

IN-DEPTH ANALYSIS

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Euro@25: Where has the euro area been? Where does it go from here?



Where Has the euro area been? Where does it go from here?

Abstract

When it comes to the euro, policy makers should not follow the expression: "if it ain't broke, don't fix it". A review of the first 25 years of the euro suggests that mistakes were made. Yet, the ECB has also been remarkably adaptable under difficult circumstances. Improvements to the resilience of the euro area are possible. This paper looks back over an eventful quarter century and offer a peak into the euro area's possible future challenges.

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LIST OF ABBREVIATIONS

CBDC	Central Bank Digital Currency
CEPR	Centre for Economic Policy Research
ECB	European Central Bank
EP	European Parliament
EMU	Economic and Monetary Union
ESDC	Euro Sovereign Debt Crisis
ESCB	European System of Central Banks
EU	European Union
EUR	Euro
GDP	Gross domestic product
GFC	Global Financial Crisis
HICP	Harmonised index of consumer prices
NextGEN EU	Next Generation EU
NICE	Non-inflationary Constant Expansion
UMP	Unconventional Monetary Policies
USD	US dollar
US	United States

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EXECUTIVE SUMMARY

- **Economic and Monetary Union (EMU) has proved resilient throughout a quarter century. This is not to say that improvements cannot be made.**
- Policy mistakes have been made but the European Central Bank (ECB) has also found a way to adapt to the many large shocks it has sustained over the last 15 years especially.
- Overly focusing on mean inflation ignores sources of concern about the ECB performance found in the higher moments of inflation behaviour.
- In terms of policy delivery, the pendulum has swung too far in the direction of backward-looking monetary policy. Monetary policy needs to return to a more forward-looking stance.
- The ECB should try, whenever possible, to 'stick to its knitting' and avoid interfering or becoming embroiled in debates about digitalisation and climate change finance.
- Over the longer-term there are governance questions that will need addressing requiring a Treaty change. For the foreseeable future, however, this is off the table.

1. INTRODUCTION: STICKING TO YOUR KNITTING IS HARD TO DO

The euro must, it seems, live with the possibility that it might not survive. Even before the single currency became a reality, scepticism was rife about the novel experiment of sovereign nations binding themselves to a single currency. For example, Jonung and Drea (2009) collected the views of a large number of US academics and policy makers who concluded that the euro could not happen, that it was a bad idea, and that it would never survive. Angst about the single currency has not diminished, despite the emergence of new ‘fault lines’ between member states (Ahamed, 2012; Eichengreen and Wyplosz, 2016; The Economist, 2023).

The good news is that the series of large shocks since 2008, namely the GFC, the Euro Sovereign Debt Crisis (ESDC), Brexit, the global pandemic of 2020-2023, namely COVID-19 pandemic and the ongoing Russian invasion of Ukraine, have not seemingly changed the prospects for the demise of the single currency. Indeed, the EU, which consists of the euro area plus several countries which have retained their currency¹, most of which are expected someday to join the common currency area, continues to receive not only high favourability ratings but manages to generate optimism about its future.² This suggests that the euro has, so far, met the test of resilience.

That said, this paper proposes that policy makers should not adopt the position that, in the case of the euro, “if it ain’t broke, don’t fix it”. A review of the first 25 years of the euro suggests that mistakes were made. However, improvements to the resilience of the euro area are possible. What follows then is a look back over a highly eventful quarter century as well as a peak into a possible future scenarios when the euro will hopefully celebrate a half century of existence.

My vision for the Euro@25, and EMU more generally, going forward is, however, predicated on a few following guiding principles:

- (1) While the ECB can contribute to the digitalisation debate, it should ultimately adapt to circumstances as they develop. Monetary policy may well be impacted by currency digitalisation (i.e. digital euro), and the ECB should make technical preparations for such an eventuality. However, other than research into the monetary policy and financial stability connections to Central Bank Digital Currency (CBDC), the political element in the debate (i.e., the form a retain CBDC should take, the role of commercial banks, limitations in transferring funds internationally, privacy and safety characteristics, etc.) is outside the remit of the ECB (e.g., see Siklos 2021, 2022, and references therein).
- (2) The ECB should remain neutral in the climate change debate, including the financial aspects. Clearly, the effects of climate change spillover into fiscal, financial, and regulatory matters. To the extent financial stability may be impacted, due to physical and financial damage from the consequences of climate changes, the ECB’s task is to assist governments and other stakeholders who are directly accountable for managing the consequences of climate change. The ECB should not be asked to favour some kinds of financial arrangements over others based on ‘green’ characteristics. Policy directions and applications in this field must come from elected representatives. As with digitalisation, the job of the ECB is to adapt to policy decisions

¹ Although prospective euro area members must meet a series of convergence requirements set out in the Maastricht Treaty. See https://economy-finance.ec.europa.eu/euro/enlargement-euro-area/convergence-criteria-joining_en.

² See, for example, the latest Eurobarometer survey (December 2023): <https://europa.eu/eurobarometer/surveys/detail/3053>. 70% of EU citizens surveyed thought the EU is a stabilizing influence in the world (a high of 91% in Portugal and a low of 55% in Estonia). Around 61% of EU citizens are optimistic about the future of the EU (a high of 83% in Ireland to a low of 47% in France).

outside its remit and not become over-burdened with even more responsibilities that are overtly political in nature.

- (3) Reforms requiring Treaty changes, or a new Treaty, are not envisaged for the foreseeable future. The likelihood of such changes taking place are, I assume, effectively zero over the medium term (i.e., 5 years). That said, some reforms to the Maastricht Treaty are proposed because they are deemed eventually to become necessary.

The past 25 years have led to a widening of the responsibilities the ECB has taken on, as demonstrated in part by repeated rulings by both the German Constitutional and European Courts e.g., see Feld and Wieland, 2021). Stated differently the ECB, not entirely without justification, has found it hard to “stick to its knitting”, that is, monetary policy as it is currently generally understood. As it is stated on the ECB website: *“Here at the European Central Bank (ECB), we work to keep prices stable in the euro area. We do this so that you will be able to buy as much with your money tomorrow as you can today. We also contribute to the safety and soundness of the European banking system. This helps to ensure that your money stays safe in the bank.”*³ Note the use of the word “contribute” implying that the safety of the banking system is a shared responsibility. Note also the almost complete focus on the price stability objective. While it is certainly debatable whether the unconventional monetary policies (UMP) the ECB has engaged in are compatible with *“keep[ing] prices stable in the euro area”*, what is less clear is whether this objective has been met, and the extent to which monetary policy has succeeded or not in helping attain the price stability objective.⁴ Since institutional considerations are also involved, I briefly return to this issue in the concluding section when providing a ‘to do list’ in for the longer-run.

What is a good way to look back at the accomplishments of monetary policy since the euro area was created? Perhaps former ECB President Mario Draghi said it best when we defined the limits of monetary policy in the following terms: *“One is the willingness to act, another is the capacity to act, and the third is the effectiveness of our actions.”*⁵ I have little doubt that the ECB has repeatedly demonstrated willingness and capacity to act in seeking to meet its monetary policy objective. Debate then partially centres around its record and effectiveness to which I now turn.

³ <https://www.ecb.europa.eu/ecb/html/index.en.html>.

⁴ Part of the difficulty with assessments of UMP is that they can be sensitive according to whether one focuses on the real economy or the financial system. See, for example, Ouerk et. al. (2020) or Dell’Ariccia (2018).

⁵ Committee on Economic and Monetary Affairs - Monetary Dialogue with Mario Draghi, president of the European Central Bank (pursuant to Article 284(3) of the TFEU) Brussels, 15 February 2016. See <https://www.europarl.europa.eu/cmsdata/97664/15.02.2016EN.pdf>.

2. LOOKING BACK 25 YEARS: HOW NICE?

2.1. What's NICE?

To many economic observers the desideratum of monetary policy is the NICE state, that is, non-inflationary constant expansion. The term was coined by former Bank of England Governor Mervyn King (2003) to describe economic conditions that prevailed during the 1990s. To what extent has the euro area economy, since the single monetary policy came into being in 1999⁶, been NICE? What is the economic record of the euro area since 1999 and how much of the responsibility should be laid at the feet of monetary policy?⁷ To address this question, I consider the following indicators:

- (i) Interest rate spreads;
- (ii) Inflation gaps: gap between observed and targeted inflation. This goes to the issue of credibility (Bordo and Siklos, 2022). In addition, gaps between euro area inflation and US or China's inflation rates to highlight the role of global factors;
- (iii) How has the relationship between inflation and output gaps, and inflation versus output gap volatility changed over time in the euro area and the US? How similar or different are they? This refers to the so-called Taylor principles (Nikolsko-Rzhevskyy, et. al., 2019) that define the 'optimal' conduct of monetary policy. Perfection is never to be expected but it is useful to know how far from the ideal the ECB has been over its existence.

I further extend (iii) by estimating deviations in the ECB's policy rate relative to calibrated monetary policy rules to dig deeper into asking whether these deviations are associated with asset prices (housing, credit, exchange rate).⁸ If so, this highlights the potential trade-offs between monetary policy and financial stability objectives. It is a trade-off that is not likely to disappear in future but how this relationship is governed is an important future policy challenge.

2.2. Evaluating ECB performance over 25 years

2.2.1. Interest rate spreads

Interest rate spreads, notably the differential between long and short-term government bond yields are said to have predictive content for economic downturns. While there are many such spreads two especially have attracted attention over time, namely the *10 years – 2 years* and the *10 years – 3 months spreads*.⁹ That said, the literature reports mixed results as well as a deterioration in recent years in the information content of yield spreads for future economic growth and inflation. There is also some evidence that the usefulness of spreads as economic indicators differs as between the US and the euro area (inter alia, see Wright, 2006; Chauvet and Potter, 2005; Moneta, 2005; Chinn and Kucko, 2015; Benzoni et. al., 2018).

Theory suggests that in, normal times, long-short yield spreads are positive in part to compensate for differences in holding periods (i.e., the term premium). However, when spreads decline or become inverted, this signals short-term government bond yields that exceed long-term ones which is

⁶ Cash was first introduced in 2002 in 12 EU countries. See <https://www.ecb.europa.eu/euro/intro/html/index.en.html>.

⁷ Mervyn King's 2003 speech predicted that the 2000s would not likely remain NICE.

⁸ Hofmann and Bodganova (2012) perform similar calculations but do not consider as many alternative formulations of the Taylor rule nor do they empirically investigate the determinants of departures from calibrated monetary policy rules. However, they do discuss the role of global factors and the decline in the neutral real rate. See also below.

⁹ To conserve space, readers can see charts of the two spreads referred to above, respectively, at following [link](#).

suggestive of poorer economic prospects and/or a surge of inflation. In the case of the former, higher shorter rates relative to long-term yields suggests that financial markets are expecting lower short-term interest rates (e.g., see Fleming, 2023).

The impact of the recent inflation surge on spreads is quite apparent in the data, beginning in 2022, when yield spreads turn negative. Indeed, by late 2023, the spread between 10 years and 3-months yields approaches -2%, a value never seen in the 25 years history of the euro area. Yet, if one compares spread behaviour with recession dates as identified by the CEPR¹⁰, spreads do a poor job as a harbinger of an imminent recession.¹¹

Yield spreads are positive and close to 2% during the GFC and ESDC eras, which is between 2008 and 2013. They drift down to the 1% range during the brief recovery between 2015-2018 before starting to trend into negative territory. Indeed, the history of spread behaviour in the euro area appears to be slow declines followed by brief reversals. If the record of spreads is informative about the ECB's performance over the past quarter century then, with the exception of the ongoing inflation surge, they appear to reflect the low inflation environment and the assumption that the central bank has a bias in the direction of policy easing.

2.2.2. Gaps

Arguably, a more telling indicator of ECB performance asks about inflation performance. After all, the Maastricht Treaty clearly assigns price stability as the central bank's principal task.¹² How to assess inflation performance? Economists are fond of using gaps to assess the record of monetary policy. Since gaps refer to a differential between what is observed and a target, they represent a convenient way to assess misses from some chosen or desirable outcome. Of course, there are many candidates for gaps. Below we consider a few to interpret the record of EMU since it was created.

Table 1 presents summary statistics of the difference between observed inflation and the 2% objective for the euro area and the US. On average the record of the ECB is superior to that of the US Federal Reserve. Indeed, the record of inflation in the euro area since 1999 appears exemplary. Of course, it must be remembered that the period examined includes periods of below average as well as a more recent period of well above average inflation. This is true for both the ECB and the US Federal Reserve. Accordingly, it is worthwhile to consider other indicators of the performance of the inflation gap. Inflation gaps are considerably more positively skewed in the euro area than in the US. Hence, the tails of inflation are relatively 'fatter' in the single currency area, an indication that larger positive values of the inflation gap are more common in the euro area relative to inflation gap performance in the US. Since the ECB is primarily focused on controlling the inflation, this suggests, if we move beyond the first moment, less of it than for the US central bank which touts its dual mandate (i.e., inflation and "maximum employment").¹³ Indeed, the fourth moment of the inflation distribution, that is, kurtosis, is also much higher in the euro area than in the US. Kurtosis is sometimes thought of as a shorthand indicator of uncertainty since higher values indicate the presence of more extreme values. If so, then the success of the ECB in minimising the average inflation gap over its existence is not matched by a

¹⁰ The chronology is available from <https://eabcn.org/dc/chronology-euro-area-business-cycles>.

¹¹ Similar yield spreads in the US have also inverted although not to the same degree, especially in the case of the 10 year – 3 month spread. See <https://fred.stlouisfed.org/series/T10Y2Y> and <https://fred.stlouisfed.org/series/T10Y3M>.

¹² Article 2 of the ESCB Statute states that "the primary objective of the ESCB shall be to maintain price stability. Without prejudice to the objective of price stability, it shall support the general economic policies in the Community with a view to contributing to the achievement of the objectives of the Community. . . . The ESCB shall act in accordance with the principle of an open market economy with free competition, favouring an efficient allocation of resources." See page 7 in <https://www.ecb.europa.eu/pub/pdf/other/ecbinstitutionalprovisions2011en.pdf>.

¹³ See <https://www.federalreserve.gov/monetarypolicy/monetary-policy-what-are-its-goals-how-does-it-work.htm>.

reduction in uncertainty about inflation. Finally, inflation gaps in both monetary areas are roughly equally likely to be positive or negative so there appears to be relatively little bias in the sign of inflation gaps. This implies an approximate equal chance that inflation will be above or below the 2% target.

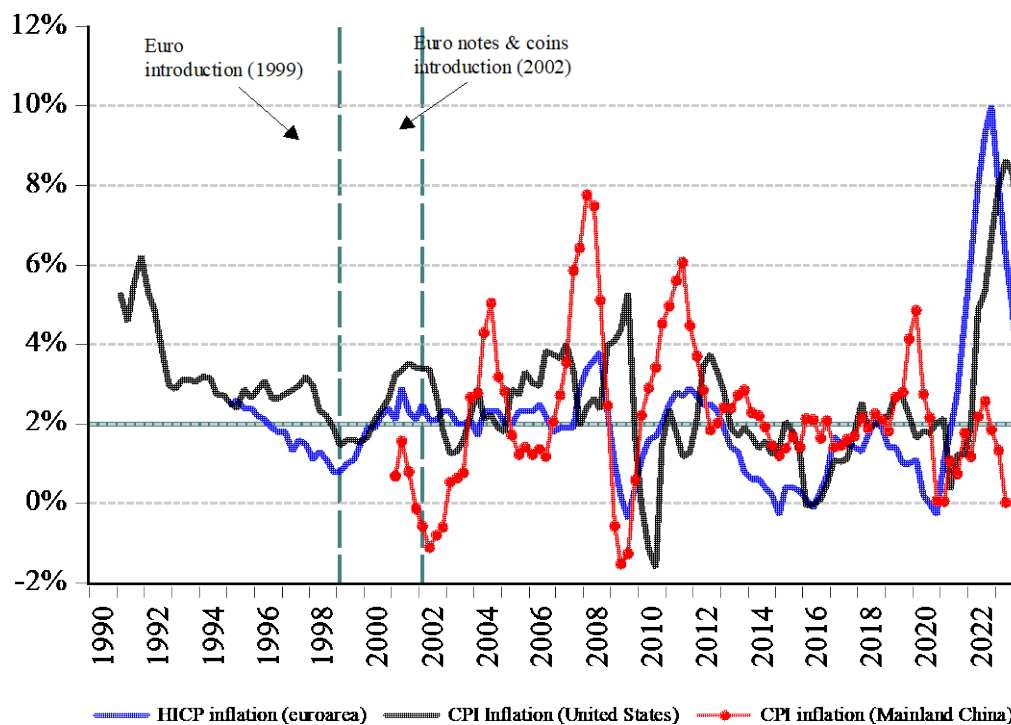
Table 1: Summary statistics: Inflation gaps in the euro area and the US, 1999-2023

Geography	Mean	Standard Deviation	Skewness	Kurtosis	Sum	% Negative
Euro area	0.09	1.82	2.22	9.29	9.40	51
United States	0.54	1.74	1.20	5.66	53.59	42

Sources: ECB Data Portal, <https://data.ecb.europa.eu/> for euro area data, Federal Reserve Economic Data for US data, <https://fred.stlouisfed.org/>.

Notes: Inflation gap is observed HICP (euro area) or CPI (US) annualised inflation less 2% which is assumed to be the inflation target. Data used are quarterly. The sample is 1999Q1-2023Q3. % negative refers to the fraction of the sample when observed inflation is below the 2% inflation target.

Figure 1: Inflation in the euro area, the US, and China, 1990-2023



Sources: See Table 1 and China’s Macroeconomy; Time Series Data, <https://www.atlantafed.org/cqer/research/china-macroeconomy>.

Notes: Data are quarterly for the samples shown in Table 1. For China data end with 2023Q2. The vertical lines, 1999Q1 and 2001Q1 respectively, refer to the dates of euro introduction and the introduction of euro notes and coins into circulation. The 2% horizontal line is assumed throughout. Prior to 1999 data are constructed from the ECB Data Portal (see Table 1).

As noted above, however, there are other ways of thinking about inflation gaps. Throughout much of the 1990s until the early 2000s there were suggestions that inflation performance in advanced economies was significantly influenced by inflation in China (e.g., see Chen and Siklos, 2022). Despite theory which predicts that a floating exchange rate regime insulates against imported inflation, empirical evidence suggests that significant pass-through effects can remain. There is ongoing debate about how large they are and how they may have changed over time with some evidence that central

banks' focus on inflation has reduced pass-through effects (e.g., Ha et. al., 2020) A side-effect of the recent COVID-19 pandemic and the subsequent recovery has been a reversal of the decline in pass-through effects as aggregate supply constraints contribute to rising inflation (e.g., see Shapiro, 2022).

Table 2 repeats the exercise shown in Table 1. However, the gaps now considered are differences in inflation between the euro area and the US and China, respectively. This is accompanied by Figure 1 which plots CPI inflation for the euro area (HICP inflation), the US, and China. Data limitations mean that the sample for China is shorter. On average, inflation in China and the euro area are comparable and, consistent with the results of Table 1, the data reveal that euro area inflation rates have been on average almost 0.5% lower than in the US. Indeed, the cumulative difference in inflation rates (last column of Table 2) between euro area and US inflation rates has been large. The gaps shown in Table 2 are modestly positively skewed and the values for kurtosis suggest considerable uncertainty in the behaviour of inflation gaps. Arguably, this may be partly due to exchange rate volatility associated with floating exchange rates (results not shown). Figure 1 further shows that, other than for the most recent surge in inflation that began in 2021, inflation does consistently vary around the 2% objective in all three economies considered. What differs is the volatility around the 2% objective which is consistent with the summary statistics shown in Tables 1 and 2.

The bottom line is that a focus on average inflation performance can be misleading and incomplete. While average inflation suggests that the ECB has largely lived up to the objective it has set for itself, the behaviour of inflation more generally, as measured by other moments in the distribution of inflation gap performance, shows that there is little indication that large variations and uncertainty in inflation have been prevented. Finally, a casual examination of differences in inflation performance between the euro area and the US or China suggest that the floating exchange rate may well have helped insulate the single currency area from external inflation shocks. Inflation performance also appears sufficiently different in the three economies shown to suggest that euro area inflation is, arguably, largely self-made.

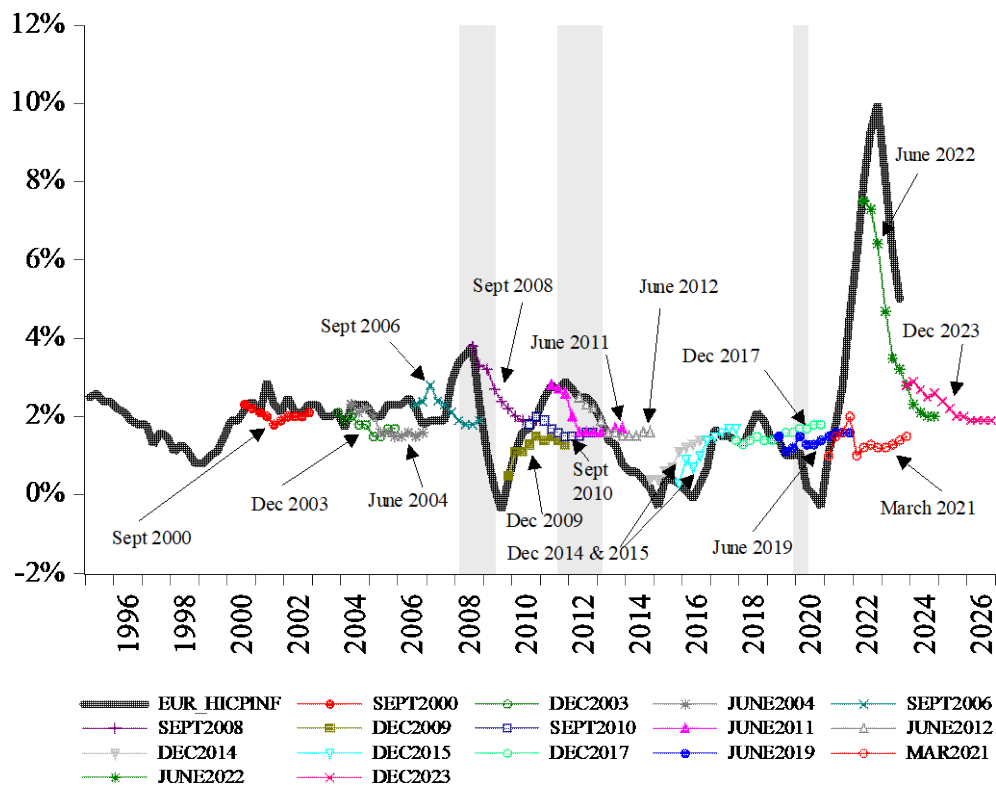
Table 2: Summary statistics: euro area, US, China inflation gaps, 1999-2023

Geography	Mean	Standard Deviation	Skewness	Kurtosis	Sum
Euro area less US	-0.45	0.97	0.76	4.31	-44.99
Euro area less China	-0.08	2.45	1.12	4.60	-7.63

Sources: See Table 1 and Figure 1.

Note: Author's calculations based on raw data from sources listed above. See Table 1 and Figure 1 for the sample periods.

Figure 2: ECB macroeconomic projections: selected vintages since 2000



Source: ECB Data portal. Also See Table 1.

Notes: *MONTHyear* refers to the date when the HICP inflation projections were published. These are the vintages referred to in the main body of the text. The shaded areas refer to recession periods as published by the euro area business cycle network, <https://eabcn.org/dc/chronology-euro-area-business-cycles>. EUR refers to the euro area and HICPINF is annualised inflation in the HICP at the quarterly frequency.

Table 3: Select household and professional forecast errors: euro area and US

Euro area	Mean	Standard Deviation	Skewness	Kurtosis	Sum	% Negative
EU Commission ¹	2005Q1-2023Q4	-2.11	2.19	4	-8.60	-160.4
Survey of Professional Forecasters ²	2000Q1-2023Q4	0.562	1.97	8.70	-2.38	52.25
ECB Consumer Survey ³	2020Q4-2023Q4	4.58	2.09	6.84	1.00	59.59
United States						
Survey of Professional Forecasters ⁴	1999Q1-2023Q3	0.30	1.45	5.07	-3.41	29.278
U.Michigan ⁵	1999Q1-2023Q3	-0.54	1.26	3.39	-4.24	-53.71

Source: 1. European Commission: Business and Economic Surveys; 2. European Central Bank: Survey of Professional Forecasters; 3. European Central Bank: Consumer Expectations Survey; 4. Federal Reserve Bank of Philadelphia: Survey of Professional Forecasters; 5. University of Michigan: Surveys of Consumers.

Notes: Forecast errors are defined as actual less forecasted inflation. All forecasts are for the one year ahead horizon. % negative refers to the % of the sample when forecast errors are negative, that is, when forecasts are under-estimates of subsequently observed inflation.

Ultimately, however, evaluating the performance of a central bank also requires examining how inflation performed relative either to the central bank's own expectations and, perhaps more importantly, the public perception of the inflation evolving over time. Some indications of the ECB's and the US Federal Reserve's performance are provided in Figure 2 and Table 3.

Figure 2 plots HICP inflation in the euro area against selected ECB projections up to two years ahead. Sixteen vintages of forecasts are shown beginning with the September 2000 vintage until the latest projection (December 2023 at the time of writing). It is quite clear that projections perform reasonably well when inflation is relatively stable (e.g., until 2004 and again between 2014 and 2017). However, ECB projections can be considerably off the mark when inflation is volatile, as seen during the GFC and ESDC, as well as in the aftermath of the COVID-19 pandemic (i.e., after June 2019). Indeed, forecast performance tends to deteriorate when the euro area is in recession as highlighted by the shaded areas in Figure 2. Models can, and have been, blamed for such outcomes (e.g., see Giles, 2023) largely because they are either unable to anticipate large and unexpected future events or incorporate assumptions that later prove to be unsupported by the facts (e.g., ignoring a role for aggregate supply factors). Figure 2 also illustrates once again why a focus only on average inflation performance misses the many persistent and occasionally large departures from the inflation objective ECB set for itself. Large and unexpected shocks may well explain some of these deviations. However, this cannot be the whole story. Policy mistakes are also likely to have played a role.¹⁴ One example is the ECB's decision to raise policy rate twice in 2011 when there was a surge in energy prices and in the midst of the ESDC. Other major central banks chose to wait a few months and see through the price surge until energy prices declined. Once President Jean-Claude Trichet was replaced by Mario Draghi, the ECB reversed course but not before there was additional economic damage.¹⁵ More recently, the combination of policy rates that were too low for too long, the delay in tightening policy when inflation began to surge, and the general tendency of central banks to be backward-looking, all contributed to the uneven performance seen in forecast errors by models, professional forecasters, and consumers.

Table 3 then turns to additional evidence. Summary statistics of inflation forecast errors made by professional and consumers in the euro area and the US are shown. In most cases, forecast errors in the euro area are larger than their counterparts for the US. The volatility of forecast errors is also relatively larger in euro area forecasts. Indeed, the columns labelled MAX and MIN, which indicate the range of inflation forecasts over the sample considered generated by the different groups represented in Table 3, reveal a considerably larger range of potential forecasts by euro area forecasters than their counterparts in the US. Finally, the cumulated forecast errors are also almost always larger in the euro area than for the US. While not proof, together with the results shown in Table 3, they suggest that the ECB has been less credible than the US Federal Reserve. If this is the case, clearly there is scope for the ECB to improve its performance.

2.2.3. Through the lens of Taylor principles

It has become almost an article of faith that central banks pursue their objectives by setting policy as if to follow a predictable policy rule. While central bankers are quick to underscore that rules must be followed in a flexible fashion a large body of research has adopted the Taylor rule (Taylor, 1993) as a

¹⁴ To be fair, the ECB is not alone in being accused of making policy mistakes. See, for example, Bordo et. al. (2023) for the US case. For the ECB see Alcidi et. al. (2022) and Gros and Shamfakhr (2023).

¹⁵ Hartmann and Smets are diplomatic about the era in question. However, they admit that some decisions proved to be premature.

convenient device to assess monetary policy performance. The Taylor rule posits that the central bank ought to set its policy rate by responding to inflation and output gaps. The former is the differential between observed and targeted inflation (e.g., see Table 1) while the latter is an estimate of the difference between observed and potential real GDP. There have been different recommendations about the relative weight that should be placed on either gap in setting the stance of monetary policy (e.g., see Nikolsko-Rzhevskyy, et. al., 2019). For example, in economies where inflation is the primary objective the weight on the inflation gap may be higher than on the output gap. And, despite repeated assurances that central banks do not slavishly follow such policy rules (e.g., Bernanke, 2015), the empirical evidence suggests that it is a useful device to determine whether the stance of monetary policy is too tight or too loose.¹⁶

Derived from the Taylor rule are some principles about best practices in conducting monetary policy. Two especially are worthy of mention. First, that inflation and real output volatility should both decline when monetary policy is conducted with inflation control in mind. Optimal monetary policy seeks to minimise volatility in both gaps. Second, inflation control requires that a monetary policy response, via changing the setting of a policy rate, that should be greater than the size of the change in inflation. This ensures that a positive shock to inflation is met with a rise in the real interest rate (i.e., nominal interest rate less inflation or expected inflation rate), and vice-versa when inflation surprises on the downside (e.g., see Taylor, 1999).

Figure 3 compares the performance of the euro area and the US in inflation and output gap space. The top portion considers the relationship between the two variables in levels. The bottom two figures show the same variables evaluated in volatility terms where they are *proxied* by squaring the levels. The extraordinary periods of the GFC and the post-COVID-19 era are separately highlighted and clearly stand out, as one would expect. Both inflation and output gaps, and their volatility, stand out from the rest during these extraordinary periods. One might perhaps forgive central banks for the post-COVID-19 performance of these variables if the inflation surge was entirely unanticipated. However, to repeat the late Queen Elizabeth's expression used to question policy makers' performance during the GFC, another period of large negative output gap and output gap volatility, there is some justification in asking: "*why did they no one see it coming?*"¹⁷

Other than these two extraordinary periods the scatter plots reveal that the combination of inflation and output gap volatility was closer to the origin in the euro area than in the US. Most notably, output gap volatility has often been higher in the US than in the single currency area. On this score the ECB's performance is positive.

In Figure 4, I turn to exploring the implications of the second sound monetary policy practice derived from the Taylor rule, namely how policy rates have been set over time relative to some 'ideal' which applies the original weights from Taylor (1993). Despite the relatively higher ranking placed on inflation performance at the ECB owing to its mandate, placing equal weights on both inflation and the output gaps is likely not at variance with the views of most central bankers.¹⁸ Once complication that cannot be ignored is the introduction of UMP in the aftermath of the GFC. Since the direct impact of UMP show up in central bank balance sheets, and not in observed policy rates, an alternative approach is to

¹⁶ There are a large number of issues and challenges in interpreting the conduct of monetary policy via a Taylor rule. Space limitations, however, prevent further discussion here. See, for example, Bernanke (2015).

¹⁷ See [https://www.reuters.com/breakingviews/queens-question-returns-with-vengeance-2023-10-06/#:~:text=LONDON%2C%20Oct%206%20\(Reuters%20Breakingviews,biggest%20financial%20crisis%20in%20history.](https://www.reuters.com/breakingviews/queens-question-returns-with-vengeance-2023-10-06/#:~:text=LONDON%2C%20Oct%206%20(Reuters%20Breakingviews,biggest%20financial%20crisis%20in%20history.)

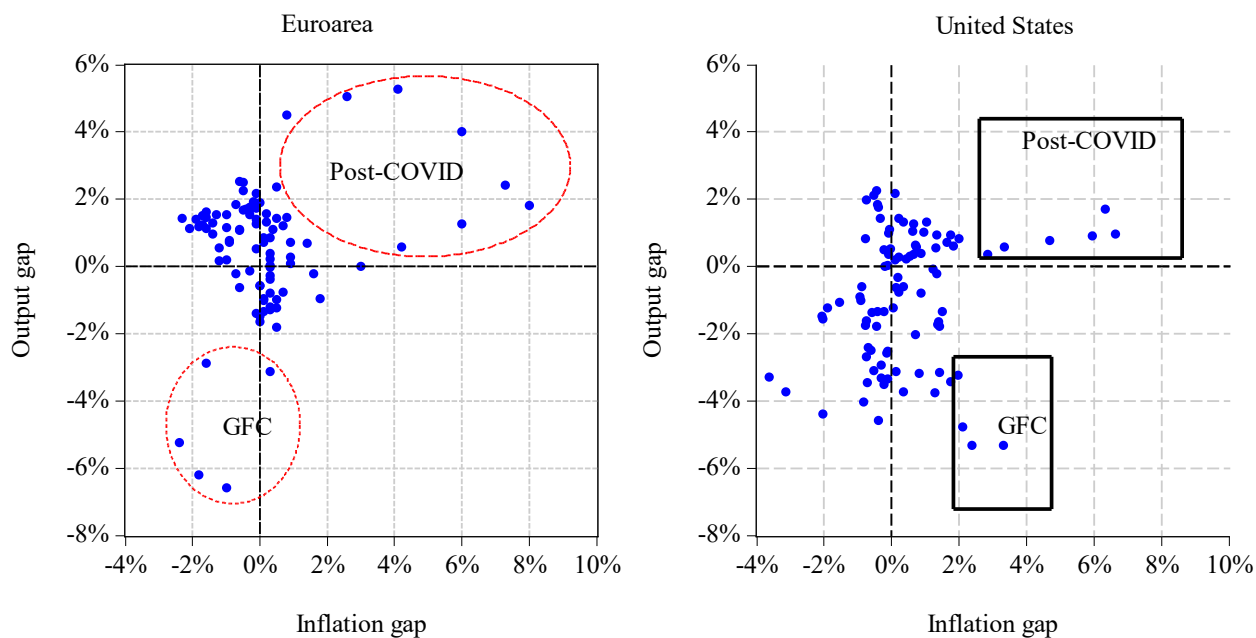
¹⁸ Alternatives were also examined (not shown) and, generally speaking, the conclusions discussed below are broadly unchanged. Indeed, one issue outside the scope of this study but that was taken into account is the possibility that the neutral real interest rate has changed over time. The neutral real rate is the real interest rate when the economy operates at potential.

somehow estimate how UMP would have translated into policy rate changes. Two such estimates, known as shadow policy rates, are shown in Figure 4 (i.e., Wu and Xia, 2016; Krippner, 2019).

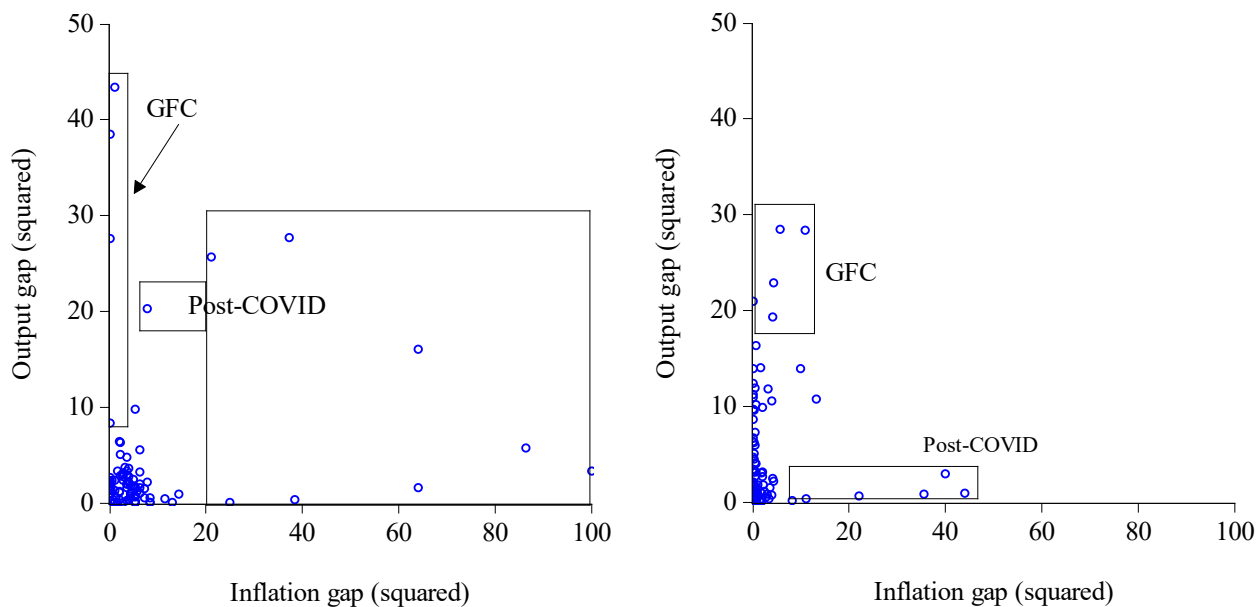
Figure 4 once again compares monetary policy performance in the euro area and the US. R^* in both Figures represents the policy rate recommendation assuming that the central bank follows the Taylor rule, as elaborated in 1993, while the remaining interest rates, or R_s , are the actual policy rates set or shadow policy rates that attempt to incorporate the impact of UMP into policy rate calculations. All rates are in nominal terms. Therefore, when R exceeds R^* monetary policy is too tight. Otherwise, policy is too loose. What remains unclear, however, is how much tolerance one should allow for deviations from what might be considered optimal. In any event, over the ECB's history, policy has been too tight slightly more often at the ECB than at the US Federal Reserve according to the chosen metric. In the case of the ECB this takes place mostly around when EMU approaches and in the first two years of a common monetary policy. In the US case policy is also too tight in the early 2000s around the time of the dot-com bubble. Notice that policy begins to be too tight once again at the very end of the sample, that is, at the end of 2023. This provides some support for recent views that policy has become too tight and central banks, including the ECB, risk leaving policy rates too high for too long to make up for allowing monetary policy to be too loose for too long. Indeed, it is striking that policy has been below, often well under, optimal policy recommendations throughout much of the last quarter century.¹⁹

¹⁹ There is continuing debate about the behaviour of R^* (especially the equivalent in real terms once inflation expectations are subtracted). While there is broad consensus that the neutral interest rate has declined over the past decade or so there is less agreement about what might have driven this decline. See, for example, Obstfeld (2023), references therein.

Figure 3: Graphical representation of the Taylor principles



NOTE: 2020Q1-2021Q2 omitted. Output gap for the euroarea is based on WB data.

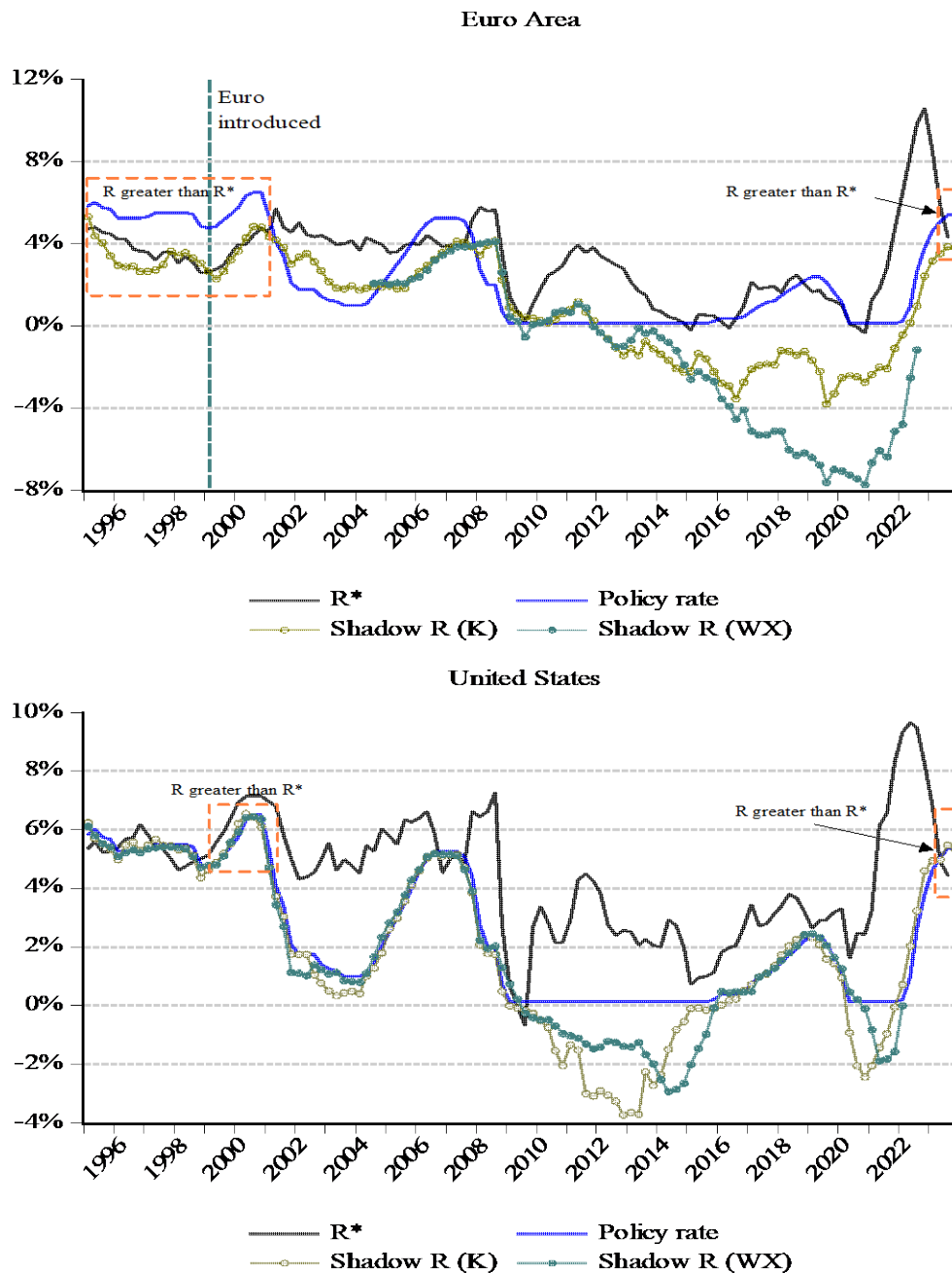


NOTE: 2020Q1-2021Q2 omitted. Output gap for the euroarea is based on WB data.

Source: See Table 1 and author’s own calculations.

Notes: GFC is the period 2008-2009, post-COVID period begins in 2021. Inflation gap is observed inflation (HICP for the euro area and CPI for the US) less 2% for both the US and the euro area. The output gap is the difference between average potential real GDP for Germany, France, Italy, and Spain from the Organization for Economic Cooperation and Development (OECD) Main Economic Indicators, and Congressional Budget Office estimates for the US. OECD data are obtained from <https://www.oecd.org/sdd/oecdmaineconomicindicatorsmei.htm> and US data are obtained via <https://fred.stlouisfed.org/>.

Figure 4: Observed and shadow policy rates, calibrated Taylor rule estimates, 1995-2023



Source: See Table 1, for HICP inflation (euro area), and CPI inflation (US). Observed policy rate from ECB Data Portal. <https://eabcn.org/dc/chronology-euro-area-business-cycles> for r^* (K), <https://sites.google.com/view/jingcynthiawu/shadow-rates> for r^* (WX), and from <https://www.newyorkfed.org/research/policy/rstar> for r^* .

Notes: All values are in nominal terms, that is, estimates of R is r^* plus observed inflation. Data are quarterly for the 1995-2023 period. Observed and shadow policy rates began to diverge in 1995. Taylor (1993) weights are used to estimate R^* . See also Table 4 below.

2.2.4. Deviating from monetary policy rules: some determinants

Can we provide any additional insights about what might explain the persistence deviations from the Taylor rule recommendations? Table 4 provides some answers for the ECB. It is seen that credit, house prices, and real exchange rates all contribute to explaining why central banks allowed observed policy rates to deviate from the recommended stance of monetary policy. A rise in the credit gap, that is, credit

growth that rises faster than trend, generates a looser than desirable policy rate. The same result holds for the real exchange rate. Hence, a depreciation in the real exchange rate (i.e., a rise in the real exchange rate gap), suggestive of a loss in competitiveness, is blunted by a looser than recommended policy rate according to the Taylor rule. The only gap that prompts a narrowing of policy rate deviations from the recommended setting is when house prices rise faster than trend. While the effects of real exchange and house price changes largely offset each other the impact of credit is considerably larger (in absolute value) than the impact of the other two determinants considered. These results highlight one of the main challenges the euro area, together with many other central banks, have faced over the past 25 years, namely that the stance of monetary policy has not been solely geared to responding to inflation and output gaps. Instead, asset prices also help explain how the stance of monetary policy is set. Central banks would argue that these developments reflect a concern for financial stability. Nevertheless, as noted above, the policy choices made have not prevented financial crises nor have they seemingly contributed to improving economic performance more generally.

Table 4: Determinants of the deviations from a Taylor rule, 1999Q1-2023Q2

Dependent variable: deviation from 1993 Taylor rule specification				
Variable	Coefficient	Std. Error	t-Statistic	p-value
Constant	-0.22	0.11	-1.98	0.05
Credit Gap	-0.37	0.04	-9.18	0.00
House Price Gap	0.18	0.05	3.71	0.00
Real Exchange Rate Gap	-0.12	0.03	-3.75	0.00
Adjusted R-squared	0.50			
F-statistic	33.89			
p-value	0.00			

Source: See Figure 4.

Notes: Deviations are defined as an observed or shadow nominal policy rate less the nominal R* using r* estimates from HLW (2017, 2023) and Taylor (1993) for the preferred policy rate, namely, $0.5 * (\pi_t - \bar{\pi}_t) + 0.5 * (\tilde{y}_t)$ where π , $\bar{\pi}$, \tilde{y} are, respectively, observed inflation (annualised rate of change in the HCP for the euro area and the CPI for the US), the inflation target (assumed to be 2% throughout the sample), and the output gap. Std. Error means standard error while t-statistic and p-value are tests of the significance of the estimated coefficients. The lower the p-value, the higher is the t-statistic and, in both cases, the more statistically significant is the estimated coefficient. Adjusted r-squared is the coefficient of determination and indicates how much of the variation is explained by the variables in the regression. Perfect correlation is 1. F-statistic is a test of the joint statistical significance of all the coefficients in the regression.

2.2.5. Conclusions

By at least one metric, namely average inflation, the ECB appears to have done well. However, several other metrics reveal a record that is more mixed. Of course, while not all economic ills can be laid at the feet of the central bank the evidence suggests that asset prices have played a significant role in deciding how the ECB set the stance of monetary policy over the past 25 years. There are also grounds to ask how unusual the last quarter century has been in monetary policy. Policy has been persistently too loose for too long. On the other side of the ledger, however, it must also be remarked that for almost half of EMU's existence, there have been a variety of crises. While it is fair to ask whether the ECB could have better foreseen such crises, and whether crisis responses were appropriate, there are also a number of unanswered questions that have implications for the conduct of monetary policy. I turn to these issues next.

3. THE DOGS THAT DIDN'T BARK AS THE EURO TURNS 25

Central banks ought to be forward-looking. Some of the criticisms about the ECB's performance stem from a tendency to become more backward-looking, a legacy of becoming too 'data dependent'.²⁰ That said, translating forward-looking behaviour into policy is state dependent. During the Great Moderation era when shocks were small it is easier to be far sighted.²¹ However, there are several issues that will challenge the ECB over the coming years. These 'five pack' have been labelled below.

3.1. The issues

3.1.1. The recession that wasn't?

There is no recession yet in the euro area despite the steep rise in policy rates that began in summer 2022 and a sharp drop in inflation in 2023 (from a peak of 10.6% in October 2022 to 2.9% by December 2023²²). Indeed, on this score the euro area has, overall, done reasonably well compared to the US, at least since 1990. The euro area has experienced 16 quarters of recession in the euro area while the US has been in a recession for 14 quarters.²³ The difference is mainly due to the euro area sovereign debt crisis. A soft landing is what everyone is hoping for but, in an area of large and frequent shocks, this is far from given. There are plenty of reasons that the present disinflation can be derailed (e.g., see Schnabel, 2023). Hence, we are witnessing the tension between the expectations of cuts in the policy rate and the conservatism of central banks who have been blamed, as noted previously, for waiting too long to tighten monetary policy.

3.1.2. Geopolitical whirlwinds

The Russian invasion of Ukraine continues but the economic disruption this was expected to create has, so far, been avoided. How much luck (e.g., assisted by warmer than usual temperatures in 2021 and 2022)²⁴ as opposed to policies that simultaneously reduced consumption and ensured adequate energy supplies, remain incompletely understood. Will the next 'black swan' undo this state affairs? As if the list of large geopolitical shocks listed in the Introduction were not enough, the ongoing turmoil in the Middle East adds more worries. As if these events are not enough there are signs of unrest inside the EU and the euro area. See also below where I return to the role of geopolitical factors in driving inflation dynamics.

3.1.3. The coming financial crisis?

Asset prices did not collapse under the weight of the tightening of monetary policy. Nevertheless, three were significant to dramatic changes in some indicators. For example, the credit to GDP gap went from +4.8% in 20Q4 to -6.5% by 23Q2. Similarly, the gap in house prices went from +3.1 in 21Q3 to -3.7% in 203Q2.²⁵ The US experienced similarly large changes in these two asset price gaps. Indeed, the global

²⁰ Jerome Powell, the current US Federal Reserve Board Chair, defines data dependence as follows: "...we like to say that monetary policy is data dependent. We say this to emphasize that policy is never on a present course and will change as appropriate in response to incoming information." See Powell (2019).

²¹ The era, approximately from 1986 to 2006, at least in the US, when volatility in inflation and real GDP growth were both low. Coined by former US Federal Reserve Chair, Ben Bernanke. See Bernanke (2004).

²² Based on data from the ECB, see https://www.ecb.europa.eu/stats/macroeconomic_and_sectoral/hicp/html/index.en.html.

²³ Data for euro area recession are from <https://eabcn.org/dc/chronology-euro-area-business-cycles>. US recession dating is from <https://www.nber.org/research/business-cycle-dating>.

²⁴ According to the European Environment Agency, see at <https://www.eea.europa.eu/en/topics/at-a-glance/climate?activeTab=fa515f0c-9ab0-493c-b4cd-58a32dfaae0a>.

²⁵ Based on author's calculations using data from the Bank for International Settlements. See <https://www.bis.org/statistics/index.htm?m=205>.

economy shows signs of resilience in the face of repeated large shocks over the past 15 years. Will the next financial crisis emerge from a combination of ‘shock fatigue’ or ‘shock complacency’?

There seem to be no signs of an impending financial crisis despite what’s happened in the financial markets in the US and Europe in 2023 (i.e. Silicon Valley Bank in the US, Credit Suisse). The usual indicators are not presaging any future crisis. The ECB’s composite indicator of sovereign financial stress peaked in October 2022 at 0.458 and has since declined to 0.185 by November 2023.²⁶ Similarly, the ECB’s Composite Indicator of Systemic Stress declined from 0.437 on March 24th, 2023 to 0.088 by December 22nd, 2023. Both figures are a far cry from the GFC peak attained on November 28th, 2008 at 0.804.

3.1.4. The EU: chugging along

Politically, and historically, there is a parallel between the performance and success of the EU and EMU. To be sure the two do not overlap completely but it is not unfair to argue that the success of one has an influence on the resilience and the success of the other. Political and economic developments in the EU may well spill over into how resilient EMU will be over time.²⁷ Therefore, positive developments that affect the EU may well have implications for the resilience of EMU even if progress along different political and economic fronts may seem unrelated.

Most notably, the EU finds ways to make progress despite expectations to the contrary (e.g., changes to the Stability and Growth Pact to be enacted in 2024). Why does this matter? One source of unending debate about EMU is that fiscal policy remains largely a sovereign responsibility and this can create a lack of coordination when monetary policy in the euro area is common. Stiglitz (2016), for example, is one prominent author who argues that the euro area’s main failure is the absence of institutions (e.g., a central Treasury) that can navigate the internal economic diversity that characterizes the euro area. Nevertheless, one can also make the equally valid argument that a public finance watchdog, if the SGP is viewed in this light, can also be a means to achieve better fiscal and monetary cooperation or coordination over time. This would allow fiscal policy to remain sovereign but with clearly spelled out constraints. It would also, as we have already seen, not prevent from collective fiscal action along the lines of NextGenerationEU. If, as successive generations of policy makers have shown, the political and economic case for the euro has been permanently resolved, then perhaps it is time to do the same for the fiscal dimension.

Finally, there is even talk of EU enlargement²⁸ so there exists room for the euro area enlargement. An eventual enlargement of the euro area would also increase its economic weight globally. And, with greater economic weight comes the potential for greater political influence on the world stage.

²⁶ Data are available at following [link](#).

²⁷ For example, the EU Commission and the ECB publish convergence reports which outline progress of EU Member States who “...would like to join the euro area.” See <https://www.ecb.europa.eu/pub/convergence/html/index.en.html> and https://economy-finance.ec.europa.eu/euro/enlargement-euro-area/convergence-reports_en. It is notable that admission into the euro area requires not only numerical thresholds be met (i.e., inflation, exchange rates, debt and deficits, interest rates) but compatibility with EU legislation. The latest ECB and EU Commission Convergence Reports (2022) found that only Croatia met the standards, and joined the euro area in 2023, while Sweden was the only non-euro area economy to have met the price stability convergence requirement. Denmark is the only EU country not the subject of a convergence report unless it specifically asks for one. See <https://www.ecb.europa.eu/pub/convergence/html/ecb.cr202206~e0fe4e1874.en.html>, and https://economy-finance.ec.europa.eu/system/files/2022-06/ip179_en.pdf. Countries subject to a convergence report in 2022 were: Bulgaria, Czech Republic, Croatia, Hungary, Poland, Romania, and Sweden.

²⁸ Georgia was granted conditional candidate status in late 2023, accession negotiations are to start with Bosnia and Herzegovina once it has met certain compliance requirements, while negotiations are set to begin with Ukraine and Moldova. See https://ec.europa.eu/commission/presscorner/detail/%20en/ip_23_5633. Six other countries remain on the radar so to speak but are various stages of discussion with the EU or are stalled for a variety of economic and/or political reasons. They are: Albania, Kosovo, Montenegro, North Macedonia, Serbia, and Turkey.

4. CHALLENGES AHEAD FOR THE EURO: WHERE DO WE GO FROMHERE?

The time horizon? Looking ahead for even a short a period is a challenge due to geopolitical, climate, and inflation concerns. What are the issues directly related to monetary policy that are considered? A distinction is made between the short-run (2-5 years horizon) and longer-run (over 5 years).

4.1. The short-run

Table 5: Determinants of euro area HICP Inflation, 1999Q1-2023Q3

Dependent Variable: EUR_HICPINF				
Variable	Coefficient	Std. Error	t-Statistic	Prob.
1999Q2 - 2013Q3 -- 58 obs				
Constant	0.44	0.34	1.30	0.20
Lagged HICP inflation	0.85	0.31	2.73	0.01
Output Gap	0.17	0.07	2.23	0.03
Lagged US CPI Inflation	-0.09	0.15	-0.57	0.57
Lagged Geopolitical Risk	0.09	0.30	0.29	0.77
Lagged M3 Money Growth	0.02	0.02	0.70	0.49
2013Q4 - 2023Q3 -- 40 obs				
Constant	-1.18	0.18	-6.70	0.00
Lagged HICP inflation	0.56	0.05	10.54	0.00
Output Gap (-1)	0.07	0.01	4.73	0.00
Lagged US CPI Inflation	0.48	0.06	7.60	0.00
Lagged Geopolitical Risk	1.06	0.42	2.52	0.01
Lagged M3 Money Growth	0.09	0.04	2.12	0.04
Adjusted R-squared	0.96			
F-statistic	194.57			
Prob (F-statistic)	0.00			

Source: Author's own calculations.

Notes: Least squares estimate of HICP inflation regressed on a constant, HICP inflation and the output gap, both lagged (see Table 1 and Figure 3). M3 growth is from ECB Data Portal (<https://data.ecb.europa.eu/>), and Geopolitical Risk is from <https://www.matteociacoviello.com/gpr.htm>.

Is a 'soft-landing' possible? Financial markets devoted much of 2023 making the argument that a downturn was imminent as the earlier discussion about the behaviour of yield spreads makes clear. As

2024 begins there are more voices suggesting that a recession can be avoided.²⁹ Correctly predicting an imminent crisis, even by prominent voices, is nothing new. The question is whether policy makers and the public more generally are inattentive to such views. While some warnings were made pre-GFC (Rajan (2006), White (2006)) they were largely downplayed or ignored. Hindsight may satisfy those with an agenda, but as Willem Buiter, former member of the Bank of England's Monetary Policy Committee, once said: *"One has to look at the information available at the time and the arguments used at the time."*³⁰ This is what is missing from the extensive review initiated by the ECB in 2020 and published in mid-2021 (i.e., the ECB Strategy Review³¹) and still needs to be carried out. Forecasters' missed the GFC and a little over a decade later, repeated the error in failing to anticipate the post-COVID surge in inflation.

(i) Is higher inflation here to stay?

On balance it is difficult to imagine that the combination of demographics, pressures on public finances, policies to mitigate the effects of climate change, and the threats (i.e., security, loss of privacy) from increased digitisation of economic activity, will make it easy to persistently maintain a 2% inflation target. This does not even include the difficulty to reign in fiscal policy after the loosening prompted by the COVID-19 pandemic (the US experience was notable; see Siklos, 2022). Pressures from the foregoing sources are unlikely to abate, whether or not there is fiscal space, while it is almost an article of faith that populist leaning governments do not appear to be terribly concerned with fiscal constraints. As a matter of research improvements should be sought in improving inflation forecasts. A possible model is the one laid out by Coletti (2023) for Canada. There are other ways to improve forecasts with existing models (e.g., see Murray et. al., 2023).

As many observers have already noted the profession has not done a good job forecasting or understanding the dynamics of inflation (e.g., see Giles, 2023). Table 5 helps illustrate some of the relevant issues. HICP inflation is regressed on some selected determinants and the model is subject to a test that asks whether and when a structural break can be identified. A few salient points can be made from an exercise shown in Table 5. One of the few well-known results about what drives inflation is that it is persistent over time. However, the degree of persistence can also change significantly over time. Indeed, we observe from Table 5 that persistence drops significantly from 0.85 to 0.56 with the change occurring sometime during the ESDC. However, and arguably more interestingly, determinants that were statistically insignificant before the ESDC become significant beginning with the ESDC. Lagged US inflation, geopolitical risks, and money growth all begin to raise inflation in the euro area after 2013. Indeed, both US inflation and geopolitical risks have a quantitatively large impact on HICP inflation while the impact of money growth is relatively small. Only the output gap is a constant influence over the entire existence of the euro area, albeit quantitatively small.

The point of the foregoing exercise is not to argue that the model of inflation estimated in Table 5 is the correct one. This is unlikely to be true. Rather, the exercise suggests that variables that policy makers may not have considered in the past can become relevant in future. It is a plea for central banks to return to being more forward-looking than in the recent past.

(ii) Should unconventional policies be disciplined or be subjected to rules?

Yes. Whether this requires a Treaty change remains to be seen (in part to avoid delays and unnecessary uncertainty emanating from the German Constitutional Court, to give one example). In the meantime,

²⁹ The question was posed in London, in November 2008, at the opening of a new building at the London School of Economics. For example, see <https://www.dailymail.co.uk/news/article-1083290/Its-awful--Why-did-coming--The-Queen-gives-verdict-global-credit-crunch.html>.

³⁰ As quoted in Giles (2008).

³¹ See <https://www.ecb.europa.eu/home/search/review/html/index.en.html>.

rules of engagement that provide sufficient flexibility in case such policies are needed would be desirable but there should also be limits to the ECB's intervention. Governments are the ones who can (e.g., Next GEN EU), and should, step into the breach and not the ECB if the euro area is to avoid a return to secular stagnation.

4.2. The longer-run

Defining price stability, according to the Maastricht Treaty, is left to the ECB. Any future Treaty changes should require the definition to be jointly made by national governments and the ECB.³²

Financial supervision needs to be broader than just commercial banking. Non-Bank Financial Intermediaries (NBFIs) also need to be supervised. More generally, responsibility for financial stability needs to be clearer. Pretending that the ECB cannot be a lender of last resort to government must end. Perhaps a directive that requires the circumstances when EU governments and/or the EU commission lay out the conditions under which it can approach the ECB and the consequences could be agreed to. This would also likely require a Treaty change. The responsibility then for funding or changing monetary policy strategies should reside with politicians and not the ECB.

Fiscal and monetary interactions between the ECB and national governments should be seen and heard as being conducted more formally. Clearer lines of engagement by the central bank need to be drawn by politicians and the ECB, and not ultimately decided by some judiciary, to address when and how the ECB intervenes in the case of a new financial crisis. Draghi's now celebrated intervention may not work a second time and there is no clear indication why this is the task of a central bank. Moreover, just as countries that have fiscal space should use it, so should countries that do not be limited from using it. Perhaps revisions to the Stability and Growth Pact agreed to in principle in late 2023 (final details are forthcoming as this is written) will make progress in this direction as will a more 'robust' fiscal role for the EC commission.

The pendulum may have swung too far in the direction of abandoning rules in favour of discretion while failing to account for the end of the price stability regime, at least for now. Central bankers need to be reminded that: "*Monetary policy can be a powerful tool, but it is not a panacea ...*" Bernanke (2011, p. 6) while being prevented from simultaneously arguing that all their interventions are consistent with their remit.

The era of ultra-low nominal interest rates became normalised and forward guidance (lower for longer) became the accepted norm. This needs to change. For example, a look at UK long historical data since the 17th century says a great deal about the unprecedented nature of nominal and real interest rates over the past decade and a half.³³

³² A related issue is whether unanimity should be required to make changes in the price stability objective and the horizon over which any existing definition should be reviewed. On the former, unanimously agreed to rules are inefficient; on the latter, based on the experience of other countries (e.g., Canada) a five-year horizon seems adequate. Exceptional circumstances requiring greater flexibility in the horizon may also be considered.

³³ Between 1695 and 2016 (322 observations) policy rates were below 4% for 93 years, that is, only 29% of the time. Similarly, between 1695 and 2016 real interest rates (nominal less inflation lagged one year) were negative around 20% of the time only. Mean real interest rates were a shade over 3%. Data are from the Bank of England's 'A Millennium of Macroeconomic Data' at <https://www.bankofengland.co.uk/statistics/research-datasets>.

5. CONCLUSIONS: THE EURO'S HALLMARKS

"People only accept change in necessity and see necessity only in crisis." (Monnet, 1976).³⁴ If so, the changes we've seen in how monetary policy is carried out is not only a testament to the ECB's resilience but an affirmation that there is some truth in Jean Monnet's opinion. The difficulty is that repeated crises erode the trust that the public has in institutions and the ECB is not immune to these developments. The good news is that the public in the euro area clearly dislikes high inflation and understands the costs in lost purchasing power the ECB is mandated to prevent from happening. Hence, even if this can be potentially economically painful the recent tightening must be maintained and may provide an antidote to the public's negative views about the ECB. No one is advocating tightening to the extent that it leads to a severe recession, but policy makers should not shy away from the possibility of a mild downturn occurring at some point. The Phillips curve may have bent and shifted over time, but the evidence suggests that it is not entirely dead (e.g., see Mishkin et. al., 2019; Hartwig et. al., 2021). The bad news is that the ECB appears to believe that the surge in inflation was entirely due to outside forces (fast reopening after COVID, higher energy prices, and because inflation was so low in 2020).³⁵ All of these should not have prevented the ECB from (a) acting earlier; and (b) at least prepare the public better for the return to more 'normal levels' of interest rates.

As Bernholz (2007), among others, has pointed out, successful reforms aimed at achieving price stability, or at least stopping excessive inflation, rest on central bank independence. There is always the threat that the possibility of a Treaty change, especially if populism continues its ascendancy, that ECB's autonomy will be eroded, and its mandate made less clear. The coming year may well prove stressful politically if some observers (e.g., Beddoes, 2023) are correct. One should, however, keep in mind that, fortunately, doomsayers have also frequently underestimated the capacity and resilience of countries to avoid catastrophes.

None of the so-called Institutions of the EMU³⁶ have explicit responsibility for financial stability. This should be clarified (in the medium-term without resort to a Treaty change) and, while the ECB should have a role, whether the single peak or twin peaks governance model ought to be adopted is a matter for negotiation among the EU member states informed by the EC and other stakeholders.

³⁴ Translated from the original French written: "... les hommes n'acceptent le changement que dans la nécessité et ils ne voient la nécessité que dans la crise." (Monnet (1976), p. 129).

³⁵ See https://www.ecb.europa.eu/ecb/educational/explainers/tell-me-more/html/high_inflation.en.html, published 16 November 2021.

³⁶ [https://www.europarl.europa.eu/factsheets/en/sheet/85/the-institutions-of-the-economic-and-monetary-union#:~:text=These%20institutions%20are%3A%20the%20European,Financial%20Affairs%20Council%20\(Ecofin\).](https://www.europarl.europa.eu/factsheets/en/sheet/85/the-institutions-of-the-economic-and-monetary-union#:~:text=These%20institutions%20are%3A%20the%20European,Financial%20Affairs%20Council%20(Ecofin).)

REFERENCES

- Ahamed, L. (2012), “Will the Euro Survive?”, speech at the Sun Valley Writers’ Conference, 20 August.
- Alcidi, C., Gros, D. and Shamsfakhr, F. (2022). ‘Inflation expectations: models and measures’. Publication for the committee on Economic and Monetary Affairs, Policy Department for Economic, Scientific and Quality of Life Policies, European Parliament, Luxembourg, 2022, [https://www.europarl.europa.eu/thinktank/en/document/IPOL_IDA\(2022\)703338](https://www.europarl.europa.eu/thinktank/en/document/IPOL_IDA(2022)703338).
- Beddoes, Z. M. (2023), “2024 Will be Stressful for those Who Care about Liberal Democracy”, *The Economist*, <https://www.economist.com/the-world-ahead/2023/11/13/2024-will-be-stressful-for-those-who-care-about-liberal-democracy>.
- Benzoni, L., O. Chyruk, and D. Kelley (2018), “Why Does the Yield-Curve Slope Predict Recessions?”, Chicago Fed Letter 404, <https://www.chicagofed.org/publications/chicago-fed-letter/2018/404>.
- Bernanke, B.S. (2015), “The Taylor Rule: A Benchmark for Monetary Policy?”, Commentary, Brookings Institution, 28 April, <https://www.brookings.edu/articles/the-taylor-rule-a-benchmark-for-monetary-policy/>.
- Bernanke, B. S. (2011), “Statement”, before the Joint Economic Committee, U.S. Congress, October 4, 2011, <https://www.federalreserve.gov/newsevents/testimony/files/bernanke20111004a.pdf>.
- Bernanke, B.S., (2004), “The Great Moderation”, Remarks at the Meeting of the Eastern Economics Association, Washington, D.C., 20 February, <https://www.federalreserve.gov/boarddocs/speeches/2004/20040220/>.
- Bernholz, P. (2007), “The Experience of Exchange Rate Regimes in Southeastern Europe in a Historical and Comparative Perspective”, Proceedings of OeNB Workshops, No. 13, Vienna: Austrian National Bank.
- Billio, M., Getmansky, M., Lo, A.W., & Pelizzon, L. (2012). Econometric measures of connectedness and systemic risk in the finance and insurance sectors. *Journal of Financial Economics* 104 (3), 535–559.
- Bordo, M., J. Cochrane and J.B. Taylor (2023), *How Monetary Policy Got Behind the Curve – And How to Get Back* (Stanford, CA: Hoover Institution Press).
- Bordo, M., and P. Siklos (2022), “The Transformation and Performance of Emerging Market Economies Across the Great Divide of the Global Financial Crisis”, in *Independence, Credibility, and Communication of Central Banking*, E. Pastén and R. Reis, Editors (Santiago: Banco Central de Chile), pp. 55-122, https://www.bcentral.cl/documents/33528/3231104/4_Bordo_libro_28.pdf/b5190d3f-e8fb-fe26-5fd4-a8128ebd83d3?t=1634656481100.
- Chauvet, M., and S. Potter (2005), “Forecasting Recessions Using the Yield Curve”, *Journal of Forecasting* 24(March): 77-103.
- Chen, H., and P. Siklos (2022), “Ocean’s Apart? China and Other Systemically Important Economies”, *Emerging Market Finance and Trade* 59(5): 1349-1371.
- Chinn, M., and K. Kucko (2015), “The Predictive Power of the Yield Curve Across Countries and Time”, *International Finance* 18 (July): 129-156.
- Coletti, D. (2023), “A Blueprint for the Fourth Generation of Bank of Canada Projection and Policy Analysis Model”, Bank of Canada Staff Discussion Paper 2023-23, October, <https://www.bankofcanada.ca/2023/10/staff-discussion-paper-2023-23/>.

- Dell’Ariccia, G., P. Rabanel, and D. Sandri (2018), “Unconventional Monetary Policies in the Euro Area, Japan, and the United Kingdom”, *Journal of Economic Perspective* 32 (Fall): 147-172.
- Economist, The (2023), “Mario Draghi on the Path to Fiscal Union in the Euro Zone”, 6 September, <https://www.economist.com/by-invitation/2023/09/06/mario-draghi-on-the-path-to-fiscal-union-in-the-euro-zone>.
- Eichengreen, B., and C. Wyplosz (2016), “Minimal Conditions for the Survival of the Euro”, *Intereconomics* 51(1): 24-28, <https://www.intereconomics.eu/contents/year/2016/number/1/article/minimal-conditions-for-the-survival-of-the-euro.html>.
- Feld, L., and V. Wieland (2021), “The German Federal Constitutional Court and the European Central Bank’s Strategy”, *Journal of Financial Regulation* 7 (October): 217-253.
- Fleming, S. (2023), “Central Banks Poised for Rate Cuts in 2024, Investors and Economists Predict”, *Financial Times*, 31 December, <https://www.ft.com/content/862f14fd-da31-4e38-8404-e70904a8fd4b>.
- Giles, C. (2023), “Why Are Central Bank Forecasts So Wrong?”, *Financial Times* 18 May, <https://www.ft.com/content/1b0203bf-ad58-4189-ad90-38b59b24f236>.
- Giles, C. (2008), “The Economic Forecasters’ Failing Vision”, *Financial Times* 25 November, <https://www.ft.com/content/50007754-ca35-11dd-93e5-000077b07658>.
- Gros, D., and F. Shamsfakhr (2022), “Too Little Rather than Too Late: The ECB’s Normalisation Path was Model – Rather than Data – Driven”, *SUERF Policy Brief* 370, July, <https://www.suerf.org/suerf-policy-brief/48909/too-little-too-late-ecbs-normalisation-path-was-model-rather-than-data-driven>.
- Ha, J., M.M. Stocker, and H. Yilmazkuday (2020), “Inflation and Exchange Rate Pass-Through”, *Journal of International Money and Finance* 105 (July): 102187.
- Hartmann, P., and F. Smets (2018), “The European Central Bank’s Monetary Policy During Its First 20 Years”, *Brookings Papers on Economic Activity*, Fall: 1-146.
- Hartwig, B., C. Nickel, and E. Bobeika (2021), “The Euro Area Phillips Curve: Damaged But Not Dead”, *VoxEU*, 2 August, <https://cepr.org/voxeu/columns/euro-area-phillips-curve-damaged-not-dead>.
- Hofmann, B., and B. Bogdanova (2012), “Taylor Rules and Monetary Policy: A Global “Great Deviation?””, *BIS Quarterly Review* (September): 37-49.
- Holston, K., T. Laubach, and J.C. Williams (2023), “Measuring the Natural Rate of Interest after COVID-19,” *Federal Reserve Bank of New York Staff Reports*, no. 1063, June, https://www.newyorkfed.org/medialibrary/media/research/staff_reports/sr1063.pdf?sc_lang=en.
- Holston, K., T. Laubach, and J.C. Williams (2017), “Measuring the Natural Rate of Interest: International Trends and Determinants,” *Journal of International Economics* 108, Supplemental 1 (May): S39–S75.
- Jonung, L., and E. Drea (2009), “The Euro: It Can’t Happen, It’s a Bad Idea, It Won’t Last. US Economists on the EMU, 1959-2002”, *European Economy papers* 395, December.

- King, M. (2003), “Speech”, to East Midlands Development Agency/Bank of England Dinner, Leicester, 14 October.
- Krippner, L. (2019), “A Note of Caution on Shadow Rate Estimates”, *Journal of Money, Credit and Banking* 52 (June): 951-962.
- Hooper, P., Mishkin, F., and A. Sufi (2019), “Prospects for Inflation in a High Pressure Economy: Is the Phillips Curve Dead or is it Just Hibernating?”, NBER working paper 25782, May, <https://www.nber.org/papers/w25792>.
- Moneta, F. (2005), “Does the Yield Curve Predict Recessions in the Euro Area?”, *International Finance* 8 (July): 263-301.
- Monnet, J. (1976), *Mémoires* (Paris : éditions Fayard).
- Murray, A., S. Alakhras, J. Brault, S. Fernandes, and P. Siklos (2023), “Model Aggregation for Improving Forecasts of Canada’s Core Inflation Rate”, unpublished working paper, November.
- Nikolsko-Rzhevskyy, A., D.H. Papell , and R. Prodan (2019), “The Taylor Principles”, *Journal of Macroeconomics* 62: 103159.
- Obstfeld, M. (2023), “Natural and Neutral Real Interest Rate: Past and Future”, NBER working paper 31949, December, <https://www.nber.org/papers/w31949>.
- Ouerk, S., C. Boucher, and C. Lubochinsky (2020), “Unconventional Monetary Policy in the Euro Area: Shadow Rate and Light Effects”, *Journal of Macroeconomics* 65 (September): 103219.
- Powell, J. (2019), “Data-Dependent Monetary Policy in an Evolving Economy”, Remarks at "Trucks and Terabytes: Integrating the 'Old' and 'New' Economies" 61st Annual Meeting of the National Association for Business Economics, Denver, Colorado, 8 October, <https://www.federalreserve.gov/newsevents/speech/powell20191008a.htm>.
- White, W. (2006), “Is Price Stability Enough?”, BIS working paper No. 205, April.
- Rajan, R. (2006), “Has Financial Development Made the World Riskier?” *European Financial Management* 12(4): 499-533.
- Schnabel, I. (2023), “The Last Mile: Homer Jones Memorial Lecture”, keynote speech at the Federal Reserve Bank of St. Louis, 2 November, https://www.ecb.europa.eu/press/key/date/2023/html/ecb.sp231102_1~4bb07ebef7.en.html
- Shapiro, A.H. (2022), “Decomposing Supply and Driven Inflation”, Federal Reserve Bank of San Francisco working papers 2022-18, October, <https://www.frbsf.org/economic-research/publications/working-papers/2022/18/>.
- Siklos, P. (2023), “Out of the Fog? Inflation in an Era of ECB Policy Reversals”, Monetary Dialogue Papers, March 2023, https://www.europarl.europa.eu/cmsdata/266604/CASE_final.pdf.
- Siklos, P. (2022), “Is This Time Different? War, Supply Constraints and the Resilience of Monetary Policy”, Monetary Dialogue Papers, June, https://www.europarl.europa.eu/cmsdata/249581/CASE_DEF.pdf.
- Stiglitz, J. (2016), *The Euro: How A Common Currency Threatens the Future of Europe* (New York: W.W. Norton and Co.).
- Taylor, J.B. (1999), “A Historical Analysis of Monetary Policy Rules” in J.B. Taylor (Ed.), *Monetary Policy Rules* (Chicago: University of Chicago Press), pp. 319-348.

- Taylor, J. B. (1993), "Discretion versus policy rules in practice," Carnegie-Rochester Conference Series on Public Policy, Elsevier, vol. 39 (December), pp. 195-214.
- Wu, Jing C, and F. Dora Xia (2016), "Measuring the Macroeconomic Impact of Monetary Policy at the Zero Lower Bound," *Journal of Money, Credit and Banking*, 48(March): 253-291.
- Wright, J. (2006), "The Yield Curve and Predictive Recessions", Finance and Economics Discussion Papers 2006-7, February.

When it comes to the euro, policy makers should not follow the expression: “if it ain’t broke, don’t fix it”. A review of the first 25 years of the euro suggests that mistakes were made. Yet, the ECB has also been remarkably adaptable under difficult circumstances. Improvements to the resilience of the euro area are possible. This paper looks back over an eventful quarter century and offer a peak into the euro area’s possible future challenges.

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