

Highly Dispersed inflation rates challenge the ECB's monetary policy strategy



By Thomas Url, Austrian Institute of Economic Research (WIFO)

Keywords: Energy price shock, Fiscal interventions, Macroprudential policy, European Central Bank.

JEL codes: E31, E58, E63.

In contrast to other large economies, the euro area shows a high regional dispersion of inflation rates since the mid of 2021. The energy price shock uncovered structural differences among member countries of the currency union. Additionally, European governments responded with administrative or fiscal interventions of varying degree. A consistent pattern emerges with low inflation countries implementing policies dampening the HICP more intensively, while high inflation countries behaved more restrained. Potential monetary policy responses to an energy price shock include a differential weighting of country specific inflation rates in the loss function or, alternatively, macroprudential measures. If a wage-price spiral is set in motion, the ECB would have to swiftly raise the key interest rates to confirm its commitment to the inflation target.

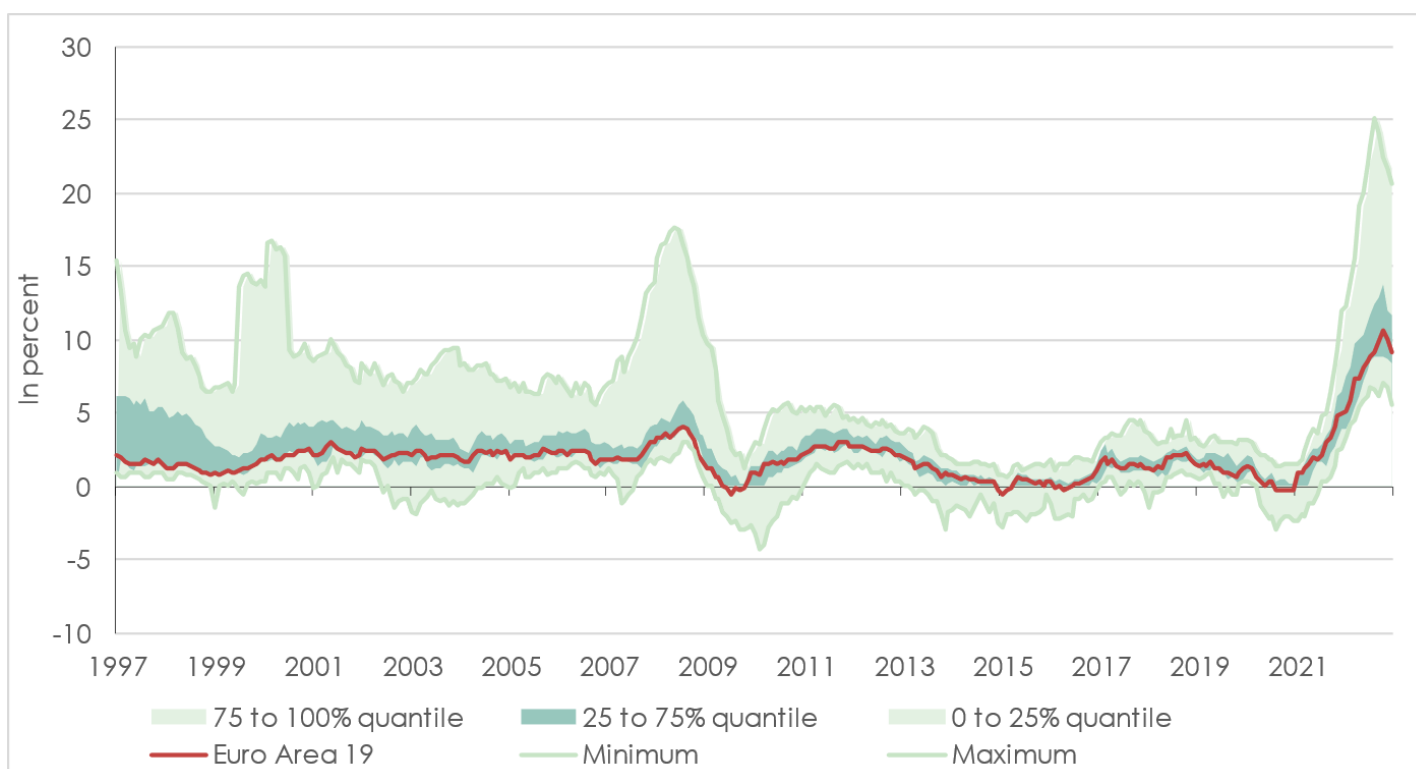
1. Introduction

The recent upturn in inflation has been recorded throughout the world. This hints at a common source related to rising energy prices, but additionally, over the last couple of years the monetary policy cycle was strongly synchronised and exceptionally supportive of economic growth throughout OECD members.

In contrast to other large economies, the euro area shows a distinctive feature. While in the USA or Canada, the regional dispersion of inflation rates hardly deviated from historical patterns (Baumgartner et al., 2022), the euro area shows a swift rise in inflation rate dispersion, comparable to the one in the first years of the monetary union or the one during the financial market crisis. This development can be seen in Figure 1, showing the monthly headline inflation rate in the euro area, the maximum and minimum as well as the 50% quantiles around the median across member countries (dark green area). All three episodes with a rising dispersion in inflation rates coincided with an upturn in oil prices. When oil prices started to climb in response to the demand recovery after the COVID-19-related disruptions faded out, the Russian attack on Ukraine at the end of February 2022 sharply accelerated the energy price shock and – within the euro area – it spilled over from gas to electricity prices.

The energy price hike uncovered structural differences among member countries of the currency union. Those differences relate to the share of imported energy in total energy demand, contract features between utilities and their customers, different weights for energy intensive goods in the consumer basket, and the fiscal policy response by national governments.

Figure 1: Distribution of inflation rates in the euro area across member countries, monthly year-on-year changes



Source: Eurostat, Macrobond – The dark green area shows the 50% quantile around the regional median. The light green areas show the upper and lower 25% quantiles.

Between August and October 2022, the inflation rate in the euro area was at 10.6%, the spread between member countries was 18.6 percentage points, and the standard deviation across national inflation rates was 5.3%, reaching the highest level since 1997. Among the countries with lower inflation rates were France, Malta, and Spain, while Slovakia, the Netherlands and the Baltic states recorded the highest rates.

2. Details of energy contracts created dispersion

The earlier and stronger increase of inflation in the Netherlands, and the Baltic states as compared to other euro area members is foremost due to a more direct connection of retail energy prices for consumers to the world market prices for coal (Baltic states) and European wholesale prices for natural gas and electricity (all four countries), respectively. The four countries may also experience a stronger and faster transmission from higher wholesale energy price increases into the user costs for businesses, because the prices of other non-energy products also edged up more strongly than in the euro area average. This is particularly true for food in the Baltic states, which have seen prices going up by 20% to 30% since June 2022, significantly more than other euro area countries. The higher weight of food in the HICP consumer basket further amplifies this impulse.

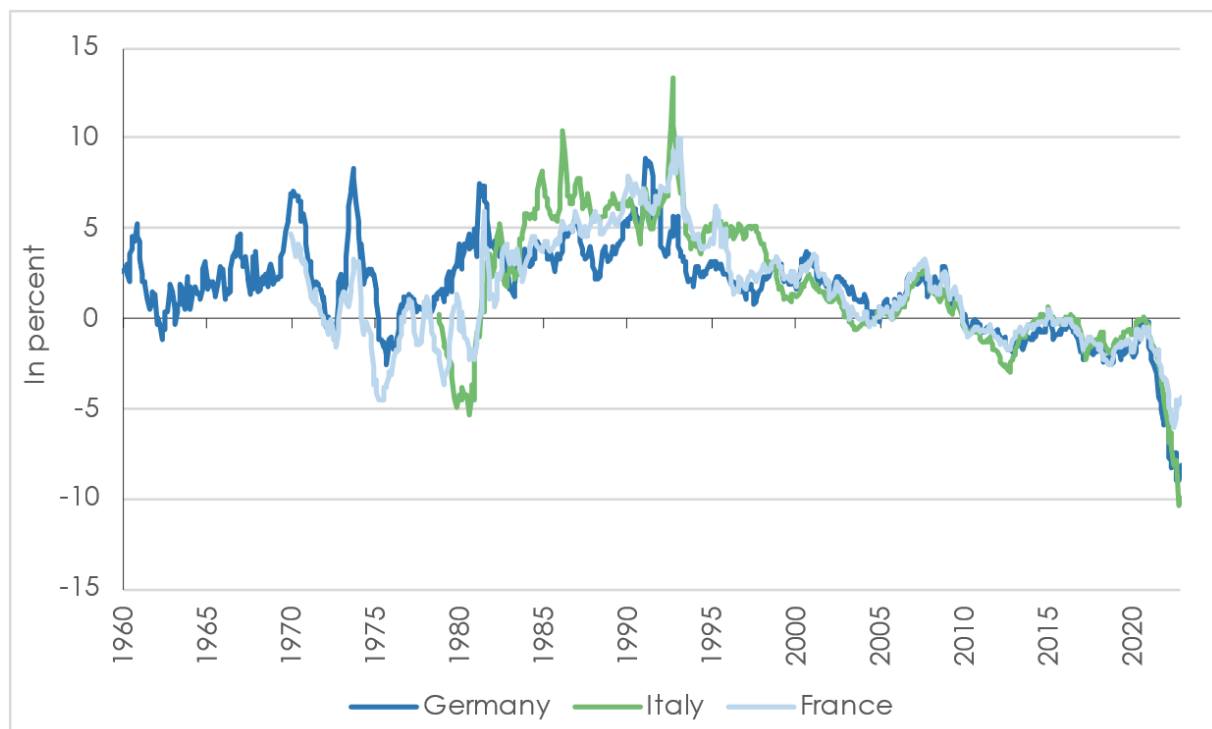
3. Fiscal policy interventions dampened national inflation rates to a varying degree

On the other hand, governments responded to the burden of higher energy prices by applying administrative or fiscal interventions in a varying degree. Baumgartner et al. (2022) review 60 interventions that have been implemented over the last few months across 18 euro area countries. France stands out with freezing the gas price at the October 2021 level, the near abolition of the electricity excise tax from EUR 22.50/MWh to EUR 0.50/MWh, subsidising nuclear power to reduce the wholesale price of electricity, and subsidising fuel prices from April 1st onwards. Spain implemented a similar package including a reduction of the VAT-rate for electricity from 21% to 10%, a reduction of the excise tax on electricity from 5.11% to 0.5%, a EUR 0.2/litre fuel subsidy, a cap on the wholesale gas price at EUR 40, and free train tickets for short and middle distances. Malta, finally, reduced the excise duty on fuel, froze prices of electricity at the 2014 level, and distributed liquified natural gas at preferential prices to its utilities. Thus, part of the cross-country variation in inflation rates simply results from the varying intensity of fiscal interventions and adjustments of administered prices.

The high degree of regional dispersion in inflation rates throughout the euro area creates a challenge for the conduct of monetary policy because higher inflation in Europe is mainly the result of a supply side shock affecting member countries differently, the ECB targets the euro area HICP inflation rate (which is obviously distorted by country specific measures to soften the effect of higher energy prices), and the main monetary policy instruments are fixed at the same value throughout the currency union.

4. The current monetary policy stance is still very accommodative

The current policy stance of the ECB can be deduced from the development of the real (ex-post) short-term interest rates for the largest euro area members in Figure 2. Based on the national CPI, real short-term interest rates are now at their lowest level recorded since the 1960s, indicating a very expansionary monetary policy stance despite the contraction signalled by recent increases in ECB policy rates. Even if one uses core inflation rates instead of headline inflation, the real short term interest rates in Italy (-1.5%), France (-2.3%), and Germany (-3.1%) are well below the range of estimates for r^* (0.25% to 1.5%) presented by the Federal Reserve Bank of New York New for the last quarter of 2019, i. e. before the COVID-19 pandemic caused wild fluctuations in real output (Holston et al., 2017).

Figure 2: Real short-term (3 months) interest rates

Source: European Money Markets Institute (EMMI), German Federal Statistical Office, OECD, French National Institute of Statistics & Economic Studies (INSEE). – Until 1999 using national 3-month interest rates minus CPI inflation rates. From 1999 onwards, euro area 3-months interest rate minus national CPI inflation rates.

A review of potential monetary policy responses to an energy price shock (adverse supply shock) in Baumgartner et al. (2022) produces diverse recommendations, depending either on the extent of price and wage rigidities prevalent in the model economy, or on the elements included in the loss function of the central bank and their weights. The main reason for this divergence is due to the special characteristic of supply shocks in combination with the effect of changes in key interest rates: While an adverse supply shock moves output down and the inflation rate up, an interest rate cut will move both variables in the same positive direction. This creates a trade-off for the central bank with respect to their inflation and output targets. The optimal response of the central bank depends on the relative weight attributed to deviations from potential output versus deviations of the inflation rate from target values (Cecchetti, 2000). When the loss function is concentrated on stabilising the inflation rate, the bank will choose to increase the policy rate after an energy price shock, to dampen the inflation rate. If the central bank also puts a positive weight on output deviations, it will increase the key interest rate but to a smaller extent as compared to the case of full inflation targeting.

5. Alternative weights for the computation of the euro area inflation rate

The size of moves in the key interest rates will also depend on the amount of regional disparity within a monetary union. Benigno (2004) studies the optimal monetary policy decision in a multi-country set-up with a common currency and a central bank with an inflation target. He uses a two-region dynamic stochastic general equilibrium model with monopolistic competition and price stickiness and a welfare criterion based on the utility of consumers. If both regions in a currency region have the same degree of nominal rigidity, the optimal outcome is obtained by targeting a weighted average of the regional inflation rates. The weights coincide with the economic size of each region (as used in the HICP). If the degree of rigidity is different across regions, a nearly optimal plan for an inflation targeting policy would give a higher weight to the inflation rate of the region with the higher degree of nominal rigidity.

Brissimis and Skotida (2008) extend this approach by adding further country specific structural characteristics to their model. The optimal country weights for the ECB's target inflation rate would put more weight on countries with higher nominal price rigidity and lower intertemporal elasticity of substitution of consumption. The structural characteristics among member countries and the differential response of individual countries to a change in the policy rate, however, are hard to measure empirically. Consequently, Brissimis and Skotida (2008) conclude that a structurally adjusted policy rule will create higher uncertainty and less transparency in the conduct of monetary policy. Moreover, a more differentiated approach will reinforce existing national structural characteristics rather than fostering economic integration.

6. Macroprudential measures could support local needs

A more pragmatic approach towards a more regionally differentiated monetary policy has been suggested by Brunnermeier (2010). Although the central bank of a common currency area can only set a single interest rate for the whole area, regional needs could be addressed by applying macroprudential tools that directly affect the local availability of credit and/or the interest rate on long-term risky loans. This would allow a more regionally targeted monetary policy for member countries experiencing extreme inflation rates. Country specific measures could be coordinated by the central bank or a central systemic risk board to avoid contradiction with the general monetary policy stance.

The euro area has already established the institutions necessary to carry out regionally targeted macroprudential policies, but Art. 25 of the respective Council Regulation No. 1024/2013 binds the ECB to carry out macroprudential measures separately from its monetary policy: Macroprudential measures “shall neither interfere with, nor be determined by, its tasks relating to monetary policy”. Although the monetary policy strategy review by the ECB (2021) called for a closer consideration of financial stability in its monetary policy decision making, the ECB did not start a discussion of Art. 25 in July 2021, right before the high dispersion in inflation rates emerged. One reason for its reluctance may be that a nationally targeted approach is likely to interfere with the cross-border supply of credit and thus will be subject to fierce political pressure from market participants.¹

7. Maintenance of credibility is key to a successful monetary policy

Challenges like these make another response of the ECB to the energy price shock more likely. The permanent worsening of the terms-of-trade result in a transfer of real income/resources out of the euro area. If prices and wages are flexible and the credibility of the inflation target is not endangered, the ECB may lean back and wait until the pass-through of the raw material price shock has been absorbed. Otherwise, the ECB would have to send a strong signal of determination to market participants and fiscal authorities by swiftly raising the key interest rates. ■

¹ See e.g. Bloomberg, 4 November 2022: <https://www.bloomberg.com/news/articles/2022-11-04/bank-executives-frustrated-over-interference-and-demands-from-ecb?leadSource=uverify%20wallrference-and-demands-from-ecb?leadSource=uverify%20wall>. As of Nov. 11th 2022.

References

- Baumgartner, J., Scheiblecker, M. and Url, T. (2022). *Maintaining credibility is currently the top priority*, Monetary Dialogue Papers November 2022, Policy Department for Economic, Scientific and Quality of Life Policies, European Parliament. <https://www.europarl.europa.eu/cmsdata/258100/Maintaining%20credibility%20is%20currently%20the%20top%20priority.pdf>.
- Benigno, P. (2004). Optimal monetary policy in a currency area. *Journal of International Economics*, 63(2), pp. 293–320. [doi:10.1016/S0022-1996\(03\)00055-2](https://doi.org/10.1016/S0022-1996(03)00055-2).
- Brissimis, S. N. and Skotida, I. (2008). Optimal monetary policy in the euro area in the presence of heterogeneity. *Journal of International Money and Finance*, 27(2), pp. 209-226. <https://doi.org/10.1016/j.jimonfin.2007.12.007>.
- Brunnermeier, M. K. (2010). Macroprudential regulation: optimizing the currency area. In ECB (Ed.) *The Great Financial Crisis – Lessons for Stability and Monetary Policy, Colloquium held in honour of Lucas Papademos*, pp. 29-35.
- Cecchetti, S. C. (2000). Making Monetary Policy: Objectives and Rules. *Oxford Review of Economic Policy*, 16(4), pp. 43-59. <https://doi.org/10.1093/oxrep/16.4.43>.
- ECB (2021). *An overview of the ECB's monetary policy strategy*. European Central Bank. https://www.ecb.europa.eu/home/search/review/pdf/ecb.strategyreview_monpol_strategy_overview.en.pdf.
- Holston, K., Laubach, T. and J. C. Williams (2017). Measuring the Natural Rate of Interest: International Trends and Determinants. *Journal of International Economics*, 108, Supplement 1, pp. S39–S75. <https://doi.org/10.1016/j.jinteco.2017.01.004>.

About the author

Thomas Url is Senior Economist at the Austrian Institute of Economic Research (WIFO) and has been working in the Research Group "Macroeconomics and European Economic Policy" since 1994. From 1999 to 2002 he was editor-in-chief of WIFO-Monatsberichte (WIFO Monthly Reports). He is an expert in the Austrian Fiscal Council, lecturer at the University of Vienna and head of the Working Group on Economic Statistics and National Accounts of the Austrian Statistical Society. He works on issues of risk diversification, funded pensions, the European Monetary Union and econometric applications in the field of macroeconomics. He carried out research projects for the European Parliament and national clients. In addition to studying Economics at the Universities of Graz and Vienna (doctorate cum laude), he completed a postgraduate course in Economics at the Institute for Advanced Studies. Research stays took him to the Konjunkturinstitutet in Stockholm, to the University of Strathclyde in Glasgow and to Monash University in Melbourne. He received the Hans Vollmann Prize of the Karl Kummer Institute Styria (1987), the SOWI Graduate Prize of the University of Graz (1988), the WU Best Paper Award (2003) and the Reinhold Polster Foundation Prize (2017).

SUERF Publications

Find more **SUERF Policy Briefs** and **Policy Notes** at www.suerf.org/policynotes



SUERF is a network association of central bankers and regulators, academics, and practitioners in the financial sector. The focus of the association is on the analysis, discussion and understanding of financial markets and institutions, the monetary economy, the conduct of regulation, supervision and monetary policy.

SUERF's events and publications provide a unique European network for the analysis and discussion of these and related issues.

SUERF Policy Briefs (SPBs) serve to promote SUERF Members' economic views and research findings as well as economic policy-oriented analyses. They address topical issues and propose solutions to current economic and financial challenges. SPBs serve to increase the international visibility of SUERF Members' analyses and research.

The views expressed are those of the author(s) and not necessarily those of the institution(s) the author(s) is/are affiliated with.

All rights reserved.

Editorial Board

Ernest Gnan
Frank Lierman
David T. Llewellyn
Donato Masciandaro
Natacha Valla

SUERF Secretariat
c/o OeNB
Otto-Wagner-Platz 3
A-1090 Vienna, Austria
Phone: +43-1-40420-7206
www.suerf.org • suerf@oenb.at