.org/10.1016/j.ecolecon.2021.107022.

D'Orazio P and Popoyan L (2019) Fostering green investments and tackling climate-related financial risks: Which role for macroprudential policies?, *Ecological Economics,* 160, pp. 25–37. https://doi.org/10.1016/j.ecolecon.2019.01.029.

Drudi F, Moench E, Holthausen C, Weber P-F, Ferrucci G, et al. (2021) *Climate change and monetary policy in the euro area,* Occasional Paper Series. 271. Frankfurt: European Central Bank. https://ideas.repec.org/p/ecb/ecbops/2021271.html

European Commission [EC] (2021) *Commission relaunches the review of EU economic governance*. Brussels: European Commission. https://ec.europa.eu/commission/presscorner/detail/en/ip_21_5321.

European Commission [EC] (2022) *REPowerEU: A plan to rapidly reduce dependence on Russian fossil fuels and fast forward the green transition*. Brussels: European Commission. https://ec.europa.eu/commission/presscorner/detail/en/IP_22_3131

European Central Bank [ECB] (1998) *A stability-oriented monetary policy strategy for the ESCB,* European Central Bank. https://www.ecb.europa.eu/press/pr/date/1998/html/pr981013_1.en.html

European Central Bank [ECB] (2003) The outcome of the ECB's evaluation of its monetary policy strategy, *Monthly Bulletin*, pp. 79–92.

European Central Bank [ECB] (2020) *Guide on climate-related and environmental risks*. Frankfurt: European Central Bank.

European Central Bank [ECB] (2021) *An overview of the ECB's monetary policy strategy*. Frankfurt: European Central Bank. https://www.ecb.europa.eu/home/search/review/html/ecb.strategyreview_monpol_strategy_overview.en.html

European Central Bank [ECB] (2022a) ECB takes further steps to incorporate climate change into its monetary policy operations. Press release, 4 July. https://www.ecb.europa.eu/press/pr/date/2022/html/ecb.pr220704~4f48a72462.en.html

European Central Bank [ECB] (2022b) *Pandemic Emergency Purchase Programme, European Central Bank*. https://www.ecb.europa.eu/mopo/implement/pepp/html/index.en.html.

European Central Bank [ECB] (2022c) Supervisory assessment of institutions' climaterelated and environmental risks disclosures. Frankfurt: European Central Bank.

Gabor D (2021) *Revolution without revolutionaries: interrogating the new politics of monetary financing*. Policy Brief. Berlin: Finanzwende and Heinrich Boell Stiftung.

Gabor D and Ban C (2016) Banking on bonds: The new links between states and markets, *Journal of Common Market Studies*, 54(3), pp. 617–635.

International Energy Agency [IEA] (2021) *Net Zero by 2050: A Roadmap for the Global Energy Sector*. Paris: IEA.

Ioannidis M, Hlásková S J and Zilioli C (2021) *The Mandate of the ECB: Legal Considerations in the ECB's Monetary Policy Strategy Review*. Occasional Paper Series 276. Frankfurt: European Central Bank.

van 't Klooster J (2022) The politics of the ECB's market-based approach to government debt, *Socio-Economic Review* [Preprint]. https://doi.org/10.1093/ser/mwac014.

van 't Klooster J and Grünewald S (2022) *An EP-ECB Interinstitutional Agreement on monetary policy*. Brussels: Greens/EFA Group, European Parliament.

van 't Klooster J and van Tilburg R (2020) *Targeting a sustainable recovery with Green TLTROs*. Positive Money Europe & Sustainable Finance Lab. http://www.positivemoney.eu/wp-content/uploads/2020/09/Green-TLTROs.pdf.

Kral D (2022) *Government debt issuance set to dwarf ECB reinvestments*. Research Briefing. Oxford: Oxford Economics.

Lonergan E and Greene M (2020) Dual interest rates give central banks limitless fire power, *VoxEU.org*, 3 September. https://voxeu.org/article/dual-interest-rates-give-central-banks-limitless-fire-power

Network for Greening the Financial System [NGFS] (2020) *Macroeconomic and financial stability implications of climate change*. Paris: NGFS.

Network for Greening the Financial System [NGFS] (2021) *Adapting central bank operations to a hotter world: Reviewing some options*. Paris: NGFS. https://www.ngfs.net/en/communique-de-presse/ngfs-presents-options-central-banks-adapt-monetary-policy-operations.

Offer A (2022) *Understanding the private-public divide: markets, governments, and time horizons*. Cambridge: Cambridge University Press.

Oustry A, Bunyamin E, Svartzman R and Weber P-F (2020) *Climate-related Risks and Central Banks' Collateral Policy: a Methodological Experiment*. Working Paper Series 790. Paris: Banque de France.

Schmidt T S, Steffen B, Egli F, Pahle M, Tietjen O and Edenhofer O (2019) Adverse effects of rising interest rates on sustainable energy transitions, *Nature Sustainability*, 2(9), pp. 879–885. https://doi.org/10.1038/s41893-019-0375-2.

Schoenmaker D (2021) Greening monetary policy, *Climate Policy*, 21(4), pp. 581–592. https://doi.org/10.1080/14693062.2020.1868392.

Svartzman R, Bolton P, Despres M, Pereira Da Silva L A and Samama F (2021) Central banks, financial stability and policy coordination in the age of climate uncertainty: a three-layered analytical and operational framework, *Climate Policy*, 21(4), pp. 563–580. https://doi.org/10.1080/14693062.2020.1862743.

van Tilburg R and Simić A (2021) *Legally Green: Climate change and the ECB mandate*. Policy Paper. Utrecht: Sustainable Finance Lab.

Tinbergen J (1952) *On the Theory of Economic Policy*. Amsterdam: North-Holland Publishing Company (Contributions to Economic Analysis).

Tooze A (2018) *Crashed: How a Decade of Financial Crises Changed the World*. Penguin Publishing Group.

Voldsgaard A, Egli F and Pollit H (2022) 'Can we avoid green collateral damage from rising interest rates?', *UCL IIPP Blog*, 20 June. https://medium.com/iipp-blog/can-we-avoid-green-collateral-damage-from-rising-interest-rates-1259ea94c9ea