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The ECB's Review of its Monetary Policy Strategy

Giuseppe Corbisiero and Neil Lawton

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The ECB's Review of its Monetary Policy Strategy

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Abstract

On 8 July 2021, the ECB's Governing Council concluded the review of its monetary policy strategy. The ECB's monetary policy strategy outlines how the central bank operates in order to meet its primary mandate of price stability. A monetary policy strategy imposes a clear structure and framework on the policy-making process itself, ensuring that policy makers have all the necessary information and analyses required to take decisions. It is also a vehicle for explaining monetary policy decisions to foster accountability and transparency. The main outcomes from the review include: an updated symmetric inflation target of two percent in the pursuit of price stability; a new integrated analytical framework to aid monetary policy decision making; a recommendation to include the cost of owner-occupied housing into the measure of consumer prices, namely the Harmonised Index of Consumer Prices; a plan to incorporate climate change into the ECB's monetary policy framework; plans to improve communication with the public; and a commitment to more regular reviews of the monetary policy strategy. The outcomes of the review will guide monetary policy decision-making in the euro area going forward.

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1. Introduction

The ECB's monetary policy strategy outlines how the central bank operates in order to meet its primary mandate of price stability.[2] The role of the ECB and the 19 National Central Banks (NCBs) that form the Eurosystem is to maintain price stability, and this is implemented through a single monetary policy for all euro area countries. Stable price growth is essential in supporting economic growth and job creation. While the EU Treaty, underpinning the euro and the Eurosystem, establishes the maintenance of price stability as the primary objective of the ECB, it does not give a precise definition of price stability or guidelines as to how the ECB should go about achieving it. It is up to the ECB to design its own monetary policy strategy to achieve its mandate.

A monetary policy strategy fulfils important tasks. It imposes a clear structure and framework on the policy-making process itself, ensuring that policy makers have all the necessary information and analyses required to take decisions. It is also a vehicle for explaining monetary policy decisions to foster accountability and transparency. The previous monetary policy strategy review undertaken by the ECB's Governing Council was in 2003.

Since the previous review, a number of important developments have occurred which added impetus to the need for a review of the ECB's monetary policy strategy. An important catalyst was the financial crisis and subsequent years of low inflation, as well as the policy responses that have pushed the limits of traditional monetary policy. Declining trend economic growth, on the back of slowing productivity, changing market dynamics and an ageing population have changed the structure of the economy in the euro area. The threat to environmental sustainability, rapid digitalisation, globalisation and evolving financial structures have further transformed the environment in which monetary policy operates. These developments are discussed in more detail in Section 2. Section 3 briefly outlines the processes behind the recent strategy review while Section 4 discusses the outcomes. Section 5 outlines

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[2] The primary mandate is laid down in the Treaty on the Functioning of the European Union, Article 127. This article provides a high-level overview of the main reasons for the ECB monetary policy strategy review, and the outcomes stemming from its conclusion. For a broader discussion, please see the ECB's webpage for the strategy review.

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how the strategy review will impact ECB monetary policy conduct looking ahead, and includes a box on the policy response to COVID-19 and the interaction between monetary and fiscal policy in the euro area. Finally, Section 6 concludes.

2. Why did the ECB need a review of its monetary policy strategy?

There are three leading issues that prompted the launch of the recent review[3], namely: historically low interest rates, monetary policy's ability to stabilise the economy in such an environment and broader structural trends (e.g. climate change, ongoing globalisation, rapid digitalisation and changing financial structures). Many other central banks also face similar issues. We provide an overview of each of these issues in this Section.

2.1 Historically Low Interest Rates

Central Bank policy interest rates are at historically low levels globally, with most major central banks setting rates at close to, or below, 0 per cent for the majority of time since the Global Financial Crisis (GFC) (see Chart 1). The crisis required a forceful monetary policy response. Despite the forceful response, the euro area, similar to other economies, entered into a lengthy period of low inflation, with average inflation since the crisis falling far below the ECB's inflation aim.

The concept of the 'natural rate' of interest can help us to understand these trends. The natural rate is the rate of interest that balances the economy where output is at potential and inflation is at its target (Holston, Laubach, and Williams, 2017). Put simply, it is the rate consistent with full employment and keeps inflation stable. It therefore provides a benchmark for central banks when setting monetary policy interest rates.

In Chart 2, we can see that there has been a protracted global decline in estimates of the nominal natural rate of interest. Overall, while estimates of the natural rate of interest remain uncertain, there is consensus in the literature that it has declined in recent decades (see Holston, Laubach, and Williams, 2017, Brand, Bielecki and Penalver,

[3] See Section 3 for more details on the process that was undertaken in carrying out the monetary policy strategy review

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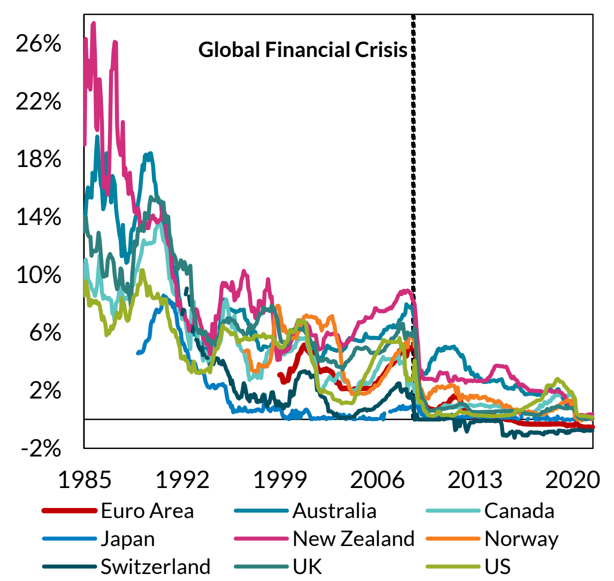
2018, Hong and Shell, 2019). There are many factors driving this decline.

Central bank interest rates have declined to historic lows globally, driven by low inflation, ongoing structural economic trends and significant shocks to economies

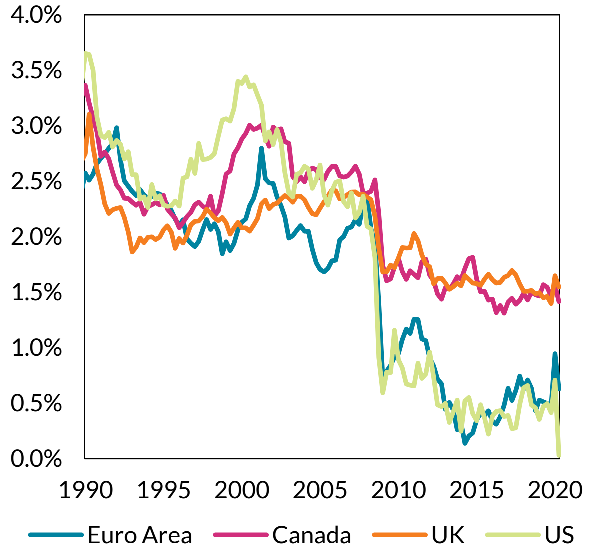
Chart 1: Selected Advanced Economies Short-Term Interest Rates



Source: Haver Analytics
Notes: Data shown is the 3-month unsecured money market rate (or nearest equivalent) for each country. Nearest equivalent is the yield for a 3-month sovereign bill.

The natural rate of interest is much lower since the GFC, reducing the scope for traditional interest rate policy transmission by central banks

Chart 2: Natural Rate of Interest across the euro area, Canada, UK and US



Source: New York Federal Reserve, applying the model of Holston, Laubach, and Williams (2017)

Demographics have been changing over time due to lower birth rates, higher life expectancy and inflows from migration. Overall, there has been an increase in the proportion of the older population within economies, relative to the working population. This shift is captured through the increase in the old-age dependency ratio in the euro area[4], which has risen from 24 per cent in 2000 to almost 33 percent in 2020. Chart 3 shows how the increase in the old-age dependency ratio has coincided with a decline in the natural rate of interest. This trend is expected to continue into the future, and will limit potential economic growth as the relative active working population decreases. Savings are also expected to increase to

[4] This indicator is the ratio between the number of persons aged 65 and over (age when they are generally economically inactive) and the number of persons aged between 15 and 64. The value is expressed per 100 persons of working age (15-64).

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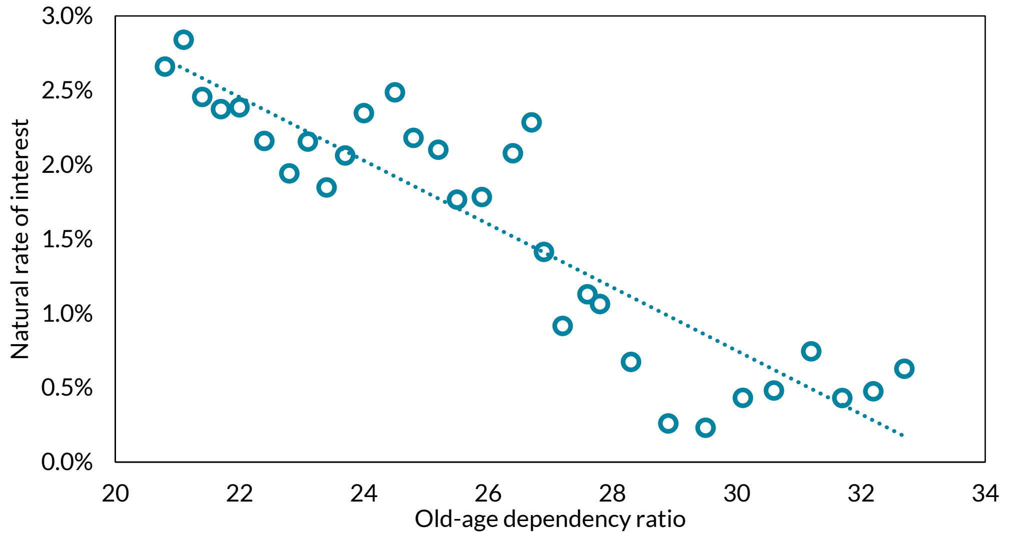
facilitate longer periods of retirement, while investment may also decline as the working age population declines.

An aging population in the euro area has coincided with a reduction in the natural rate of interest, limiting the potential growth of the economy

Chart 3: Old-age dependency and the natural rate of interest in the euro area



Source: Eurostat, New York Federal Reserve
Notes: The natural rate of interest for the euro is calculated using the methodology of Holston, Laubach, and Williams (2017).

Recent research shows that trends in income inequality and financial liberalisation are pushing down natural interest rates (Mian, Straub and Sufi, 2020). While savings are a main driver of the natural rate of interest, Mian, Straub and Sufi (2021) also explore the relative importance of demographic shifts against the role of rising income inequality. They show that, for the US, saving rates are significantly higher for high income households within a given birth cohort relative to middle and low income households in the same birth cohort. Overall, there has been a large rise in income shares and savings for high income households since the 1980s and this has coincided with declines in the estimated natural rate of interest.

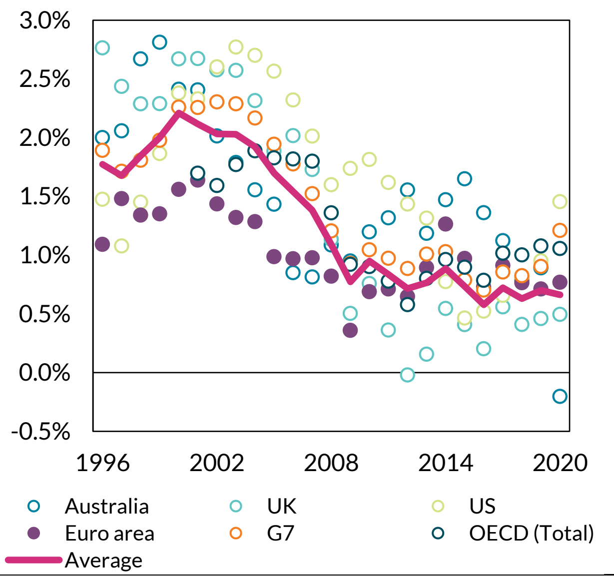
An aging population is likely to negatively impact productivity growth in the euro area, thus reducing potential output. Coupled with shifts in demographics, the decline in productivity growth has been driven by weakening total factor productivity (TFP)[5] growth (see Chart 5). A slowdown in the pace of globalisation has also

[5] Total-factor productivity (TFP), is usually measured as the ratio of aggregate output (e.g. GDP) to aggregate inputs. See Sickles and Zelenyuk (2019) for an overview.

contributed to the moderation in productivity growth. Resource allocation is also an issue, with some evidence that business dynamism (which includes business churning but also the prevalence rate of high-growth young firms) is declining over time in the euro area (Calvino et al, 2015).[6]

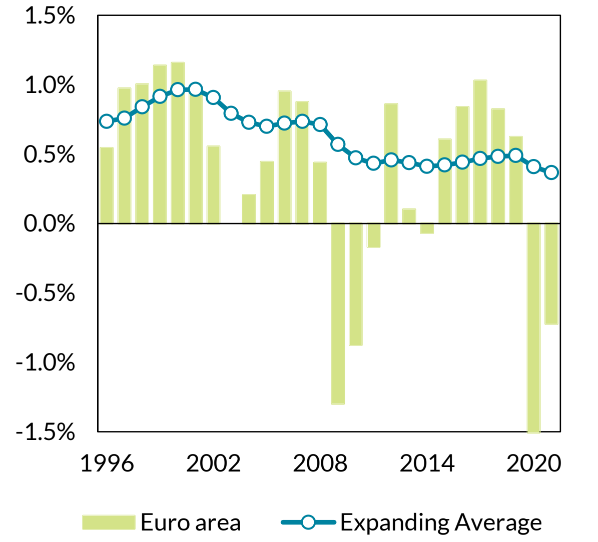
Declining productivity growth is common across major economies, and this has contributed to the decline in the natural rate of interest

Chart 4: Labour productivity growth trends in selected countries



Source: OECD (Dataset: Growth in GDP per capita, productivity and ULC)
Notes: GDP per hour worked, constant prices. Series displayed as the 5-year rolling average of annual percentage growth. Average refers to average growth across the shown countries at each time horizon.

Chart 5: Total Factor Productivity (TFP) in the euro area



Source: AMECO
Notes: TFP is measured as annual percentage change. The expanding average calculates the average annual euro area TFP from 1996 to the date indicated on the horizontal axis. All previous observations are retained in the calculation at each time period.

Lasting economic scars from the GFC have also contributed to the recent decline in the natural rate of interest. As found by Brand, Bielecki and Penalver, (2018), lower growth and productivity in the wake of the crisis and additional financial factors (such as persistent deleveraging) have contributed to the decline in the natural rate of interest. Similarly, Holm-Hadulla et al (2021) find that weak capital deepening[7] after the GFC also contributed to lower productivity. Risk aversion and flight to safety after the crisis are also likely to have been important factors.

[6] See Holm-Hadulla et al (2021) for a broader discussion on the reasons slowing productivity growth.
[7] Capital deepening refers to the growth of capital intensity which is measured by capital per hour worked.

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Ultimately, there are many factors that have in tandem resulted in a sharp decline in the natural rate of interest within the euro area in recent years. Monetary policy cannot control all these factors, but it must respond to them. Typically, when the short-term real interest is below the natural rate of interest, the monetary policy stance of central banks is expansionary (stimulates output and prices), and conversely it is contractionary if the short-term rate is above the estimated natural rate of interest. With low natural rates and adverse shocks hitting the economy, in particular since the GFC, central banks faced challenges in stabilising the economy using traditional interest rate policies, and have been forced to introduce non-traditional monetary policy tools in efforts to stabilise economies over the past decade.

2.2 Monetary policy in a low interest rate environment

With the onset of the GFC and in the context of the low natural rate of interest, central banks, including the ECB, have been forced to cut interest rates to historically low and even negative levels (see Chart 1). As central banks have moved to reduce interest rates, issues arise with regards to the implementation of monetary policy, due to the effective lower bound (ELB) on interest rates. The ELB is generally understood as a threshold that is binding and beyond which interest rates cannot be lowered further.[8] Brunnermeier and Koby (2018) define a 'reversal interest rate' as the rate at which accommodative monetary policy reverses its intended effect and becomes contractionary for lending. It is the rate where holding cash, net of storage and security costs, would become more attractive for firms and households than holding bank deposits. Thus, the implementation of interest rates below the 'reversal rate' could harm the economy, as the transmission mechanism through the banking system can be impaired. Darracq Pariès, Kok and Rottner (2020) estimate that the reversal rate in the euro area stands in negative territory of around −1 per cent. However, measures of the reversal

[8] In the past, it was assumed that the ELB was zero, as market participants would rather hoard paper currency than accept a negative rate (see Keynes, 1936 and Eggertsson and Woodford, 2003). However, in reality, preferences for safety and convenience mean that there is a cost to holding paper currency, which means that zero is not necessarily the ELB (Rogoff, 2017 and Altavilla et al., 2021) and accordingly a number of central banks have set policy rates below zero.

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rate are uncertain.[9] Despite some room for a further easing of interest rates by the ECB, it is clear that constrained central banks need to look towards other tools to ease monetary policy.

To provide monetary policy stimulus when rates are close to the effective lower bound, central banks have utilised unconventional or non-standard instruments to boost inflation. For example, since 2008, quantitative easing (QE)[10] has been employed by most major central banks, including the US Federal Reserve, the ECB[11], the Bank of England, and the Bank of Japan. These instruments were expanded and adapted to deal with the COVID-19 crisis, where central banks acted quickly to reduce volatility in financial markets and protect the economy from lasting scars from the pandemic.

Similarly, changes to standard refinancing operations[12] have meant a significant increase in banking system liquidity. For example, the introduction of fixed-rate, full allotment in the euro area during the financial crisis led to a significant increase in borrowing by banks through standard refinancing operations. Additionally, the ECB has moved to provide longer-term lending to the banking system in efforts to provide needed monetary stimulus. The most notable operation is the Targeted Long-Term Refinancing Operations (TLTROs) which provide incentives to banks to boost lending to the economy in order to obtain preferential interest rates on the operations.

The increased liquidity provided through refinancing operations and asset purchases resulted in significantly larger central bank balance sheets over the past decade (see Chart 6). The ECB's balance sheet has now grown to more 60 percent of euro area GDP. However, over

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[9] See Schnabel (2020) for a discussion of the reversal rate and of the ECB's experience with negative interest rates more broadly.

[10] Quantitative easing (QE) is a non-standard monetary policy tool whereby a central bank purchases sovereign or private-sector bonds (or other financial assets) in order to inject money into the economy to boost economic activity.

[11] In the euro area, assets are purchased in a decentralised manner, with each Eurosystem national central bank purchasing bonds for their own monetary policy portfolios. For example, the Central Bank of Ireland (CBI) will purchases Irish sovereign bonds from its monetary policy counterparties. These purchases increase the balance sheet size of the CBI, and the risk associated with such purchases lies on the CBI balance sheet. The ECB also participates in purchases.

[12] Open market operations play an important role in steering interest rates, managing the liquidity situation in the market and signalling the monetary policy stance. The most important instrument in the Eurosystem is reverse transactions, which are applicable on the basis of repurchase agreements. See the Central Bank of Ireland website for a full overview.

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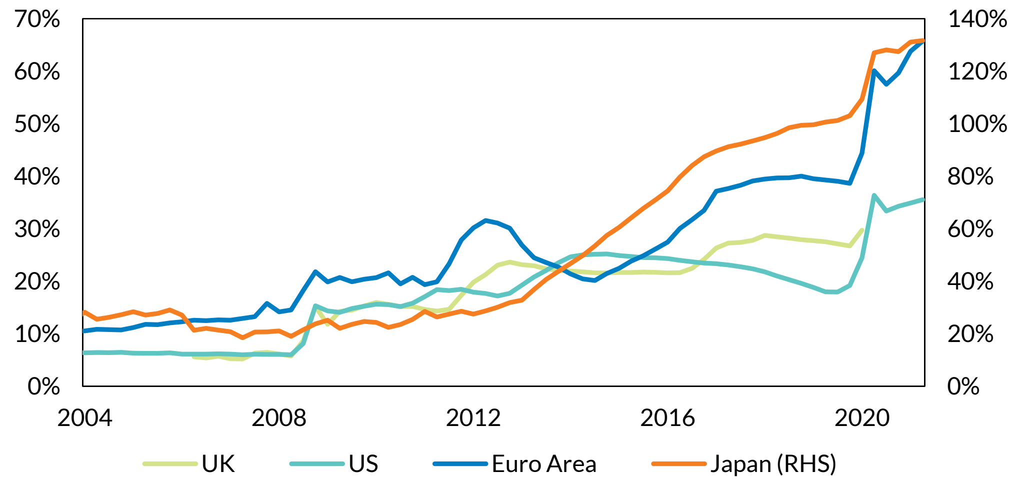
the longer term, the size of the ECB's balance sheet should stabilise and then gradually decline once inflation has consistently returned close to target.

Central bank balance sheets have grown notably since the GFC, in line with the expanded use of non-traditional monetary policy instruments to help to stabilise economies

Chart 6: Global central bank balance sheet size as a percentage of the respective country's GDP



Source: Haver Analytics

Given the increased likelihood of operating at close to the effective lower bound in the future, it is important that policymakers are open to utilising a range of monetary policy instruments, as appropriate to meet their respective mandates. In fact, one of the outcomes in the new ECB strategy statement, is that while the Governing Council states that is recognises that policy interest rates remain the primary tool for economic adjustment, the ECB will continue using all tools and develop new ones as necessary, to ensure it meets its price stability mandate.

2.3 Structural trends in the economy

Since 2003, the euro area and world economy have been undergoing profound structural changes. The threat to environmental sustainability, rapid digitalisation, globalisation and evolving financial structures have further transformed the environment in which monetary policy operates.

The world economy is significantly more global than it was in 2003. Economies, trade and in particular information have become more globalised (see Chart 7). However, the pace of overall globalisation

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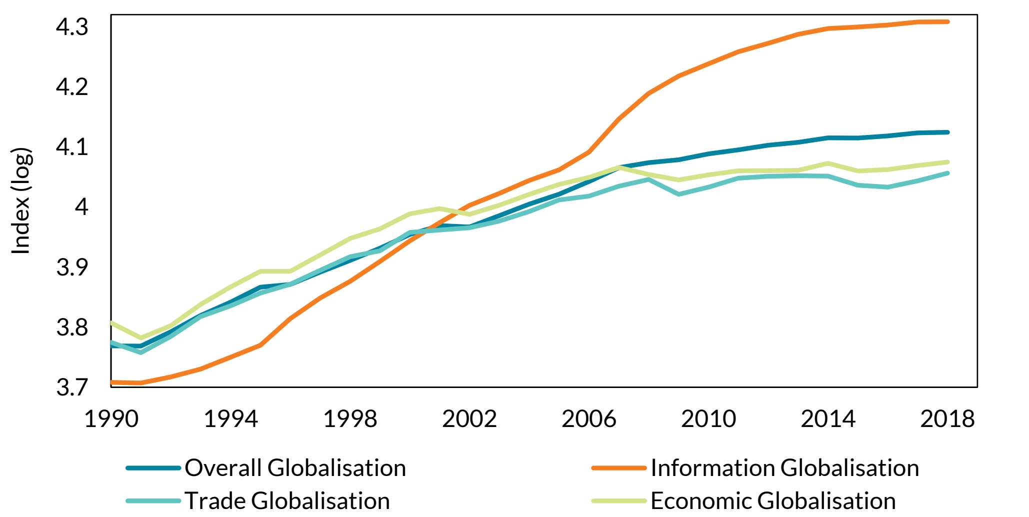
has declined in recent years, which can be seen in the flattening of the trend (in teal) in Chart 7. In particular, the pace of trade and economic globalisation have notably decreased since the GFC. Nonetheless, the rise in overall globalisation since the turn of the century remains significant and is an important structural development for the conduct of monetary policy and the economy.

The world has become much more global over the past three decades, however the pace of overall globalisation has slowed since the GFC

Chart 7: Globalisation Indices



Source: Savina et al. (2019), KOF Swiss Economic Institute

Globalisation means that demand and supply for goods and services from the rest of the world becomes more important for the euro area. Globalisation may have contributed to the low inflation trends, for instance, through higher competition and higher labour supply (Lodge et al., 2021). Furthermore, there is evidence of domestic financial cycles in the euro area being driven, at least in part, by a "global financial cycle", characterised by large common movements in asset prices, gross capital flows and leverage. The dominant role of the US dollar in the global financial system means that the US Federal Reserve and the US economy play a critical role in driving the global financial cycle (see Holm-Hadulla et al., 2021). Overall, the global economy has become more integrated, and this will require the ECB to look beyond only the domestic economy when implementing monetary policy.

Similarly, both the world and euro area economies have changed due to digitalisation. Inflation can be impacted by digitisation through indirect channels such as firms' pricing behaviour, market power and concentration. Empirical evidence suggests that increased e-commerce may have a small, albeit insignificant, downward effect on inflation (Holm-Hadulla et al., 2021). Overall, the impact on the natural rate of interest from digitalisation is uncertain. Should digitalisation promote stronger productivity growth, then this may increase the natural rate of interest over time, however, on the other side, rising inequality associated with digitalisation, coupled with higher savings may mean the natural rate of interest remains more subdued.

Globalisation and digitalisation, along with other structural trends influence the structure of goods, services and labour markets and have a direct effect on prices that – when interacting with other factors, including constraints on monetary policy – may affect inflation beyond the short term. Evolving financial structures, such as the rise in financial intermediation via the non-bank sector, have also altered the transmission of monetary policy.[13]

Overall, there has been significant changes across the euro area economy since the previous strategy review in 2003. In light of all these global trends, many central banks around the world have conducted reviews. Additionally, in recognising the profound implications of climate change, the ECB has explicitly addressed its considerations in the outcome of the review and these are outlined in Section 4.

3. How the most recent review was carried out and the Central Bank of Ireland's contribution

To input into the review, a number of work streams were established (See Table 1), and staff from across the Eurosystem participated. Given the length of time since the previous monetary policy strategy review in 2003, the work streams were required to analyse a broad range issues that have come to the fore over this period.

[13] See "An overview of the ECB's monetary policy strategy".

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Table 1: Work streams of the ECB Strategy Review

Climate Change*	Digitalisation	Employment**
Examines the risks posed by climate change and how these risks feed into the monetary policy framework.	Studies the implications of digitalisation for the functioning of the economy and for the conduct of monetary policy.	Studies how (un)employment affects the conduct and success of monetary policy.
Eurosystem modelling	**Fiscal and monetary policy in a monetary union**	**Globalisation***
Assesses knowledge gaps in the main models used for monetary policy decision-making.	Takes stock of the fiscal policy landscape in the euro area and assesses implications for monetary policy.	Assesses the impact of globalisation on the transmission of monetary policy decisions to the economy and to inflation.
Inflation expectations	**Inflation measurement***	**Macroprudential policy, monetary policy and financial stability***
Analyses how inflation expectations are formed and deepens the understanding of their main drivers.	Analyses the most accurate method of measuring inflation, and assesses potential measurement issues.	Contributes to the assessment of the interaction between macroprudential policies, financial stability and monetary policy.
Monetary policy communication**	**Non-bank financial intermediation***	**Price stability objective***
Assesses the ECB's communication strategy in relation to monetary policy decisions and to the general public's understanding of the ECB.	Examines how the changing structure of the financial sector, in particular the growing role of non-banks, affects the conduct of monetary policy.	Provides analysis on the ECB's numerical formulation of price stability and alternative approaches to achieving price stability.
Productivity, innovation and technological progress		
Assesses developments in productivity and technology, and analyses the implications of these developments for monetary policy.		

Source: ECB
Notes: *CBI staff participated on work stream, **CBI staff co-chaired work stream

The Governing Council also considered information gathered during listening events across the euro area[14] and via the ECB Listens portal when making decisions on the outcomes from the review. As announced by the Governing Council at the outset of the review, it was "based on thorough analysis and open minds, engaging with all stakeholders."[15] The outcomes of the ECB strategy review were announced by the Governing Council on 8 July.

[14] See Section 4.5 for an overview of the Listens events.
[15] See "ECB launches review of its monetary policy strategy"

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Central Bank of Ireland (CBI) staff were heavily involved in the work streams of the strategy review, and their work contributed to the ECB Occasional Papers published in September 2021. Staff from the CBI participated on 8 from the work streams, and co-chaired 2 of those work streams. The work streams fed into seminars that were crucial in helping the Governing Council form decisions on the outcomes from the review.

Contributions from CBI staff were broad and covered a vast range of topics. A non-exhaustive list of the subjects covered includes: the credibility and potential side effects of monetary policy; the role of non-bank financial intermediaries; the implications of globalisation for monetary policy; transition risks associated with climate change and the challenges for central banks' existing macroeconomic modelling framework; and the role of owner-occupied housing costs in predicting consumer inflation perceptions. Outside of the work streams, CBI staff were involved as members of Eurosystem committees. Such committees also contributed to the outputs of the review, providing guidance to work streams and informing the discussion of the Governing Council.

4. Outcomes from the strategy review

4.1 Updating the inflation target to achieve symmetry

After the monetary policy review in 2003, the Governing Council conducted its monetary policy with an inflation aim of "below, but close to, two per cent" over the medium-term. While this inflation aim was deemed appropriate in 2003, when shocks to the economy tended to be inflationary, it worked less well when shocks became deflationary (Rostagno et al. 2019). The formulation of the aim was viewed as both asymmetric and ambiguous. Asymmetric due to the wording of "below" two per cent, leading to the belief that the Governing Council would react more strongly to deviations above this level than below, and ambiguous as "close" to two per cent is imprecise. This may have contributed to a weaker anchoring of inflation expectations in the euro area in recent years, particularly in the proximity of the ELB, further entrenching the low inflation environment (see Charts 8 and 9).

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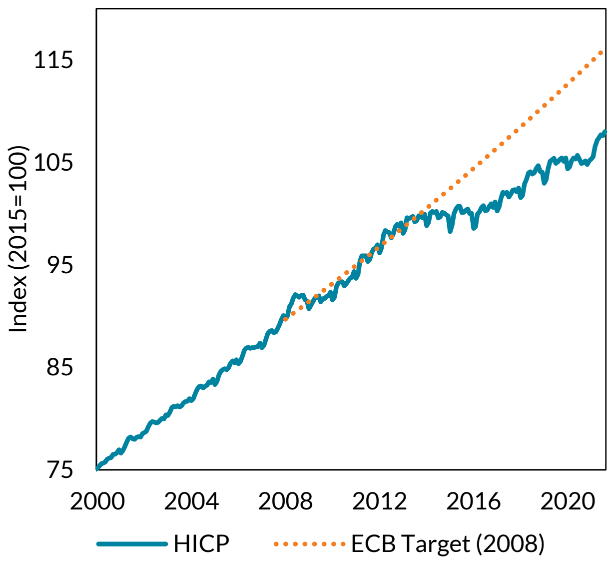
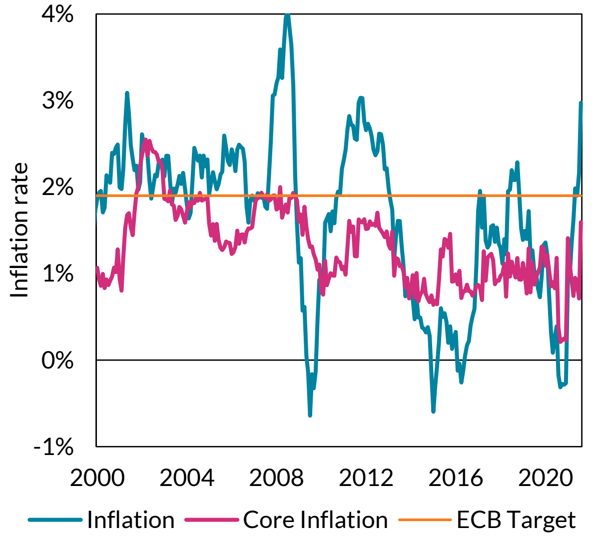
The low inflation environment in the euro area in recent years has led to both headline and underlying measures of inflation falling below the ECB's inflation target

Chart 8: Actual HICP versus the implicit 1.9 per cent target



Source: ECB Statistical Data Warehouse
Notes: ECB Target refers to the trend in HICP from the respective dates outlined, providing an annual inflation rate of 1.9 per cent. Thus, we assume 1.9 per cent to be the implicit target of the ECB Governing Council. The difference between HICP and the 'ECB Target' line shows the undershoot of the inflation target since 2008.

Chart 9: Headline and core inflation in the euro area



Source: ECB Statistical Data Warehouse
Notes: Core inflation refers to HICP excluding food and energy. ECB Target is assumed to be 1.9 per cent.

As part of the strategy review conclusions, the Governing Council decided that maintaining price stability can best be achieved by aiming for a specific quantitative target of "two per cent inflation target over the medium term". The new target is simple, clear and easy to communicate, and is thus expected to contribute to a more solid anchoring of longer-term inflation expectations.

The review clarified that symmetry in the inflation target means that the Governing Council will consider negative and positive deviations of inflation from the target to be equally undesirable. Temporary and moderate fluctuations of actual inflation both above and below the medium-term target of two per cent are unavoidable; however, it is important for monetary policy to respond forcefully to large, sustained deviations of inflation from the target in either direction. Anchoring the commitment to symmetry explicitly in the new strategic framework removes ambiguity in the Governing Council's aspirations. In particular, two per cent should not be interpreted as a ceiling.

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An inflation target of two per cent balances a range of considerations. Analysis carried out as part of the strategy review shows that an inflation target of two per cent has good properties in terms of stabilising the average level of inflation over the long run, keeping the variance of inflation contained and limiting the frequency of hitting the lower bound.[16] An inflation target of two percent underlines the ECB's commitment to providing an adequate safety margin to guard against the risk of deflation. At the same time, a two per cent target seeks to mitigate the welfare costs of higher inflation, which increase non-linearly with the level of the target.

When the economy is close to the ELB, in recognition of the challenges it poses and to maintain symmetry of the inflation aim,[17] the Governing Council expressed the need for forceful or persistent monetary policies. The monetary policy instruments deployed by the ECB since the financial crisis are considered to be effective in countering disinflationary pressures and will remain an integral part of the ECB's toolkit in situations close to the ELB. The Governing Council has also recognised the need to limit possible side effects of the new policy instruments and therefore expressed commitment to continuing to perform careful proportionality assessments and adapting the design of measures to minimise side effects, without compromising price stability.

The re-confirmation of the medium-term orientation has a number of advantages for the implementation of monetary policy. It accounts for the uncertainties in the inflation process and the transmission mechanism, and provides flexibility to the Governing Council in assessing the origin of shocks and to look through temporary shocks.

The Governing Council expects the medium-term orientation to also allow monetary policy decisions to cater for other considerations relevant to the pursuit of price stability - for example, to take account of employment or financial stability concerns in response to

[16] See Work stream of price stability objective (2021)

[17] By reducing the scope to support the economy by cutting interest rates during severe downturns, the ELB can generate persistent downward deviations of inflation from target. This can possibly result in a downward de-anchoring of inflation expectations that risks creating a self-fulfilling mechanism resulting in inflation that is persistently too low.

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economic shocks, where temporary trade-offs exist, once they do not impact the medium-term price stability objective.[18]

4.2 Including owner-occupied housing into the HICP

Given the mandate of the ECB is to achieve price stability, it is crucial that the choice of the price index used to measure inflation is adequate and appropriate. The Governing Council announced its decision that the headline Harmonised Index of Consumer Prices (HICP) remains the appropriate index for monetary policy decision making purposes. The HICP is measured using a basket containing 295 goods and services from the 19 euro area countries, and is designed to represent what people would typically purchase.[19] Similar to the previous strategy review in 2003, the index was assessed across four different criteria: timeliness; reliability (e.g. infrequent revisions); comparability (over time and across countries); and credibility[20]. The HICP has evolved since 2003 with improvements including the introduction of annual updates of expenditure weights, better representation of seasonal items and the provision of more timely information for all Member States.

To further enhance the representativeness of the HICP and its cross-country comparability, the Governing Council has decided to recommend a roadmap to include owner-occupied housing (OOH) in the HICP. Although costs related to shelter account for a large part of household expenditure, the HICP currently only partially includes the housing service costs of homeowners associated with owning, maintaining and living in their own home. In addition to practical measurement issues, it is also challenging to fully align these costs with the conceptual basis of the HICP. The HICP only captures changes in the prices of goods and services which, when purchased, generate monetary transactions for consumption purposes.

[18] See section 4.3 below for a broader discussion of the other considerations to be taken account of in the Governing Council's decision making process.
[19] More granularly, on average, the prices of around 700 products are collected every month in different outlets and in approximately 1,600 different towns and cities across the euro area. As a result, around 1.8 million price observations go into the euro area HICP every month. See "Measuring inflation – the Harmonised Index of Consumer Prices (HICP)" for an overview of the HICP.
[20] Credibility refers here to the perception by the general public that the choice of the measure is suited to providing full and effective protection against losses in the purchasing power of money. See Work stream on inflation measurement (2021).

The ECB considers the net acquisition approach to be the preferred method for including OOH. The net acquisition approach treats a dwelling as a durable good that is part asset (land) and part consumable (structure). The costs are measured using a market price at the point of a purchase. Only dwellings that are new to the household sector are covered, including self-built housing. This means that transactions between households are excluded and the focus is on new dwellings. In addition, the costs associated with the acquisition/construction and maintenance are also covered: transaction fees and taxes, dwelling insurance, major renovations and repairs.

This approach was considered to be largely consistent with the current HICP framework and conceptually straight forward. The HICP tracks pure price changes (adjusted for quality) of goods and services over time. Importantly, only actual monetary transactions with the purpose of consumption are considered. Hence, the net acquisition approach has an advantage of being based on actual (observed) prices. The key disadvantage of the net acquisition approach relates to the asset component, which is typically assumed to be the land on which a dwelling is built. It is difficult to precisely identify whether a dwelling is purchased for consumption or investment purposes. Therefore, measurement methods are required to better isolate the consumption component from the investment component, with the former being the relevant one for monetary policy.

Eurostat currently produces a separate index for the cost of OOH for individual euro area countries[21], however, work will be required to integrate OOH correctly into the HICP, including the appropriate weighting. See Chart 10 for a comparison between the current HICP and Eurostat's OOH.

[21] See "Owner occupied housing price index" for full details.

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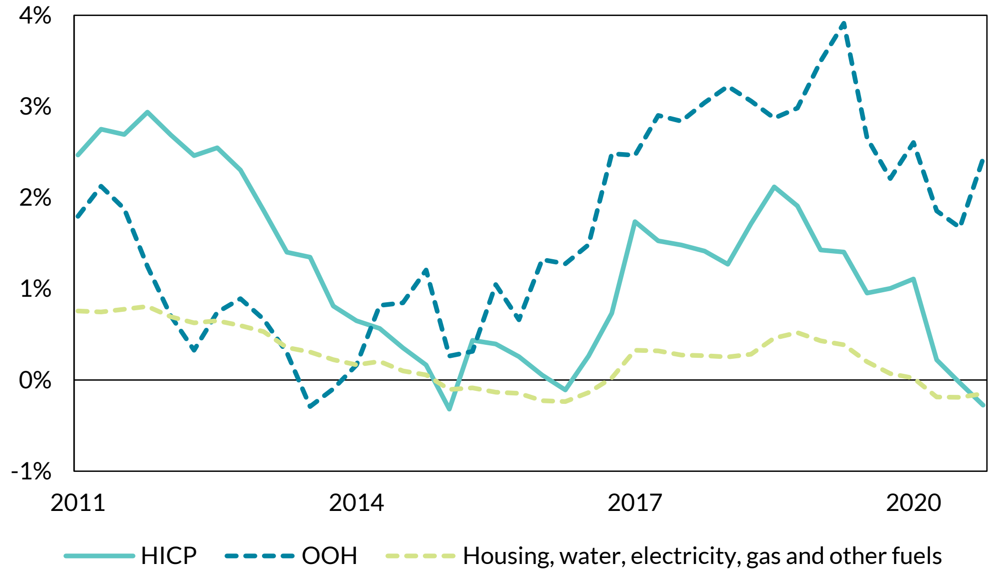
Costs of owner-occupied housing have risen at a quicker pace than the overall HICP in recent years, highlighting the importance of considering these costs

Chart 10: HICP, housing costs component of HICP and the OOH Index for the euro area



Source: Eurostat
Notes: The OOH Index is aggregated and weighted by the individual country weights for HICP. This calculation is performed by the authors and is not provided by Eurostat. Housing, water, electricity, gas and other fuels represents the contribution of housing costs to the overall HICP based on the component weights in a given year.

The Governing Council has outlined a workplan for generating a HICP including OOH costs as the main index for monetary policy purposes. There are four stages to the plan. The first stage envisages the construction of an analytical index for internal purposes, which includes OOH with approximated weights. In parallel, the necessary legal work will be started and Eurostat intends to carry out further work on the statistical compilation of OOH weights, with a view to publishing in a second stage – likely in 2023 – an experimental quarterly HICP including OOH costs. In a third stage, likely to be completed by 2026, an official quarterly index will become available. In the fourth stage the aim would be to include OOH costs in the HICP at a monthly frequency and in a timely manner, which could pave the way for moving to a HICP including OOH costs as the main index for monetary policy purposes. At this point in time, it is too early to provide a precise timetable for the fourth stage.

During the transition period the main reference index for monetary policy will remain the current HICP. This transition period will last until the OOH index has reached the timeliness and quality

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standards necessary for full integration into the monthly HICP index. Nevertheless, during the transition period the quarterly standalone OOH index will play an important supplementary role in assessing the impact of housing costs on inflation and will thus inform the Governing Council's monetary policy assessments.

4.3 Changes to the analytical framework

The structure of euro area economy and financial system have changed since 2003 and this has affected the transmission of monetary policy and macroeconomic outcomes. The Governing Council has gradually integrated such changes into its regular monetary policy decision-making process and the new strategy formally reflects such changes in the ECB's analytical framework.

The revised analytical framework that brings together two analyses: the economic analysis and the monetary and financial analysis. The integrated framework takes account of the inherent links between the underlying structures, shocks and adjustment processes covered by the respective analyses. Both analyses provide valuable information and together they contribute to a comprehensive and robust assessment of the outlook for and the risks to price stability over different time horizons. The new framework replaces the previous two-pillar framework and discontinues the cross-checking of the information derived from the monetary analysis with the information from the economic analysis. To underpin the integrated analysis, further investment in developing analytical tools will be required to model and understand the macro-financial linkages and the interactions between monetary policy measures, their transmission to the economy and their effects on the stability of the financial system.

The economic analysis focuses on real and nominal economic developments. It is built around the analysis of short-term developments in economic growth, employment and inflation, the assessment of the drivers of shocks that hit the euro area economy, the Eurosystem and ECB staff projections of key macroeconomic variables over a medium-term horizon, and a broad-ranging evaluation of the risks to economic growth and price stability. Changes to the economic analysis reflect the availability of new data and information sources, as well as modelling and computational

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developments, and also the more systematic analysis of (changes to) structural trends.

The monetary and financial analysis assigns an important role to examining monetary and financial indicators, with a focus on the operation of the monetary policy transmission mechanism, in particular via the credit, bank lending, risk-taking and asset pricing channels. The monetary and financial analysis also provides for a more systematic evaluation of the longer-term build-up of financial vulnerabilities and imbalances and their possible implications for the tail risks to economic output and inflation. Moreover, it assesses the extent to which macroprudential measures mitigate possible financial stability risks that are relevant from a monetary policy perspective. The monetary and financial analysis thus recognises that financial stability is a precondition for price stability.

4.4 Accounting for climate change in the ECB's monetary policy framework

Climate change is one of the most fundamental challenges facing the world over the coming decades, and will require a strong response from all policymakers. In March 2021, the ECB's Executive Board Member Isabel Schnabel stated that, "Climate change is one of the biggest challenges that humankind is facing… The urgency of this topic, mainly due to the partial irreversibility of climate change and the significant costs of delaying action, requires all policymakers to explore their roles in tackling this challenge. This has been fully recognised by European policymakers."[22]

While monetary policy can play a role, it is crucial to remember that fiscal policy remains the most important driver of implementing strategies for the transition to a more carbon-neutral economy. Fiscal policy tools, for example carbon taxes, are much better equipped than monetary policy instruments to directly contribute to the transition to a more climate neutral economy. Additionally, it can be argued that the allocation of public resources to implement climate change policies is better served through democratically elected policy makers, rather than independent central banks. The onus must therefore fall mainly to fiscal authorities. The role of

[22] See Schnabel (2021)

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independent central banks is to support the climate change policies implemented by governments.

The Eurosystem's monetary policy implementation can take into account other objectives, but this must be done "without prejudice to the objective of price stability." The Eurosystem shall also "support the general economic policies in the Union with a view to contributing to the achievement of the objectives of the Union."[23] Importantly, EU leaders endorsed the objective of achieving a climate-neutral EU by 2050. This means that between now and 2050, the EU will drastically reduce its greenhouse gas emissions and find ways of compensating for the remaining and unavoidable emissions. Reaching a net-zero emissions balance will benefit people and the environment and will limit global warming. Following the recently agreed EU long-term budget for 2021-2027 and Next Generation EU, at least 30% of the total expenditure should be targeted towards climate-related projects.[24]

Given the importance of climate change goals for the EU, and in line with its commitment to supporting EU policies, the Governing Council stated that it is committed – within the ECB's mandate – to ensuring that the Eurosystem fully takes into account the implications of climate change and the carbon transition for monetary policy and central banking. While governments have the primary responsibility and tools for addressing climate change, the ECB's mandate requires that it assesses the impact of climate change and further incorporates climate considerations into its policy framework, since physical and transition risks related to climate change have implications for both price and financial stability, and affect the value and the risk profile of the assets held on the Eurosystem's balance sheet.

The Governing Council has outlined an ambitious climate-related action plan to further include climate change considerations in its monetary policy framework.[25] The Governing Council's action plan comprises measures that strengthen and broaden ongoing initiatives by the Eurosystem to better account for climate change considerations with the aim of preparing the ground for changes to

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[23] See "Objective of monetary policy"
[24] See "Climate change: what the EU is doing"
[25] See "ECB presents action plan to include climate change considerations in its monetary policy strategy"

the monetary policy implementation framework. The design of these measures will be consistent with the price stability objective and should take into account the implications of climate change for an efficient allocation of resources. Below, we outline a number of the actions the Governing Council has outlined as part of its climate change action plan.

- **Macroeconomic modelling and assessment of implications for monetary policy transmission.** The ECB will accelerate the development of new models and will conduct theoretical and empirical analyses to monitor the implications of climate change and related policies for the economy, the financial system and the transmission of monetary policy through financial markets and the banking system to households and firms.
- **Statistical data for climate change risk analyses.**[26] The ECB will develop new experimental indicators, covering relevant green financial instruments and the carbon footprint of financial institutions, as well as their exposures to climate-related physical risks. This will be followed by step-by-step enhancements of such indicators, starting in 2022, also in line with progress on the EU policies and initiatives in the field of environmental sustainability disclosure and reporting.
- **Disclosures as a requirement for eligibility as collateral and asset purchases.** The ECB will introduce disclosure requirements for private sector assets as a new eligibility criterion or as a basis for a differentiated treatment for collateral and asset purchases. Such requirements will take into account EU policies and initiatives in the field of environmental sustainability disclosure and reporting and will promote more consistent disclosure practices in the market, while maintaining proportionality through adjusted requirements for small and medium-sized enterprises. The ECB will announce a detailed plan in 2022.
- **Enhancement of risk assessment capabilities.** The ECB will start conducting climate stress tests of the Eurosystem

[26] See S. O'Connell (2021) for an overview of trends in the European green bond market and the holders of green bonds in Ireland.

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balance sheet in 2022 to assess the Eurosystem's risk exposure to climate change, leveraging on the methodology of the ECB's economy-wide climate stress test. Furthermore, the ECB will assess whether the credit rating agencies accepted by the Eurosystem Credit Assessment Framework have disclosed the necessary information to understand how they incorporate climate change risks into their credit ratings. In addition, the ECB will consider developing minimum standards for the incorporation of climate change risks into its internal ratings.

- **Collateral framework**. The ECB will consider relevant climate change risks when reviewing the valuation and risk control frameworks for assets mobilised as collateral by counterparties for Eurosystem credit operations. This will ensure that they reflect all relevant risks, including those arising from climate change.
- **Corporate sector asset purchases.** The ECB has already started to take relevant climate change risks into account in its due diligence procedures for its corporate sector asset purchases in its monetary policy portfolios. Looking ahead, the ECB will adjust the framework guiding the allocation of corporate bond purchases to incorporate climate change criteria, in line with its mandate. These will include the alignment of issuers with, at a minimum, EU legislation implementing the Paris agreement through climate change-related metrics or commitments of the issuers to such goals. Furthermore, the ECB will start disclosing climate-related information of the corporate sector purchase programme (CSPP) by the first quarter of 2023.

The implementation of the action plan will be in line with progress on the EU policies and initiatives in the field of environmental sustainability disclosure and reporting, including the Corporate Sustainability Reporting Directive, the Taxonomy Regulation and the Regulation on sustainability-related disclosures in the financial services sector.

This decision taken in the review is complemented by previous decisions, particularly the Eurosystem agreement of a common

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stance in for climate change-related sustainable investments in non-monetary policy portfolios.[27]

4.5 Communicating with the public

The importance of monetary policy communication has increased significantly over time, and in particular, since the introduction of forward guidance into the ECB monetary policy toolkit.[28] The better monetary policy is understood, not only by financial markets but also by the general public, the more effective it can be in steering expectations, behaviour and economic outcomes. Consistent, clear and effective communication with different audiences is therefore considered to be essential, and the Governing Council is committed to explaining its monetary policy strategy and decisions as clearly as possible to all audiences.

The Governing Council undertook a thorough review of the communication of its monetary policy decisions, with a view to enhancing the information provided and its accessibility for various audiences. With this in mind, communication of monetary policy decisions will continue to build on four well-established products: the press release, the introductory statement, which has been renamed the "monetary policy statement", the Economic Bulletin and the monetary policy account. The monetary policy statement has been streamlined and its clarity improved by focusing on an integrated narrative. The monetary policy accounts, which were introduced in 2015, will continue to provide information on the full range of arguments considered during the Governing Council's monetary policy deliberations. The Economic Bulletin will continue to provide an overview of the economic situation and analysis of topical issues relevant to monetary policy. These products will be complemented by a layered and more visual version of policy communication geared towards the wider public.

A crucial contribution to the ECB's strategy review was provided by the Eurosystem's "listening" activities. During the review period, the Eurosystem held numerous events with the academic community, civil society organisations and the public at large, and it also held exchanges with national parliaments and the European Parliament.

[27] See the Central Bank of Ireland's website for further detail.
[28] See "What is forward guidance?" on the ECB website for more details.

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In addition, the ECB received approximately 4,000 responses to a set of questions via its "ECB Listens Portal".

As part of this outreach, the Central Bank of Ireland hosted three external "listening" events, with participants from academia, civil society and the business community. A number of key issues were highlighted in the course of these events. This included, among many other issues, the role of housing costs in people's daily lives, the importance of fiscal and monetary policy interactions and the impact of inequality for the economy. Full details of these events, including videos are available on the Bank's website.[29]

The Governing Council communicated its intention to make outreach events a structural feature of the Eurosystem's interaction with the public. These future events will have both a "listening" and an "explaining" dimension, to enable the public to understand the ECB's monetary policy strategy and its implications.

Box A: The policy response to COVID-19 and the interaction between monetary and fiscal policy in the euro area

COVID-19 imposed an unprecedented economic shock on the euro area and the world economy, and occurred just as the ECB's strategy review was beginning. With rapidly increasing sovereign debt, the interaction between monetary and fiscal policy came into sharp focus, so a new work stream on monetary-fiscal interaction was added to the strategy review agenda. This work stream was tasked with reviewing the history of fiscal policies and the functioning of the fiscal governance framework over the Economic and Monetary Union (EMU) period to draw lessons from a monetary policy perspective; and analysing the fiscal policy challenges that are likely to arise in the aftermath of the COVID-19 pandemic, including for the review of the fiscal governance framework.

The ECB response to the COVID-19 shock was timely and its size unprecedented, with the launch in March 2020 of the €750 billion – later expanded to €1,850 billion – Pandemic Emergency Purchases Programme (PEPP).30 The PEPP was instrumental in complementing the

[29] Central Bank of Ireland webpage for the ECB strategy review.
[30] Press release 18 March 2020, The ECB announces €750 billion Pandemic Emergency Purchase Programme (PEPP).

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other monetary policy tools in place, due not only to its size but also to its flexibility of purchases over time, across asset classes and among jurisdictions, so as to keep favourable financing conditions for euro area sovereigns, households and firms.[31]

Euro area fiscal authorities also provided a substantial response to the negative shock, implementing a broad range of measures. Fiscal emergency packages were launched, mostly aimed at limiting the economic fallout from containment measures through direct measures to protect firms and workers in the affected industries. Simultaneously, extensive liquidity support measures in the form of tax deferrals and sovereign guarantees were introduced to help firms to avoid liquidity shortages.[32] The overall policy response resulted in a harmonious combination of fiscal and monetary support: fiscal policy provided targeted stimulus to the economy, while monetary policy ensured that financing conditions, including those of sovereigns, remained favourable.

For the fiscal policy response to be adequate to the magnitude of the shock, however, it took the suspension of the Stability and Growth Pact. This is because the EMU fiscal framework, as designed by the Maastricht Treaty, did not see the need for active coordination between monetary and fiscal policy. Since then, however, the academic consensus with respect to such an interaction has shifted.[33] In the last decade, with interest rates nearing the ELB, the conduct of monetary policy has faced constraints. As a result, the opportunity for fiscal policy to play a larger stabilisation role than that envisaged in the treaty has increased, raising questions as to whether institutional changes may be needed to enable such coordination (see e.g. Bartsch et al., 2020, and Thygesen et al., 2020).

While the conduct of fiscal policy and potential reforms of the EMU fiscal framework are clearly beyond the ECB remit, the interaction between monetary and fiscal policy was discussed as part of the ECB strategy review. The review acknowledged the importance of coordination between monetary and fiscal policy in tackling downturns, particularly

[31] See e.g. Lane, 2020.
[32] For the fiscal policy response to the pandemic in the euro area and its impact on the private sector economy see Haroutunian et al., 2021, and Girón et al., 2021.
[33] See e.g. Bassetto and Sargent, 2020, for a survey of the literature on monetary-fiscal interactions. Corsetti et al., 2019, review models of business cycle stabilisation and argue that, after a large recessionary shock, a joint effort of monetary and fiscal policy may be necessary to stabilize economic activity and inflation.

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when the economy is hit by severe negative shocks – as clearly shown by the pandemic experience.

The pandemic may have important implications for the interaction between the euro area monetary and fiscal policy looking forward, as suggested by some economists (see Reichlin et al., 2021). The substantial fiscal efforts of euro area governments in response to the COVID-19 shock will leave behind a legacy of high public debt for a number of years. At the same time, the heterogeneity in debt levels is considerable across countries, and therefore the fiscal capacity to complement monetary policy in the case of future shocks will also be heterogeneous. These differences, as well as differences in debt maturity profiles, implies that changes in the monetary policy stance, whether in government bond purchases or the in interest rate policy, may result in very different fiscal footprints across different countries.

5. Operationalising the outcomes of the strategy review in the conduct of monetary policy

The July 2021 Governing Council meeting was the first opportunity for the ECB to demonstrate how the outcome of the strategy review will shape monetary policy decision making. At the meeting, the Governing Council decided to update its forward guidance on the key ECB interest rates.[34] The decision to intervene specifically on the rate forward guidance reflects the belief that, particularly at the ELB, the central bank's guidance on the future path of interest rates is crucial in steering market expectations. Furthermore, forward guidance, particularly in its *state-contingent* version, provides a powerful stabilisation mechanism whereby the expected time to interest rate lift-off automatically adjusts according to changes in the outlook for inflation.[35]

The ECB also sought to demonstrate a forceful or persistent use of its monetary policy instruments at the effective lower bound. If effective and internalised in the private sector expectations, such

[34] See the Governing Council meeting of 22 July 2021 press conference.
[35] For the effectiveness of forward guidance in the euro area, see e.g. Andrade and Ferroni, 2021. For the literature analysing the power, as well as the limits, of forward guidance, see e.g. Del Negro et al., 2012, Carlstrom et al., 2015, and McKay et al., 2016.

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conduct could also avoid negative deviations from the inflation target becoming entrenched, thereby supporting the anchoring of longer-term inflation expectations and helping to maintain price stability over the medium term.

To reflect the change in the strategy – to a symmetric inflation target of 2% and to use forceful or persistent monetary policy action when the economy is close to the effective lower bound – the Governing Council updated its rate forward guidance in July as follows:

"In support of its symmetric two per cent inflation target and in line with its monetary policy strategy, the Governing Council expects the key ECB interest rates to remain at their present or lower levels until it sees inflation reaching two per cent well ahead of the end of its projection horizon and durably for the rest of the projection horizon, and it judges that realised progress in underlying inflation is sufficiently advanced to be consistent with inflation stabilising at two per cent over the medium term. This may also imply a transitory period in which inflation is moderately above target."[36]

The choice of the Governing Council was in favour of the use of state-contingent forward guidance, where the rate lift off depends on the realisation of all three of the following conditions: (i) inflation reaching two per cent well ahead of the end of the projection horizon, (ii) durably for the rest of the projection horizon, and (iii) with progress in underlying inflation sufficiently advanced for inflation to stabilise at two per cent over the medium term.

The state-contingent legs of the Governing Council's rate forward guidance provides reassurance that interest rates will remain at current or lower levels until there is sufficiently robust and mature evidence, as well as a high degree of confidence, that the inflation rate will reach two per cent on a sustained and durable manner, avoiding the risk of reacting to forecast errors or to short-lived forces generating inflation only on a temporary basis. In this respect, it is interesting to consider such a commitment against the policy choices made the first half of 2011, when the ECB increased its policy rate twice after a period of headline inflation above target, pushed by a temporary increase in energy prices, while underlying inflation was

[36] Second paragraph of the press release of 22 July 2021 Governing Council meeting

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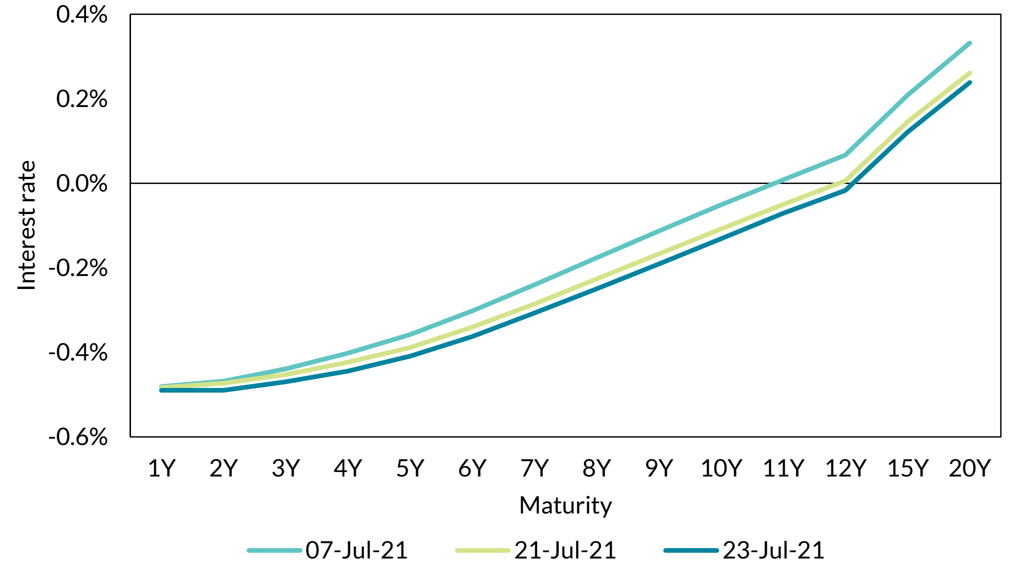
below target and the economy was still coping with the consequences of the global financial crisis.

The update of the ECB's inflation aim and forward guidance helped to push out expectations for the ECB's interest rates

Chart 11: Euro area OIS forward curve



Source: Bloomberg

Chart 10 illustrates changes in the Overnight index swaps (OIS) curve from the 7 July (the day before the approval of the new monetary policy strategy) to the 21 July (the day before the ECB Governing Council meeting); and from the 21 July to the 23 July (the day after the meeting). In both cases the curve shifted to the right, which corresponds to the expectation of a longer time to the lift-off in interest rates. This signals that financial markets responded to the strategy review announcement and its subsequent implementation in the ECB rate forward guidance, and are starting to internalise the Governing Council commitment to a more forceful or persistent use of its monetary policy instruments given the macroeconomic circumstances.

The above-quoted paragraph from the monetary policy statement of 22 July concludes by acknowledging that the forceful or persistent policies required to address the implications of the persistence at the ELB may imply a transitory phase in which inflation is moderately above target, without this warranting an offsetting response. The provision for such a transitional phase is balanced by the

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commitment to lift rates once inflation reaches two per cent on a durable basis (Lane, 2021a and Lane 2021b).

6. Concluding remarks: The next review

The most recent ECB strategy review took place 18 years after the previous one. Together with announcing its outcome, the Governing Council clarified its intention to avoid similarly long time intervals between reviews, and that such exercises would be conducted regularly, with the next assessment expected to take place in 2025. A more frequent review cycle reflects the need to ensure that the strategy remains fit for purpose against a continually evolving economic environment.

For instance, it will be useful to assess the effects of strategy changes made by other central banks and compare them to the choices made by the ECB.[37] Moreover, the transmission channels, potential state-dependency and side effects of monetary policy instruments need continued monitoring and investigation, alongside a better understanding of the determinants of inflation dynamics in the euro area (Angeloni and Gros, 2021).

Other areas that could conceivably affect the monetary transmission mechanism include the challenges and opportunities that further digitalisation presents, with the ECB preparing for the possibility of creating a digital euro; improvements in the EMU architecture, with ongoing discussion regarding in particular the possibility of reforming the EMU fiscal framework (Thygesen et al., 2020); significant changes shaping the euro area financial system, where the increasing role of non-bank financial intermediation calls for filling the gaps in the macro-prudential approach and for developing new tools to deal with market dysfunction more broadly (Hauser, 2021). Moreover, further major economic or financial shocks to the euro area and the global economy can also occur, as well as other structural changes affecting the inflation process, the equilibrium real interest rate or the economic growth potential. It is likely that

[37] Specifically, a policy that aims to offset, at least in part, past misses of inflation from its objective, such as the new average inflation targeting of the US Federal Reserve, could prove effective in stabilising the macroeconomic cycle and keeping inflation close to target. For this and other suggestions for reform to be included in the next strategy review, see Reichlin et al., 2021.

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these or other challenges will warrant adjustments to the ECB monetary policy strategy and will be dealt with in future reviews.

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