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# Thoughts on a review of the ECB's monetary policy strategy

Christophe Blot, Jérôme Creel, Paul Hubert

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IN-DEPTH ANALYSIS

Requested by the ECON committee

Monetary Dialogue Papers, December 2019



# Thoughts on a Review of the ECB's Monetary Policy Strategy

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Policy Department for Economic, Scientific and Quality of Life Policies  
Directorate-General for Internal Policies  
Authors: Christophe BLOT, Jérôme CREEL and Paul HUBERT  
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# Thoughts on a Review of the ECB's Monetary Policy Strategy

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Monetary Dialogue Papers  
December 2019

## **Abstract**

Time is ripe for a review of the ECB strategy: the economic context and the audience for communication have changed, and the tools for policy decisions and for analysing the environment have expanded. The definition of the inflation target, the two-pillar strategy and the use of “non-standard” policy measures need discussion. A change in the ECB mandate is also worth discussing for it would permit to evaluate the current strategy and mandate against an alternative.

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This document was requested by the European Parliament's Committee on Economic and Monetary Affairs.

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## LIST OF ABBREVIATIONS

<b>ABSPP</b>	Asset-Backed Securities Purchase Programme
<b>CBPP</b>	Covered Bond Purchase Programme
<b>DSGE</b>	Dynamic Stochastic General Equilibrium
<b>EA</b>	Euro area
<b>ECB</b>	European Central Bank
<b>ELB</b>	Effective Lower Bound
<b>FRFA</b>	Fixed Rate Full Allotment
<b>HANK</b>	Heterogeneous Agents New Keynesian
<b>HICP</b>	Harmonised Index of Consumer Prices
<b>LTRO</b>	Long Term Refinancing Operations
<b>MRO</b>	Main Refinancing Operations
<b>OMT</b>	Outright Monetary Transactions
<b>SMP</b>	Securities Market Programme
<b>TLTRO</b>	Targeted Long Term Refinancing Operations
<b>VLTRO</b>	Very Long Term Refinancing Operations
<b>ZLB</b>	Zero Lower Bound

## EXECUTIVE SUMMARY

- While the ECB monetary strategy has certainly evolved over time, no comprehensive review by the ECB itself has been carried out since 2003. However, monetary policy strategy has evolved since the global financial crisis, knowledge on monetary economics has improved and structural changes of the economies have occurred. A comprehensive review is therefore needed.
- The previous review took place during the so-called “Great Moderation” whereas now economists fear “secular stagnation”. A lower natural rate of interest environment would call for a reflection on how monetary policy should be implemented.
- Academic knowledge about monetary policy has accumulated. The strategy should evolve in line with the science on the transmission of monetary policy, communication policies, the signalling of monetary policy, the design and the decision-making process and the model that best helps to understand the functioning of the economy.
- The preceding review of the ECB monetary policy happened in a period where social media were not that present and the next review should investigate all the ins and outs of these new communication standards.
- If the mandate is unchanged, the Governing Council may change the definition of the inflation target. What should be the level of the target, should it be a symmetric target or not? Beyond the reference value, there is a need to discuss the strategy: would a price-level targeting or an average inflation targeting be more appropriate?
- The ECB may also revise its monetary policy strategy to account for the effects of globalisation. The ECB should better target what it can control.
- The review should investigate whether the heterogeneity of country inflation rates matters for promoting price stability for the euro area (EA) as a whole and regarding the need to contribute to fostering convergence in the EA.
- Is the current two-pillar strategy still relevant? The ECB may think about the horizon over which the balance of risk is assessed and separate short-term prospects for inflation and long-term risks for inflation.
- It would be useful to complement the strategy with guidelines regarding the use of what were called “non-standard measures”. Should the ECB resort to those measures not only in exceptional periods but also in normal times?
- Do we need a radical change in the ECB mandate? Reviewing the monetary policy strategy against the alternative of a dual mandate and even a triple mandate (encompassing financial stability) would provide a comprehensive review of monetary policy as it would account for its effect on real activity and financial stability. The review of the ECB monetary policy strategy should also investigate the role that this public institution wants and needs to play in fighting climate change.

## 1. GENERAL INTRODUCTION

As of today, the European Central Bank's (ECB's) monetary policy strategy rests on an inflation target and an economic and monetary analysis (known as the two-pillar approach), a long list of monetary policy instruments and a communication framework (section 2).

It is well known that monetary policy strategy evolves according to the knowledge of the economics profession on monetary economics and according to the structural changes of the economies, and that it also evolves following the failures or shortcomings of former policies (Fuhrer et al., 2018). For instance, monetary policy has been blamed for its inability to prevent the outbreak of the most dramatic financial crisis since 1929 and the Great Depression. There has been a lot of criticism against the inflation-targeting approach that has overlooked financial stability and overrated the inflation bias, although the world economy was going through a Great Moderation. Since the financial crisis, a new environment characterised by low inflation, low economic growth and low natural (or real) interest rates has emerged and it questions the design of optimal monetary policy strategy were this environment to last. While the ECB's monetary strategy has certainly evolved over time, no comprehensive review by the ECB itself has been carried out since 2003.

Considering the richness of academic research in monetary economics and the nature and size of shocks that the Euro Area (EA) has been going through since the 2000s, time is certainly ripe for such a review (section 3). It remains to be acknowledged that central bankers have regular interactions with academics about their objectives and strategies and that their policies and strategies are periodically reviewed by academics. The type of review that the ECB ought to carry out distinguishes itself though by its comprehensiveness<sup>1</sup>: it should highlight all facets of the ECB monetary strategy.

What should the review encompass (section 4)? Answering to this question requires clarity on the objectives assigned to the ECB. In this respect, three options are possible.

If one takes for granted that the mandate of the ECB is left unchanged, there are three elements worth a review:

- a. Can the ECB best meet its statutory objective with its existing monetary policy strategy, or should it consider strategies that aim to reverse past misses of the inflation objective? Stated differently: should the ECB change its inflation target and should it adopt an alternative strategy?
- b. Is the two-pillar approach (still) relevant in the pursuit of price stability?
- c. Are the existing monetary policy tools adequate to achieve and maintain price stability, or should the toolkit be expanded? And if so, how and when?

A second option for the review is to question the quantitative definition of price stability. Firstly, the delegation of monetary policy to an independent central bank like the ECB requires that the central bank can control the inflation target. In this respect, one may ask whether the current definition of harmonised index of consumer prices meets this requirement. If it is not the case, alternative measures may have to emerge. Secondly, the optimal functioning of a monetary union, like the EA, requires nominal and real convergence. In this respect, an inflation target set at the EA level, say on average, may hide divergence and prevent differentiated monetary policies within the EA that would not jeopardise the EA average inflation target. So far, the objective of limiting nominal divergence between

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<sup>1</sup> Accordingly, the review cannot be carried out too often because of the heavy work it involves (that can be spared for the daily improvement in the implementation of monetary policy within the given monetary policy framework) and because it requires a sufficient time span to evaluate the performance of the monetary policy framework.

EA countries is not part of the ECB mandate. Indeed, when the mandate was written in the Maastricht Treaty, there was a widespread, though misplaced, belief among policymakers that the nominal convergence criteria would be sufficient to escape this issue. However, the early years of the euro showed the contrary. Hence, a differentiated monetary policy per EA country would not violate the spirit of the mandate while it may help dampen price discrepancies.

Thirdly, the nature of the ECB mandate is also worth discussing (section 5). In contrast with the US Federal Reserve, the ECB has a single mandate of price stability, and not a dual one in which the objectives of maximum employment and price stability are equally weighted by the central bank. In light of the real divergence in the EA and after financial shocks, can a single mandate best fit the needs of the EA economies? Or should a change in the statutory objectives, including a dual or triple mandate – including financial stability –, best meet the requirements of an optimal monetary policy in a monetary union? While the latter proposal is generally viewed with suspicion in political and policymakers' circles in Europe, this is not so much unusual in the world of central banks. Fuhrer et al. (2018) recall that the Bank of Canada conducts periodically a review of the goals of monetary policy as well as alternative approaches to attaining those goals.

Finally, climate change issues and best practices on reviews of monetary policy strategy deserve a discussion.

## 2. ECB MONETARY POLICY STRATEGY

Since the original setting of the ECB monetary policy strategy in 1999, two events contributed to changes in the strategy: first, the Review implemented in 2003 has noticeably clarified the definition of price stability and, second, the Global Financial Crisis has contributed to an extension of the policy instruments, hence modifying the operational framework of the ECB.

### 2.1. The early days

In 1999, the ECB started to implement the monetary policy strategy that it deemed fit the primary objective of monetary policy in the EA, namely price stability. The adopted definition of price stability stated that: "(it) shall be defined as a year-on-year increase in the Harmonised Index of Consumer Prices (HICP) for the EA of below 2%." The medium-term strategy of the ECB included in the definition of price stability ("Price stability is to be maintained over the medium term.") highlighted the adoption of an inflation-forecast targeting strategy. It was meant to be helpful in avoiding that monetary policy would be excessively activist and would destabilise the whole EA economy. The ECB monetary strategy rested on a two-pillar approach including the announcement of a quantitative reference value for the growth rate of a broad monetary aggregate (the target for M3 was set annually at 4.5%)<sup>2</sup>, and a broadly based assessment of risks to price stability, which includes the macroeconomic projections. The legal independence of the ECB *vis-à-vis* governments has been complemented with accountability requirements like communication after meetings and policy decisions of the ECB Governing Council in press conferences and quarterly hearings of the president of the ECB before the European Parliament within the so-called Monetary Dialogue. Last, the strategy included an operational framework. It rested on three main instruments (open market operations, deposit and marginal lending facilities and minimum reserve requirements) to achieve price stability.

After the Review of 2003 of the ECB monetary policy strategy, there were three main changes to the original strategy. First, the definition of price stability was clarified. Since then, the Governing Council has been aiming at a year-on-year HICP inflation rate "of below, but close to 2% over the medium term". This clarification has two motivations. On the one hand, it avoided a possible misunderstanding about the effective inflation target and about possible leniency towards deflation in the whole EA<sup>3</sup>; therefore it helps anchor inflation private expectations at 2%. On the other hand, it enables wage inflation to reach the same 2% target, hence "greasing the wheels of the labour market" (Hartmann and Smets, 2018), while it also reduces the risk of hitting the lower bound of the policy rate.

Second, the annual review of the reference value for M3 growth vanished. This change arose because of the tenuous relationship between inflation and the growth rate of money<sup>4</sup>, and because of the decoupling between money growth and private credit to the private sector<sup>5</sup>.

Third, the introductory statement of the President of the ECB at the monetary policy press conference now starts with the economic analysis followed by the monetary analysis. The two-pillar approach has turned out to be based (in this order) on economic analysis and monetary analysis where both keep on helping the Governing Council of the ECB to assess the risks to price stability. The separate analysis of economic dynamics and shocks from the analysis of monetary trends makes the latter crosscheck the information relevant to take monetary policy decisions. The economic analysis reviews real activity

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<sup>2</sup> Since its inception, the strategy of the ECB has rested on the application of the quantity theory.

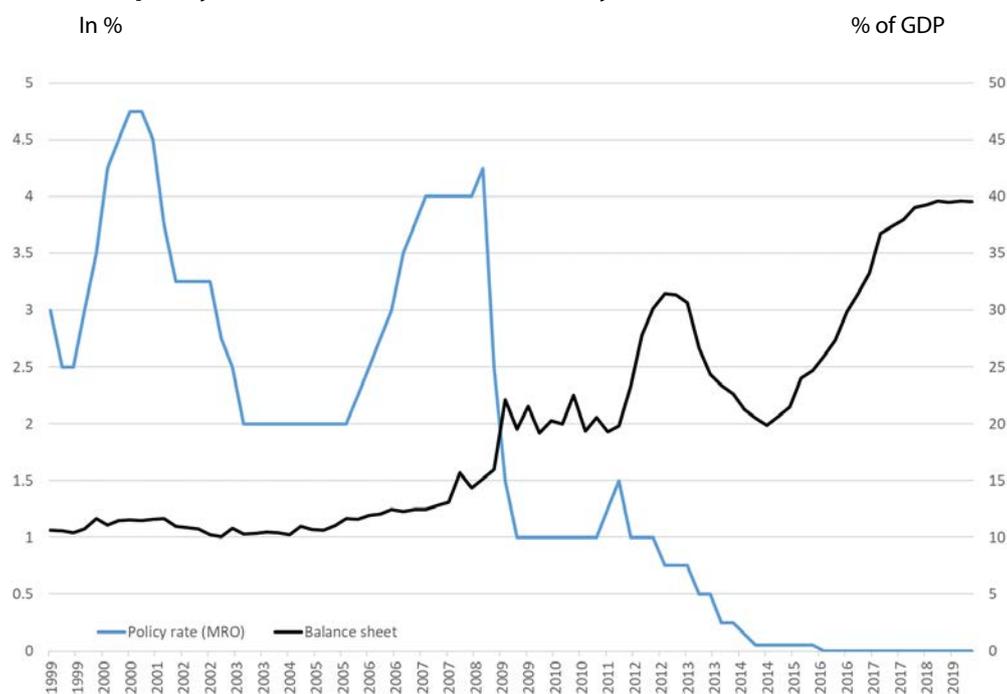
<sup>3</sup> Hartmann and Smets (2018) recall that since 1999, successive Presidents of the ECB made clear statements that prolonged inflation or prolonged deflation were inconsistent with the maintenance of price stability.

<sup>4</sup> Later evidenced by Sargent and Surico (2011) in the US, Avouyi-Dovi and Sahuc (2016) in the EA and Teles et al. (2016) in OECD countries.

<sup>5</sup> As exemplified in figure 9, p. 23 in Hartmann and Smets (2018).

conditions, like price and costs indicators and labour market conditions, and financial conditions, like asset prices and financial yields that are used to extract information about private expectations on inflation and output. The monetary analysis takes a longer-term view and consists of a detailed analysis monetary and credit developments.

**Figure 1: The policy rate and the size of the Eurosystem’s balance sheet**



Source: ECB.

## 2.2. The post-Global Financial Crisis period

The advent of the financial crisis has not been officially enshrined in a change of the ECB monetary policy strategy. However, it has had a huge impact on the breadth of monetary policy instruments and collateral rules at the disposal of the ECB. Both have shifted the ECB strategy from the primary objective of price stability (which was substantially missed shortly after the financial crisis and once again between 2013 and 2016 during the European crisis) to the enhancement in the monetary transmission mechanisms that has merged with an objective of banking and financial stability.

Indeed, the ECB has significantly modified the conduct of its monetary policy since the financial crisis to achieve two different though related purposes: liquidity management and default management.

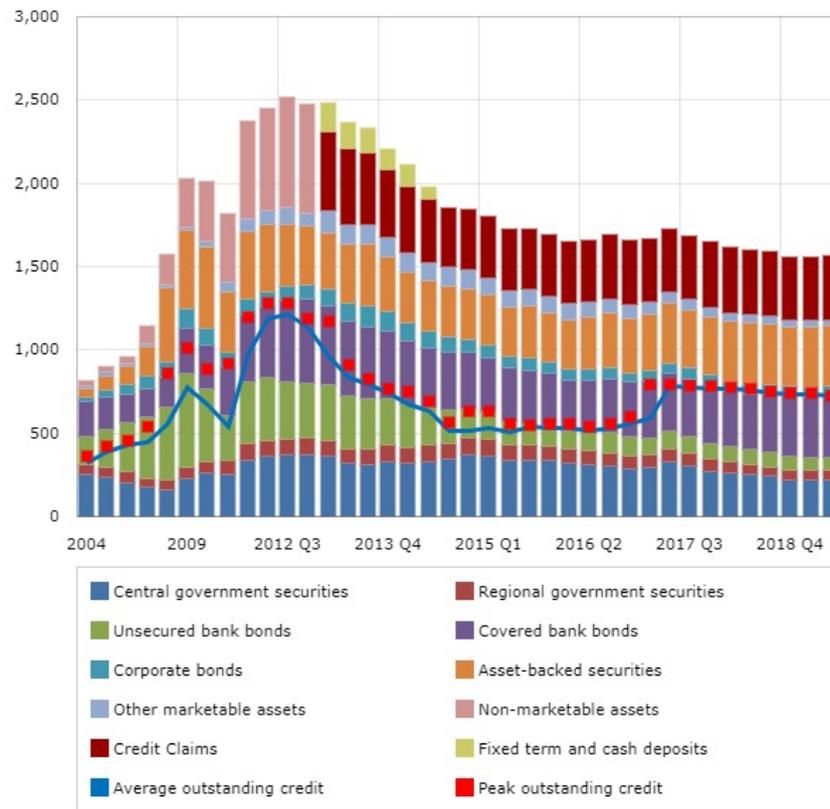
To fulfil its missions as a liquidity provider, the ECB abandoned its bid-related Main Refinancing Operations in 2008 and instead adopted a Fixed Rate Full Allotment (FRFA) policy. To facilitate the access of commercial banks to funding, the ECB launched three programmes of covered bond purchases (CBPP 1, 2 and 3). To secure and stabilise the liabilities of commercial banks, the ECB extended the maturity of its long term refinancing operations (LTRO) and then tendered very-long term refinancing operations (VLTRO) and targeted long term refinancing operations (TLTRO 1, 2 and 3).

With the rise of the European government bond crisis, the increase in sovereign yields hampered the transmission of the common monetary policy to the real economy. In this context, the ECB launched a series of assets purchases: the securities market programme (SMP), the asset-backed securities

purchase programme (ABSPP), and the public sector purchase programme (PSPP). Meanwhile, the outright monetary transactions (OMT) programme announced in the summer of 2012 rapidly enhanced confidence on European sovereign markets where spreads declined substantially, although the programme has never been implemented. All these programmes, except the OMT, have entailed a rise in the size of the ECB balance sheet which *de facto* became the main instrument of monetary policy while the policy rate – the rate for main refinancing operations (MRO) – was stuck at the effective lower bound (ELB) as highlighted in Figure 1.

Over the course of the crises, the ECB has constantly adapted the list and amount of eligible marketable and non-marketable assets for collateral use. Figure 2 below shows the change in the allocation of assets before and after the crises. The bulk of collateral in 2004 included safe financial assets (government securities and bank bonds) whereas at the beginning of 2019, half of the collateral includes asset-backed securities and non-marketable assets. While the extension of collateral towards assets of lower quality has permitted commercial banks to keep on accessing base money, it has made the ECB more prone to managing risk in the EA.

**Figure 2: Use of collateral and outstanding credit by the ECB**



Note: vertical axis in EUR billion, after valuation and haircuts. Use of collateral: averages of end-of-month-data over each time period shown; credit: based on daily data. Since Q1 2013, the category "Non-marketable assets" is split into two categories: "Fixed term and cash deposits" and "Credit claims".

Source: ECB website.

### 3. WHAT MAKES A REVIEW OF ECB MONETARY POLICY STRATEGY RELEVANT?

There are good reasons to review the ECB's monetary policy strategy against the backdrop of structural changes of the economies. References to the academic literature also show that the knowledge of the economic profession has gathered momentum and richness and that it may influence the evaluation of past and present monetary policies and the design of future monetary policies.

#### 3.1. The macroeconomic environment

In 2008, countries of the Eurozone experienced the worst financial and economic crisis not just since the inception of the euro but of the last 80 years. Policy rates hit their ELB, economic growth fell while unemployment and poverty rates increased in most of the countries. The way monetary policy has been conducted since then has dramatically evolved. Over the period 2008-2017, average growth in the EA has reached 0.6%, while it amounted to 2.3% between 1999 and 2007. The reduction in growth has raised concerns about a risk of a persistent decline in GDP growth. However, the "low growth" environment has also been largely driven by cyclical factors and empirical evidence suggests that recessions associated with financial crises last longer, and are more severe than "normal" recessions.<sup>6</sup> The post-2008 period has been characterised by a double dip recession in 2008-2009 and 2012-2013 caused by the global financial crisis – the most severe financial crisis since the 1929 crisis – and the subsequent sovereign debt crisis specific to the Eurozone.

These cyclical factors have yet now reversed in most European countries. Uncertainty has fallen, confidence indicators have improved, investment has picked up and fiscal policy is consolidating less or no longer in most Eurozone countries. The ongoing recovery has also coincided with the implementation of non-standard measures by the ECB (see section 2.2). In addition, various measures of risk premia in risky assets have declined together with measures of uncertainty, that have fallen back to their lowest levels across the last 2 decades. That said, there is still an issue about the length and the pace of the recovery. The preceding review of the ECB's monetary policy took place during the so-called "Great Moderation" – those years during the 1990s and up to 2007 with exceptional macroeconomic stability – and focused on the best practices to adopt in such an environment. The responsiveness and effectiveness of monetary policy measures should now be investigated in another context, in order to shed light on when and which instruments should be used in an environment that may be characterised by "secular stagnation", or with recurrent financial crises or economic recession.

#### 3.2. Structural changes

The persistent decline in GDP growth has also suggested that structural changes could be underway. Holston et al. (2017) have shown a correlation between the value of the natural rate of interest (also called R-star) and the dynamic of trend growth. Part of the decline of R-star would be explained by a reduction in trend growth over the last decade in Eurozone. A variety of economic factors have pushed natural interest rates very low. This is the case not just for the EA but also for many other advanced economies. The underlying determinants for such a decline are related to the global supply and demand for liquidity, shifting demographics, slower trend productivity, strong demand for safe assets, and a more general global savings glut. The global scarcity of safe assets since the financial crisis may have magnified the evolution of R-star in the most recent period compared to more low-frequency determinants. The financial system is characterised by a strong demand of safe assets – Treasury bills

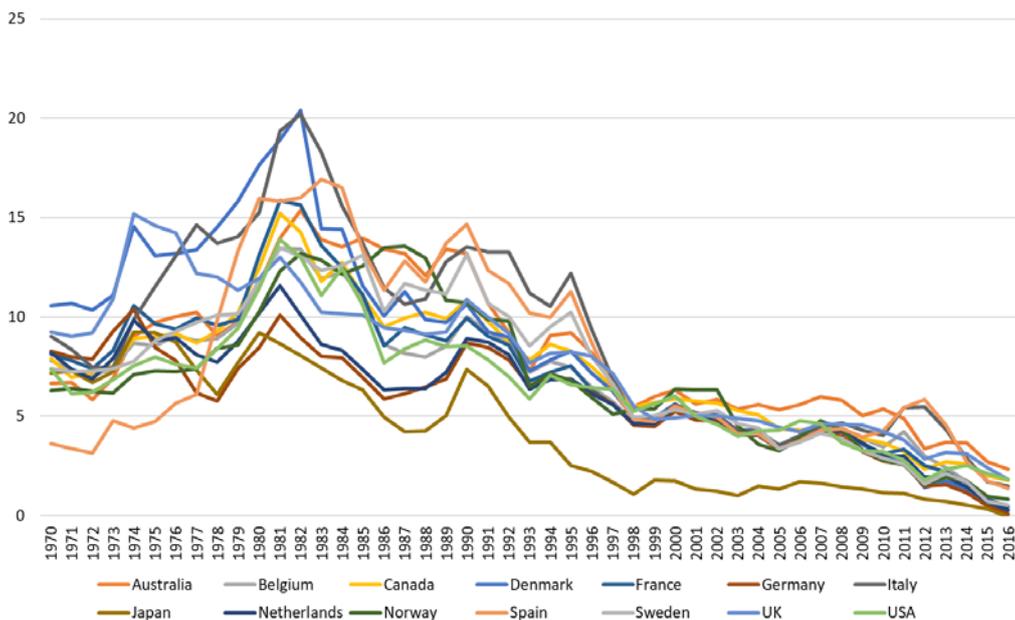
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<sup>6</sup> See Jorda, Schularick and Taylor (2015).

issued in most advanced countries – from both private agents and the public sector and notably central banks in emerging countries. Strong demand has triggered a fall in interest rates as highlighted by the decline in R-star. The change in the supply of safe assets is therefore a crucial determinant of the natural rate of interest. When the Fed and the ECB will reduce their balance sheet, the flow of asset purchases or reinvestment by these central banks is expected to reduce or even disappear. This should contribute to an increase in long-term interest rates.

Importantly for central banking, low interest rates are not due to loose monetary policy; low R-star is the interest rate prevailing when the economy is at full strength and the stance of monetary policy is neutral. However, the understanding of the economy and the functioning of monetary policy are closely related to the concept of the natural interest rate. A new challenge for central banks would therefore be to deliver stable inflation in a low R-star environment.

**Figure 3: The decline of long-term interest rates**



Source: Macrohists database. Vertical axis in %.

A low natural rate of interest environment can be characterised by a low policy rate on average. Larger monetary policy responses may also be required in response to economic disturbances than during normal times because the macroeconomic relationships may be different at the ELB (Bernanke, 2004, and Stock and Watson, 2003). The probability that policymakers should set the policy rate below the ELB increases with macroeconomic volatility when the policy rate is close to the ELB. In the low growth environment, the “riskiness” of the economy becomes much more significant. Because monetary policy would be occasionally constrained in its ability to provide sufficient stimulus, but never in its ability to respond appropriately in expansions, risk is skewed to the downside. As a consequence, in a low growth scenario, monetary policy should have to be too loose rather than too tight.

Kiley and Roberts (2017) have found a deterioration of US macroeconomic performance in the Federal Reserve Board model if the natural rate of interest drops to 1 % absent any unconventional policy tools. The zero lower bound (ZLB) binds for close to a third of the time, inflation falls short of target, averaging about 1.2%, and the average output gap falls to about -1.3%. For the UK, Haberis et al. (2016) suggest

that the policy rate would be negative with a 5 to 20% probability if the natural rate of interest is between 0 and 0.5%. Therefore, monetary policy is likely to be constrained with a clearly non-negligible frequency if central banks follow their current strategy in a low growth scenario. Macroeconomic performance in general would be negatively affected as a result.

One can worry that a low growth environment would alter the behaviour of banks and financial institutions. Financial stability risks and vulnerabilities are likely to intensify because of lower profitability, or due to the response to lower profitability, such as a search for yield. However, it seems that banks have been successful in maintaining steady net interest margin since the 1990s - with high and low policy rates and varying slopes of the yield curve. The standard response to low profitability is balance sheet expansion and increased search of yield. If banks, pension funds and insurers all over the world chase the same assets, then asset bubbles are likely to emerge, and their burst would create financial stability risks.

Monetary policy frameworks should be reconsidered to identify potential improvements in the context of a low R-star. Although targeting a low inflation rate has been successful at anchoring inflation expectations during the Great Moderation, it might not be sufficient in a low R-star environment as there is not enough room for central banks to reduce policy rates in response to an economic slowdown when both natural rates and inflation are very low.

Two alternatives have been discussed in the literature so far and should be discussed in a review of the ECB's monetary policy strategy. First, policymakers may seek to increase the room for manoeuvre for monetary policy through increasing the distance between the usual level of the policy rate and the ELB. For a given level of the natural rate of interest, there are two options: lower the ELB or increase the inflation target. A lower ELB goes through negative nominal interest rates while a higher inflation target would imply a higher level of interest rates (Blanchard, Dell'Ariccia, and Mauro 2010) and would involve a change of the ECB mandate. This proposition needs to analyse the costs and benefits of achieving a higher inflation rate. Second, the dominant monetary policy strategy around the world since the Great Moderation - inflation targeting - could be replaced by price-level or nominal GDP targeting frameworks (Eggertsson and Woodford 2003). These frameworks in which policymakers always correct for past inflation target misses by delivering subsequent overshoots in the opposite direction - "history dependence" according to Woodford (2003) or a "make-up policy" according to Bernanke (2017) have some potential advantages over standard inflation targeting. Eggertsson and Woodford (2003) show that a credible commitment to such a path for the price level delivers very good outcomes when the ELB is binding. Moreover, a commitment to bringing prices back to a predictable path reduces uncertainty about the future price level. They may be better suited to periods when the lower bound constrains interest rates because they automatically provide the "lower for longer" policy stimulus needed. A nominal GDP targeting incorporates the trade-off between inflation and real GDP in a single target, mechanically deals with debt deflation and automatically leads to a higher rate of trend inflation, providing a larger room for manoeuvre to respond to economic slowdowns. Again, this proposition requires to analyse the costs and benefits carefully.

### **3.3. Academic knowledge advances**

Beyond the cyclical and structural changes in the macroeconomic environment since 2003 and the last review of the ECB's monetary policy strategy, a wealth of academic knowledge about the transmission of monetary policy has been accumulated. First, communication policies and their effects after policy meetings or during inter-meeting periods have been extensively studied by Woodford (2005), Ehrmann and Fratzscher (2007a, b, c, 2009a, b), Berger et al. (2011) among others. Second, the signalling component of monetary policy has been largely documented with Gurkaynak, Sack and Swanson

(2005) providing one of the seminal contributions about the information perceived by market participants from monetary policy announcements. These information issues have given rise to an abundant literature on the effects of monetary policy decisions (see Bernanke and Boivin, 2003, Melosi, 2017, Nakamura and Steinsson, 2018, Jarocinski and Karadi, 2019, Miranda-Agrippino and Ricco, 2017). Third, the design and the decision-making process of monetary policy committees has been investigated (Meade, 2005, Meade and Stasavage, 2008, Riboni and Ruge-Murcia, 2007, 2008, 2010, 2014, Hansen, McMahon and Prat, 2017). Fourth, the academic profession is moving more and more from the single representative agent hypothesis to models with heterogeneous agents. Kaplan, Moll and Violante (2018) have shown how much the transmission of monetary policy is different from one to another. This literature shows the importance of constrained households in how monetary policy affects the economy (see also Debortoli and Gali, 2017, Bilbiie and Ragot, 2017).

### **3.4. Communication in a social media era**

Whereas news providers, like Reuters and Bloomberg, or the financial press, like the Financial Times or the Wall Street Journal, are focused on narrow and specialised audiences, the emergence since the 2000s of social media like Facebook, Twitter and Instagram has made communication to wider audiences much easier. Monetary policy does not depart from this evolution. Central bank communication has long been tailored to the specialised narrow audience. However, monetary decisions can reach the general public and are commented by a larger number of people. Besides, recent literature pays now more attention to indicators of households or firms' expectations suggesting differences with market and professional forecasters' indicators.<sup>7</sup> This raises a number of issues on whether and how the central bank communication should be thought of differently. For instance, should the communication to the general public be about policy objectives and the mandate or about cyclical factors (policy decisions and macroeconomic forecasts)? Limited attention and economic literacy could justify to focus on the main message – price stability – to anchor expectations rather than on elements that could blur policymakers' messages. The preceding review of the ECB's monetary policy happened in a period when social media were not that present and the next review should investigate all the ins and outs of these new communication standards.

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<sup>7</sup> See Coibion and Gorodnichenko (2015) and Coibion, Gorodnichenko and Ulate (2019) for instance for the implication on Phillips curves' estimations.

## 4. WHAT COULD BE THE SCOPE OF THE REVIEW?

There are several possible assumptions when reviewing the ECB's monetary policy strategy. One is to assume a constant mandate; another one is to build the review on a somehow rewritten/reinterpreted mandate questioning the quantitative definition of price stability.

### 4.1. Key issues under a constant mandate

#### 4.1.1. The inflation target

If the mandate is unchanged, price stability for the EA as a whole remains at the centre of the monetary policy strategy. As the inflation target is not set by the Treaty but has been defined by the Governing Council, it must be the first dimension of the strategy to be reviewed. What should be the level of the target, should it be a symmetric target or not?

In a context of persistent low inflation some have questioned the opportunity of giving up the reference to 2 % and contemplate a lower figure that would be more appropriate in the current environment.<sup>8</sup> It may be indeed argued that the credibility of the ECB would be undermined if the "equilibrium" level of inflation is now lower while monetary policy still targets 2 %. Besides, the stance of monetary policy would be kept excessively loose raising side-effects. However, there is no fatality in low inflation and giving up too early would also affect the central bank's credibility and lead to a further decline in inflation expectations. Conversely, Blanchard et al. (2010) and Ball (2013) have suggested during the crisis to raise the inflation target in order to anchor inflation expectations at a higher level, say 4 %. A higher target would reduce the probability of hitting the zero lower bounds on interest rates without hurting the economy. Although this proposition may seem out of step with the recent slowdown of inflation expectations, it must be kept in mind that the review of monetary policy should be considered as a reflection over the long-term strategy of the ECB.

Beyond the level, the strategy should also make clear whether the target is an upper limit or an average. From 1999 to the previous review in 2003, the 2 % target was seen as an upper value. By adjusting the wording in 2003, it is now considered that inflation in the EA should be "close" to 2 % even if it is still stated that it should be kept "below" 2 %. Yet, during his last two press conferences, Mario Draghi pointed out that regarding the inflation target, the ECB committed to symmetry. He went further and declared that "symmetry means that we [the ECB] react to inflation rates that are below our aim with the same strength we would react to inflation rates which are above our aim". Consequently, 2 % is now the average inflation. The next review might draw attention on this novelty and include such a precision in its evaluation.

There are alternative strategies, which have been proposed in the literature regarding the definition of the target. It may be defined as an average inflation targeting (AIT).<sup>9</sup> Here, it is made clear that the target is not an upper limit and that the central bank will react symmetrically when the inflation rate is below the target. But it also implies that inflation must be kept above the target if it has stood below previously so that, on average and over a given period, inflation is at the target. For instance, if we consider a 5-year period, average inflation in the EA amounted to 0.9 % in 2019-Q3. To reach a 2 % average, inflation should be maintained at 3 % until September 2021 or at 2.5 % until March 2022. This strategy may be equivalent to a price-level targeting (PLT) where the central bank commits over a path for the price level (see also section 3.2).<sup>10</sup> Therefore, if the price level undershoots its path, inflation

<sup>8</sup> See Frankel (2019): <https://www.theguardian.com/business/2019/jul/26/why-central-banks-should-forget-about-2-inflation>.

<sup>9</sup> See King (1999) for an early discussion.

<sup>10</sup> See Eusepi and Preston (2018) for a recent discussion and Ambler (2009) for a survey.

should rise above the implicit target in order for the price level to converge towards its path. For both AIT and PLP and compared to the inflation targeting (IT) strategy, the critical issue relates to the consequence of missing the target. With standard IT, if inflation undershoots the target, the central bank endeavours to converge toward the target. With AIT and PLP, inflation should first overshoot the target and then converge.

This discussion echoes the reaction of the central bank regarding deviations of inflation and to what extent those deviations should be tolerated. The objective could also be defined not as a strict numerical value but rather as a narrow band so that no or weak reactions would be expected as long as inflation remains within the band. For example, the Reserve Bank of Australia is expected to reach an inflation rate between 2 and 3 %. In the case of the Bank of England, there is no explicit definition of a narrow band but yet, the Governor must send a letter to the Chancellor if the inflation target is missed by more than 1 percentage point, whether it is above or below 2 %. In the letter, the Bank of England is expected to explain why the target has not been achieved and how the central bank has reacted.

#### 4.1.2. The two-pillar approach

Since 1999, all press conferences include a paragraph on the “economic analysis” and one on the “monetary analysis” referring to the two-pillar strategy which is used as a communication device to support monetary policy decisions. The review should therefore deal with this issue and set whether these two pillars are still relevant. It makes no doubt that monetary policy decisions should still be explained regarding the current environment and the prospect for future inflation. The point is mainly how to address the frame of communication around two features one of which is “monetary analysis” referring to the growth of M3. If the monetary analysis does not convey information on future inflation even in the long run, it would not provide useful information for motivating the monetary policy decisions.

As the ECB will set the stance of monetary policy considering all relevant information on the current environment and the prospect for inflation, what we need to know is how this information is organised – it certainly has to be – and if this organisation deserves a specific communication that would be formulated in the strategy. Instead of the current two-pillar strategy, the ECB may think about the horizon over which the balance of risk is assessed. The strategy would for example separate short-term prospects for inflation and long-term for inflation with the long-term prospects focusing on financial variables that may entangle risk for economic activity and inflation over the long-term.

#### 4.1.3. Toolkit

Under the current strategy, the toolkit mainly emphasizes the operational framework for monetary policy. The policy rate serves as a signal of the stance of monetary policy and open market operations, deposit and marginal lending facilities and minimum reserve requirements provide the framework that helps the ECB to control short-term market rates and achieve its mandate of price stability. The advent of crises, global and European, has led to the extension of monetary policy tools, mostly because the ELB of policy rate had been hit. Beyond the change in the policy rate, the ECB can now implement asset purchases (through quantitative easing and credit easing), forward guidance policy (communication on the future path of interest rates), targeted liquidity operations, programmes dedicated to repair the transmission of monetary policy in a fragmented currency area (through the SMP and the OMT) and negative interest rates. Each of these non-standard measures have been motivated by the ECB to achieve specific goals and to help the monetary policy to comply with the objectives.<sup>11</sup> The ECB has

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<sup>11</sup> See Cour-Thimann and Winkler (2012) and Durré et al. (2014).

provided information on when those tools are needed and on how they work.<sup>12</sup> They all have been introduced when the policy rate (the MRO rate, central policy rate on the main refinancing operations) was at the ELB. There is yet a debate on the opportunity to keep these instruments in the toolbox of central banks even during “unconstrained” periods. Blot, Creel and Hubert (2017) have for instance suggested to use balance sheet policies in normal times in order to strengthen the effect of change in the policy rate when the transmission is impaired. If financial markets are characterised by market imperfections, there may be a role for asset purchases.

Consequently, it would be useful to complement the strategy with guidelines regarding the use of what was called “non-standard measures”. If the natural interest rate has lowered, central banks will hit more frequently the ZLB and will make use of those “non-standard” measures more often. Should the ECB resort to those measures not only in exceptional periods but also in normal times, it should be made clear when, how and to what extent some of the instruments would be integrated in the permanent toolkit, hence even outside the ELB constraint. In the next review, it will also be important to explain how the stance of monetary policy is signalled when there is excess liquidity. Actually, with excess liquidity, the overnight market rate does not fluctuate around the MRO rate but is closer to the rate on deposit facilities, which is now considered as the policy rate.

## 4.2. Key issues under an updated mandate

In the following, while we do not object to the primary objective of price stability endorsed by the ECB, we propose opening a discussion on the quantitative definition of price stability.

### 4.2.1. The measure of inflation: domestic vs. international components

One reason to review whether the ECB should revise its monetary policy strategy is related to the effects of globalisation. Inflation rates could be determined more and more by global factors such that monetary policy targets a variable that it cannot control, or controls only a small share of the dynamics of this variable.

The review should investigate to what extent inflation in the EA is determined by global factors such that real activity of trade partners, oil shocks, import prices, international competition, etc. A good knowledge about inflation and its determinants is central to optimal monetary policymaking. Inflation is crucial in the implementation of monetary policy: it is not only an important objective – the mandate of the ECB is to achieve price stability – so that *ex post*, a gap *vis-à-vis* the objective may be interpreted as an indicator of monetary policy ineffectiveness; but *ex ante* inflation (or inflation expectations) is also triggering monetary policy; for instance, after inflation has increased, a restrictive monetary stance is implemented. Then central banks should not only consider relevant information when assessing the risk to price stability but also be able to influence the variable which they target. As a matter of fact, central banks should not be held responsible for missing a target they do not influence, a situation which will happen if inflation is mainly driven by global factors.

A distinction between headline inflation and the so-called core inflation is already widely used to inform policymakers’ decision. However, this distinction should also be used in the mandate of the central bank. Usually, core inflation is the difference between headline inflation and inflation of energy products and commodities as if the latter were the sole global factors behind inflation. However, if there are some others and they are not fully accounted for, core inflation will not be useful as an assessment tool of domestic-driven inflation. In contrast, if one estimates the share of global inflation in headline inflation, the ensuing difference between headline and global inflation will be genuinely

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<sup>12</sup> See here: <https://www.ecb.europa.eu/explainers/topic/non-standard-measures/html/index.en.html>.

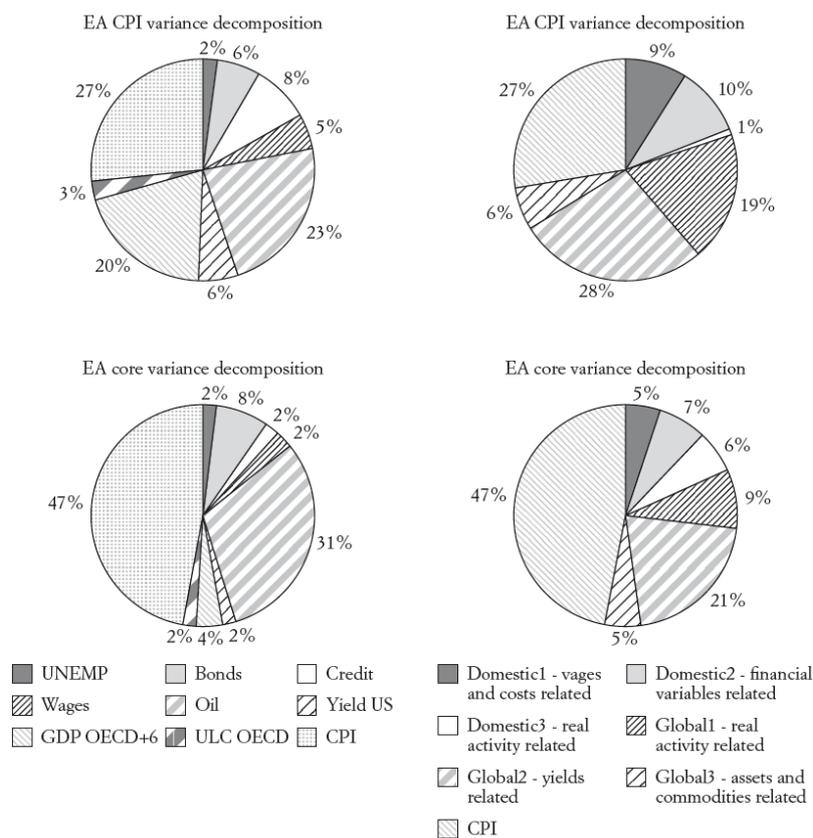
domestic; it will provide a proper assessment of the domestic market mismatches and will be useful as a guide for optimal economic, public and structural policies.

The "Great Moderation" has spurred a contrasted literature on the impact of globalisation on inflation. Gamber and Hung (2001) argued that globalisation does not lead to less inflation but produces higher sensitivity to foreign economic conditions. According to Ball (2006), globalisation has contributed neither substantially nor negatively to the inflation process. Conversely, Ciccarelli and Mojon (2010) show that inflation in industrialised countries is largely a global phenomenon where inflation rates have a common factor that accounts for nearly 70% of their variance.

The lack of consensus on the global nature of inflation raises the issue of the definition of global factors. Blot et al. (2016) estimate two models, one with observable variables capturing global and domestic factors, the other using principal component analysis to generate global and domestic factors, to investigate this question. Using the first model, they find that domestic determinants of inflation capture a relatively small portion of inflation, i.e. about 20%; with only less than one-third related to the labour market (wages and unemployment). Global determinants are prominent in explaining inflation, with global output and the price of oil capturing significant portions of inflation with contribution above 20% each. Quite interestingly, oil prices explain up to 30% of the variance of core inflation. This is at odds with what a core index of inflation is meant to represent, i.e. a domestic-driven inflation. As it stands, the uncorrected ECB's core inflation is not informative about the domestic determinants of inflation.

The second model shows a similar picture on global determinants. The contribution of global factors to inflation is more than twice that of domestic factors, whatever the inflation index. The model also highlights the substantial contribution of factors related to foreign yields; they explain between 20% and 30% of the variance of CPI or core inflation. These results suggest that CPI, which is the inflation indicator targeted by the ECB, is substantially explained by global factors, around 50%, whereas only a quarter of the variability of inflation is driven by domestic factors. The remaining quarter is explained by past CPI. Results explaining the variability of core inflation also show a larger influence of external factors than domestic ones. Conclusions are twofold: first, inflation, not only headline but also core inflation, in the EA is largely driven by global factors, and, second and consequently, a substantial part of inflation is out of control of the ECB.

**Figure 4: Variance decomposition of EA headline and core inflation**



Source: Blot et al. (2016).

The global nature of EA inflation raises the question of whether the ECB is able to control inflation, in accordance with its mandate. The ECB cannot be expected to have a direct influence on the “global” part of inflation, and its ability to reach its mandate should be assessed with respect to its ability to control the remaining “domestic” part.

Blot et al. (2016) also show that the ECB is able to control the domestic part of inflation. This finding raises an important policy recommendation, that of a change in the inflation target pursued by the ECB. The ECB mandate of “price stability” will remain adequate provided the ECB targets a domestic index (that it can control) rather than an overall CPI index (that it cannot control). In this respect, targeting an index that corrects only for the evolution of some regulated and some volatile prices like core inflation is not adequate. With the ECB missing its inflation target for more than 8 years now, the question of the definition of the variable used to define its mandate is crucial for the credibility of the institution in the long-run.

#### 4.2.2. The heterogeneity of country inflation rates

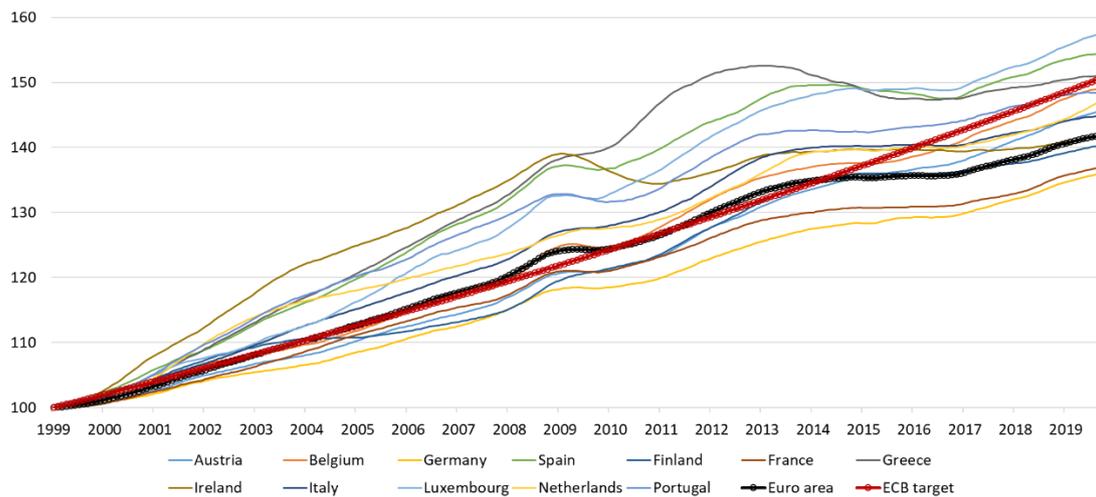
Another reason to review whether the ECB should revise its monetary policy strategy is related to the effects of heterogeneous inflation rates in the EA. While the overall EA inflation rate could be in line with the ECB mandate, country inflation rates could be very heterogeneous in the meantime such that price levels between country groups tend to diverge.

The review should investigate to what extent the mandate of the ECB should be expressed in terms of the overall EA inflation or should also take into account the heterogeneity of country inflation rates. An overall EA inflation rate in line with the target with country inflation rates all off the target raises 2

issues. First, heterogeneous inflation dynamics may help but also be detrimental to real convergence. The synchronisation of inflation dynamics would also be one way – even though modest – to achieve synchronisation of economic cycles in the EA. Second, because monetary policy decisions are taken based on EA aggregate variables, the policy stance would be different for countries if their inflation rates are different. Eventually, policy could be too tight for half of the EA countries and too loose for the other half with the setting of policy tools satisfying nobody in the EA.

The figure below shows the evolution of the price level of most of the countries of the EA together with the EA aggregate price level (blue) and the price level if the EA aggregate price level had been in line with the ECB target for all years. After 20 years, the difference between the two extremes is more than 20 percentage points. The question of the heterogeneity of inflation rates should therefore be investigated in the review.

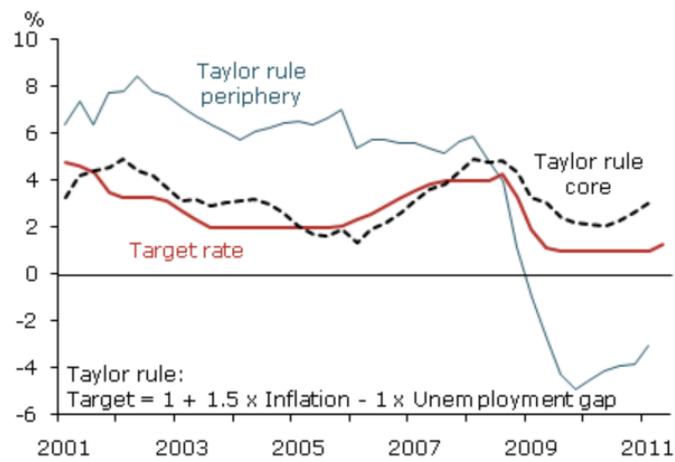
**Figure 5: Heterogeneity of inflation dynamics**



Source: ECB SDW.

The figure below – taken from Nechio (2011) – shows the impact of different inflation (and unemployment) rates at the country level on the way the monetary policy stance affects each country. The figure illustrates a marked divergence between the peripheral countries of Greece, Ireland, Portugal, and Spain and the core European countries of Austria, Belgium, France, Finland, Germany, the Netherlands and Italy. Nechio (2011) argues that although Italy is often categorised as a peripheral country, its inflation and unemployment rate are more comparable to those of core countries. In the periphery, monetary policy was too loose up to 2008 and not loose enough then. It would be relevant for the review of the ECB monetary policy strategy to take account the issues raised by heterogeneous inflation rates.

**Figure 6: Taylor rule estimates of the ECB rate for core and periphery countries**



Source: FRBSF Economic Letter 2011-18. Data: Eurostat, OECD.

## 5. FURTHER ALTERNATIVES TO CONSIDER FOR THE REVIEW

When reviewing the ECB's monetary policy strategy, it can be insightful to contemplate a few alternatives. They all require enlarging the scope of the review.

### 5.1. A model shift

The underlying theoretical model on which this strategy rests is important for the review. The model gives insights on the optimal features of monetary policy that guide the review. The content of the review would have to change if the underlying model shifted to a new one.

Since the Review of 2003, the development of Dynamic Stochastic General Equilibrium (DSGE) models towards the inclusion of fiscal policy (see Davig and Leeper, 2006, 2011) has modified the perception of the optimal setting of monetary policy. Indeed, in contrast with the seminal model of Smets and Wouters (2003), Davig and Leeper (2006, 2011) introduce the intertemporal budget constraint in a DSGE model and study the interactions between monetary and fiscal policies on equilibrium consumption, output and inflation. In this respect, the review of the monetary policy strategy has to include a thorough analysis of the strategical relationships between the ECB and EA governments. The independence of the former *vis-à-vis* the latter does not preclude a policy influence of governments on the EA optimal policy mix. If, for any reason, governments have deviated from a debt-stability-oriented policy, the optimal monetary policy shall not be restrictive (as it would foster default risk for governments) but expansionary (Leeper, 1991).

The development of other macroeconomic models, notably those with heterogeneous agents, nominal rigidities, incomplete markets and inequality features (like HANK for Heterogeneous Agents New Keynesian model, see Kaplan et al., 2018 already cited in section 3.3) has also had an impact on the design of an optimal monetary policy and on its main channels of transmission. Indeed and like in a modern (post-2003) DSGE model with fiscal interactions, a HANK model introduces a non-Ricardian setting for fiscal policy (neutrality between public debt and taxes does not hold) that raises coordination issues with monetary policy.

Hence, while the ECB monetary policy strategy was reviewed against the backdrop of a pre-2003 DSGE model, there was no need to review the interactions with fiscal policy. However, in so far as the underlying model to evaluate the optimality of the overall strategy changes and introduces the realistic assumption that not all households are able to smooth consumption on a long-term horizon, the interactions between fiscal and monetary policies need scrutiny. Moreover, during financial crises or at the ZLB, Buiter (2004) argues that the monetary and the fiscal authorities should cooperate. Reviewing the functioning of their cooperation is thus important.

### 5.2. A radical change in the ECB mandate

A radical change in the ECB mandate is worth discussing for at least, it would permit to evaluate the current strategy and the current mandate against an alternative.

The ECB mandate of price stability is empirically consistent with the pursuit by the ECB of an *ex-post* monetary policy rule that gives a non-zero weight to real activity (e.g. Blot et al., 2015). While this result may be interpreted as exemplifying the flexibility of the current mandate, it may highlight two possible defaults with this mandate: first, it does not make it legitimate to review the monetary policy strategy against a secondary objective like real activity. However, it may overlook the evaluation of the ability of the ECB to support real activity in the EA against, for instance, the backdrop of its macro projections which participate in the ECB communication strategy. Second, the gap between the official mandate and monetary practice introduces discretion in the latter. While it gives some leeway in the

interpretation of the mandate by the Governing Council, it may have an impact on the ability of the ECB to anchor private expectations.

Reviewing the monetary policy strategy against the alternative of a dual mandate would limit the scope for an under-estimation of the ability of the ECB to support real activity; meanwhile, it would also shed light on the occurrence of discretion in the interpretation of the mandate by the Governing Council, i.e. after a deviation from the expected price-stability-based monetary policy, and then measure the induced costs and benefits of discretion.

Finally, the global and European crises have shown the extent to which financial and banking instability could be detrimental to economic growth (Arcand et al., 2015). Moreover, a period of banking fragility, highlighted e.g. by a rise in non-performing loans, tends to imply deleveraging and reduced risk-taking by banks (Creel et al., 2019). Both situations may trigger a monetary reaction by the central bank to ensure sufficient market liquidity, although price stability would still be achieved.

Evaluating the monetary policy strategy of the ECB without taking due account of this financial context can be potentially misleading. It may thus be recommended to review the monetary policy strategy against the alternative of a triple mandate, in which financial stability would be included in the objectives of the ECB. It would limit the scope for a misinterpretation of monetary policy. It would then put potential doubts that the monetary policy framework behind the policy is ill-designed into perspective.

### **5.3. Climate change and the central bank mandate**

With the year 2019 about to be the most tragic year for extreme weather worldwide over the last decades, the question of whether climate should be part of central bank mandates has been raised. This question can be traced back to a 2015 “tragedy of the horizon” speech by Mark Carney, the Governor of the Bank of England. According to him, central banks have “a clear interest in ensuring the financial system is resilient to any transition”. Climate change may affect economic activity and asset prices, especially the cost of food and energy, creating potential inflationary effects. Climate change poses a risk to financial stability, and so, looks like a central bank concern. Eventually climate change through a rise in extreme weather incidents could spur more volatile economic developments, and so would make monetary policy decision-making more difficult. Once renewable energies will be more advanced, they would cause a decline in traditional sources of energy prices. This would constitute a positive supply-side shock pushing the general level of prices down. If the transition is too slow, there is a risk that the fall in energy prices transmits to a fall in long-term inflation expectations.

Christine Lagarde, the ECB’s new President, announced to the European Parliament in September this year that the ECB needs to make climate change a priority because it poses “macro-critical risks”. In November 2018, Benoit Coeuré was saying at a conference on the role of central banks in green finance that “The ECB, acting within its mandate, can – and should – actively support the transition to a low-carbon economy”, for instance by introducing Environmental, Social and Governance (ESG) criteria for the selection of asset purchases. In November this year, the Riksbank announced that it will sell its holding of sovereign debts from coal-producing provinces of Queensland and Western Province in Australia as well as of Alberta in Canada, which invests in oil sands extraction. “We will not invest in assets issued by issuers with a large climate footprint,” said the Swedish central bank’s Deputy Governor Martin Flodén. However, the ECB actions are still far from those of the Riksbank. The ECB currently holds bonds from fossil fuel companies through its Corporate Sector Purchase Programme: it invests unknown amounts in high-carbon companies such as Shell, Eni and Total. The review of the ECB’s monetary policy strategy should also investigate the role that this public institution wants and needs to play in fighting climate change.

## 5.4. Reviews elsewhere

A comparison of the review process with earlier experiments in other countries can bring insights on the best practices that other central banks have adopted. In the following, we only mention two recent experiences in this regard that may be worth considering before the review of the monetary policy strategy.

In 2012 and 2014, it is remarkable that the Bank of England asked individual and external experts, David Stockton in 2012 and Kevin Warsh in 2014, both former members of the Federal Reserve, to conduct a review of forecasting and transparency at this institution. It is also remarkable that some of their recommendations were adopted swiftly.

In contrast, the Federal Reserve Board and its Reserve Banks are conducting 'Fed Listens' events. During these events, a broader range of individuals have participated in hearings. They include business and labour leaders, community development professionals, and academics. 'Fed Listens' events are not exclusively related to monetary policy and monetary policy strategy *per se*. They also give information to the Fed officials on how firms are dealing with the scarcity of qualified labour force, on how they are filling training gaps and how they adjust flexibility in the workplace (modifying entry requirements and working arrangements) (Clarida, 2019).

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Time is ripe for a review of the ECB strategy: the economic context and the audience for communication have changed, and the tools for policy decisions and for analysing the environment have expanded. The definition of the inflation target, the two-pillar strategy and the use of “non-standard” policy measures need discussion. A change in the ECB mandate is also worth discussing for it would permit to evaluate the current strategy and mandate against an alternative.

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