

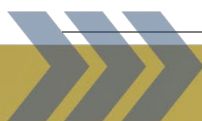
STUDY

Requested by the ECON Committee

Monetary Dialogue Papers, June 2026



# Look through or Tighten? The ECB and Recurring Energy Supply Shocks



**EGOV**  
MONETARY POLICY

External author(s):

Kerstin BERNOTH

Alexander KRIWOLUZYK





# Look through or Tighten? The ECB and Recurring Energy Supply Shocks

---

## **Abstract**

This paper examines the factors that influence the persistence of inflation following energy price shocks. Although the current oil price shock is economically significant, it is less likely to generate persistent inflationary pressures than the energy crisis of 2022–23, as European gas markets remain relatively stable. Nevertheless, elevated geopolitical uncertainty and households' recent inflation experience may increase the risk of second-round effects. Model simulations suggest that the long-term welfare costs of responding too cautiously to renewed inflationary pressures may exceed those associated with a somewhat stronger monetary policy response.

This document was provided by the Economic Governance and EMU Scrutiny Unit at the request of the Committee on Economic and Monetary Affairs (ECON) ahead of the Monetary Dialogue with the ECB President on 22 June 2026.

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

## **AUTHOR(S)**

Dr. Kerstin BERNOTH, Dean Graduate Center, DIW Berlin

Prof. Dr. Alexander KRIWOLUZKY, Department Head Macroeconomics, DIW Berlin

## **CONTRIBUTORS / RESEARCH ASSISTANCE / LANGUAGE EDITING**

Gökhan IDER, Doctoral Student, DIW Berlin

Alina ERMOLAEVA, Doctoral Student, DIW Berlin

## **CONTACTS IN THE EUROPEAN PARLIAMENT**

Coordination: Ronny MAZZOCCHI, Mentor MEHMEDI

Editorial assistance: Adriana HECSER

To give feedback or obtain copies, please write to: [egov@ep.europa.eu](mailto:egov@ep.europa.eu)

## **VERSION**

Original: English

Manuscript completed in June 2026

## **BIBLIOGRAPHIC REFERENCE FOR THIS PAPER**

Bernoth, K., Kriwoluzky, A., 2026. *Look through or Tighten? The ECB and Recurring Energy Supply Shocks*, Brussels: European Parliament, Economic Governance and EMU Scrutiny Unit.

## **DISCLAIMER**

The opinions expressed in this publication are those of the author(s) only and should not be considered as representative of the European Parliament's official position.

## **ARTIFICIAL INTELLIGENCE**

Claude AI was used to improve the readability of the text. AI-generated content in this text has been reviewed by the author(s).

## **COPYRIGHT**

© European Union, 2026

## **LICENCE**

The reuse of this document is authorised under a Creative Commons Attribution 4.0 International (CC-BY 4.0) licence (<https://creativecommons.org/licenses/by/4.0/>).

To use or reproduce elements that are not owned by the European Union, permission may need to be sought directly from the respective rightholders.

## **ABOUT THE EDITOR**

The Economic Governance and EMU Scrutiny Unit provides in-house and external expertise to support EP committees and other parliamentary bodies in shaping legislation and exercising democratic scrutiny over EU internal policies.

To contact Economic Governance and EMU Scrutiny Unit or to subscribe to its newsletter please write

to:

Economic Governance and EMU Scrutiny Unit

European Parliament

B-1047 Brussels

E-mail: [egov@ep.europa.eu](mailto:egov@ep.europa.eu)

Manuscript completed in June 2026

© European Union, 2026

This document was prepared as part of a series on "Rising supply-side shocks amid geopolitical tensions: implications for ECB's monetary policy going forward", available on the internet at: <https://www.europarl.europa.eu/committees/en/econ/econ-policies/monetary-policy>

## **IDENTIFIERS**

Print ISBN 978-92-848-3704-5 | doi:10.2861/0192430 | QA- 01-26-156 -EN-C

PDF ISBN 978-92-848-3703-8 | doi:10.2861/7089588 | QA- 01-26-156 -EN-N

## CONTENTS

<b>LIST OF ABBREVIATIONS</b>	<b>7</b>
<b>LIST OF FIGURES</b>	<b>8</b>
<b>LIST OF TABLES</b>	<b>8</b>
<b>EXECUTIVE SUMMARY</b>	<b>9</b>
<b>1. BACKGROUND AND CONTEXT</b>	<b>10</b>
<b>2. SUPPLY SHOCKS AND THE MONETARY POLICY TRADE-OFF</b>	<b>11</b>
<b>3. DETERMINANTS OF THE PERSISTENCE OF SUPPLY SIDE SHOCKS</b>	<b>12</b>
3.1. Composition of energy price shocks	12
3.2. Expectations and second-round effects	14
3.3. Non-linear transmission mechanisms	15
3.4. Distributional and Structural Effects	16
<b>4. THE CURRENT ENERGY CRISIS IN CONTEXT</b>	<b>17</b>
4.1. Magnitude of the current shock	17
4.2. Inflation and inflation expectations developments	18
4.3. Household consumption and consumer confidence	19
<b>5. THE MACROECONOMIC AND WELFARE EFFECTS OF THE ENERGY-PRICE SHOCK IN A HANK MODEL</b>	<b>21</b>
<b>6. IMPLICATIONS FOR ECB MONETARY POLICY</b>	<b>24</b>
<b>REFERENCES</b>	<b>27</b>
<b>ANNEX</b>	<b>29</b>
Description of the HANK model	29

## LIST OF ABBREVIATIONS

<b>CES</b>	Consumer Expectations Survey
<b>ECB</b>	European Central Bank
<b>GDP</b>	Gross Domestic Product
<b>HANK</b>	Heterogeneous Agent New Keynesian
<b>HFCS</b>	Household Finance and Consumption Survey
<b>HICP</b>	Harmonised Index of Consumer Prices
<b>OIS</b>	Overnight Index Swap
<b>TTF</b>	Title Transfer Facility
<b>VAR</b>	Vector Autoregression

## LIST OF FIGURES

Figure 1: Energy prices HICP and overall HICP in the euro area since 1998	13
Figure 2: Energy inflation and its contribution to headline inflation in the euro area	14
Figure 3: Current and Expected Development of Brent Crude Oil and TTF Natural Gas Prices	17
Figure 4: Development of Euro Area Inflation Expectations	19
Figure 5: Euro area Personal Consumption Change (y-on-y) and consumer confidence	20
Figure 6: Aggregate responses to an energy-price shock under alternative monetary-policy rules	22
Figure 7: ECB Hawkish-Dovish Communication Stance and Main Economic Indicators	25

## LIST OF TABLES

Table 1: Welfare cost of the energy-price shock under two monetary-policy stances (CEV, % of permanent consumption; negative values indicate welfare losses)	23
Table 2: Aggregate calibration targets and model fit (euro area)	30

## EXECUTIVE SUMMARY

- Over the past few years, the euro area has experienced three significant supply-side disruptions: pandemic-related supply bottlenecks, the energy crisis of 2022–23 following Russia's invasion of Ukraine, and the current energy shock triggered by the conflict in the Middle East.
- These events highlight an increasing challenge for central banks, as adverse supply shocks may become more commonplace in a world characterised by geopolitical fragmentation, leading to recurring stagflationary issues.
- The appropriate monetary policy response depends on how long the shock is expected to persist. Temporary supply shocks can often be accommodated, whereas persistent shocks may require policy action to prevent inflation expectations from becoming unanchored.
- Three factors are particularly important when assessing the inflationary consequences of supply shocks: the composition of the shock; the response of inflation expectations and wage-setting behaviour; and nonlinear dynamics that amplify pass-through when inflation is already high.
- Gas price shocks tend to be more inflationary than oil price shocks due to their direct impact on electricity generation, industrial production, and household expenditure. This helps to explain why the energy crisis of 2022–23 generated unusually persistent inflationary pressures.
- At the same time, higher energy prices reduce real disposable income and aggregate demand. Heterogeneous household responses may therefore partly offset inflationary pressures and dampen second-round effects.
- The current shock differs markedly from the 2022–23 energy crisis. While the earlier episode was primarily driven by a severe gas price shock with widespread economic consequences, the current shock is predominantly confined to global oil markets.
- In line with this distinction, headline inflation and short-term inflation expectations have increased since the outbreak of the conflict. However, the impact on core inflation has so far been limited, and longer-term inflation expectations remain, for now, broadly anchored near the ECB's target.
- But, elevated geopolitical uncertainty, rising short-term inflation expectations, and memories of the latest inflation surge mean that expectations are more fragile than current data alone suggests. This increases the risk that energy price shocks could become more persistent through wage and price-setting behaviour.
- Model simulations suggest that the welfare costs of responding too cautiously to renewed inflationary pressures may exceed those associated with a somewhat stronger monetary policy response. While a more accommodative stance would support economic activity in the short-term, the resulting increase in inflation would generate larger overall welfare losses, particularly for households with relatively high energy expenditure.
- Taking these considerations together, a timely increase in policy rates may represent a prudent risk-management response to renewed inflationary pressures. Such a move would reinforce the ECB's commitment to price stability, help keep inflation expectations firmly anchored, and reduce the risk that temporary energy-price increases become embedded in wage-setting and broader inflation dynamics. The appropriate degree of policy adjustment should remain data-dependent and reflect the persistence of the shock, the evolution of inflation expectations and wages, and incoming information on inflation and economic activity.
- Going forward, key indicators to monitor include energy prices, inflation expectations, wage growth, consumer spending, measures of economic confidence, and broader geopolitical developments.

## 1. BACKGROUND AND CONTEXT

**In recent decades, the monetary policy of European Central Bank (ECB) has been able to focus primarily on managing demand-driven fluctuations.** Supply shocks occurred less frequently, and when they did, they were generally temporary and localized, allowing the ECB to ignore their effects without significantly jeopardizing its inflation targets.

**However, this environment changed fundamentally in the early 2020s.** The COVID-19 pandemic exposed the vulnerability of global supply chains and led to widespread supply bottlenecks and cost pressures. Russia's invasion of Ukraine in February 2022 triggered the largest energy price shock in the euro area since the oil crises of the 1970s, pushed headline inflation into double digits, and forced the ECB into the most aggressive monetary tightening cycle in its history. And with the outbreak of the Middle East conflict in early 2026, a third major supply disruption has now occurred within just a few years.

**These developments reflect a more profound structural shift in the global economic order.** Growing geopolitical tensions, the fragmentation of world trade, and the increasing use of energy and raw material supplies as political tools suggest that supply-side shocks could occur more frequently, be more severe, and last longer in the future.

**Among the various forms of supply shocks, energy price shocks are of particular importance.** They are especially disruptive because energy is a key factor of production and, at the same time, an indispensable consumer good. A sharp rise in energy prices increases firms' production costs and reduces households' real purchasing power. This creates a stagflationary dynamic that presents monetary policy with a fundamental conflict of objectives: on the one hand, it has the task of keeping the general price level stable; on the other hand, it should also support economic activity.

**Whether or not central banks should respond to energy-related supply shocks depends critically on the conditions under which such shocks pose a risk to preserving price stability.** The appropriate monetary policy response is particularly shaped by the magnitude and persistence of the shock, as well as by the degree to which medium-term inflation expectations remain anchored. This briefing paper examines the factors that determine when energy-related supply shocks exert a particularly strong influence on inflation and justify a monetary policy response. Based on this analysis, the current shock is placed in a historical context, and the potential implications for the European Central Bank's (ECB) monetary policy response are evaluated.

## 2. SUPPLY SHOCKS AND THE MONETARY POLICY TRADE-OFF

**In the standard New Keynesian framework used by modern central banks, demand shocks are generally easier to stabilise than supply shocks.** A negative demand shock affects the central bank's two key target variables, economic activity and inflation, in the same direction. During recessions such as the global financial crisis, economic activity weakens, and inflationary pressures decline simultaneously. In such situations, expansionary monetary policy can stabilise both output and inflation simultaneously. Central banks typically respond by lowering policy rates and, if necessary, deploying unconventional monetary policy measures to support aggregate demand and return inflation to target.

**By contrast, supply shocks create a much more difficult policy environment because they generate a trade-off between stabilising inflation and economic activity.** A negative supply shock tends to raise production costs and inflation while simultaneously weakening output and employment. Consequently, the central bank's objectives become conflicting: stabilising inflation requires tighter monetary policy, but this may further weaken economic activity. Therefore, monetary policy cannot fully offset the inflationary consequences of a supply shock without imposing costs on real economic activity.

**Historically, energy price shocks have been one of the most significant sources of stagflationary supply-side disturbances in advanced economies.** The most prominent examples were the oil price shocks of the 1970s, which presented advanced economies with high inflation and weak economic growth, contributing to a prolonged period of stagflation. In the classical textbook reading in e.g. in Blanchard and Gali (2009), a similar stagflationary episode was avoided in the United States in the early 2000s because monetary policy had become more credible and forward-looking, thereby preventing inflation expectations from drifting.

### 3. DETERMINANTS OF THE PERSISTENCE OF SUPPLY SIDE SHOCKS

**The appropriate monetary policy response to a supply shock depends critically on how long its inflationary effects are likely to persist.** A transitory shock, which dissipates quickly without feeding into expectations or wage setting, may warrant a measured response, as aggressive tightening would unnecessarily impact output and employment. By contrast, a persistent shock risks becoming self-reinforcing through unanchored inflation expectations, second-round wage and price effects, and nonlinear transmission dynamics. This would ultimately require a more forceful policy intervention. Distinguishing between these two cases in real time is therefore one of the central challenges facing monetary authorities. This chapter examines the key determinants of supply shock persistence.

#### 3.1. Composition of energy price shocks

**The persistence of energy-driven inflation depends on both the size and composition of the shock.** Figure 1 compares euro area harmonised index of consumer prices (HICP) energy inflation with overall HICP inflation since 1998. In most historical episodes, energy prices have been substantially more volatile than headline inflation, while their impact on broader inflation dynamics has remained comparatively limited. Episodes such as the oil-price boom in the early 2000s, the global financial crisis, and several subsequent commodity-price swings generated pronounced fluctuations in energy inflation without triggering similarly large and persistent increases in overall inflation.

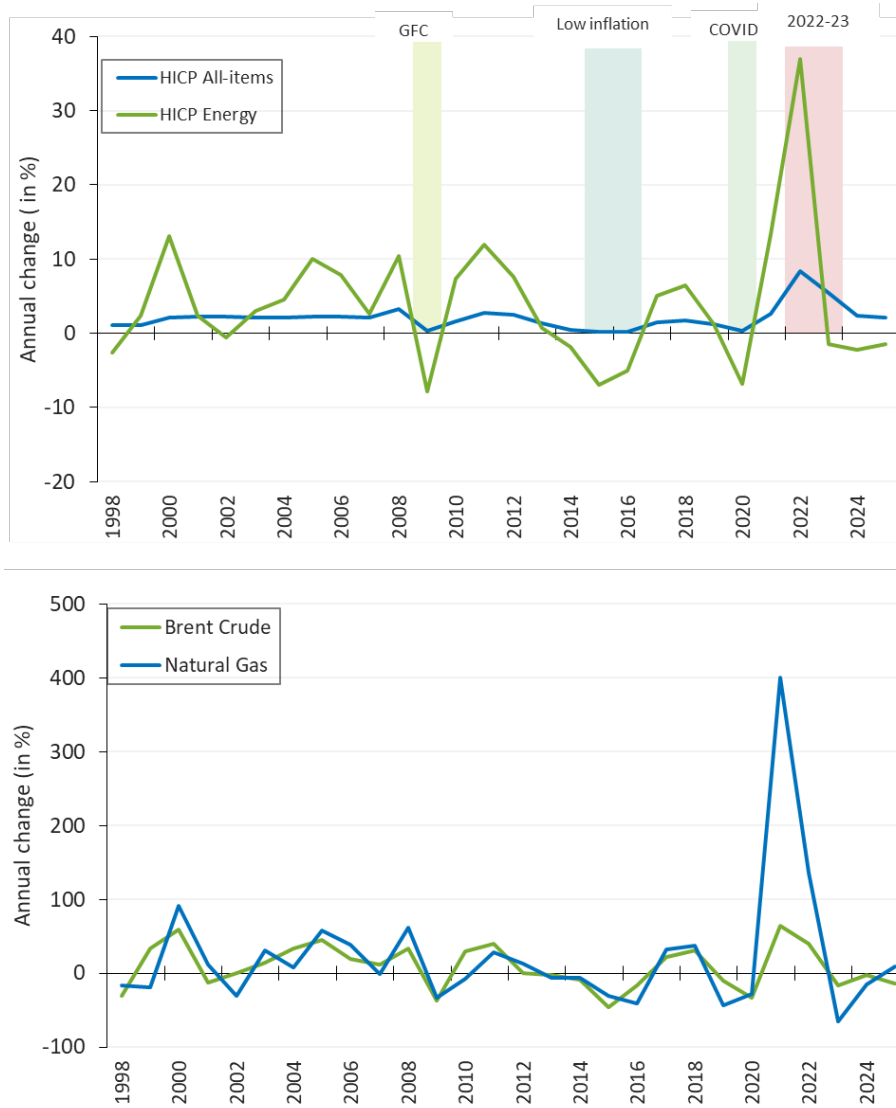
**The 2022-23 episode was different because the energy shock had a much stronger impact on broader inflation dynamics.** Headline inflation increased unusually strongly alongside the surge in energy inflation following Russia's invasion of Ukraine. This is consistent with a stronger transmission of the shock into broader consumer prices than during earlier energy price episodes."

**One possible explanation is that the shock was centred on natural gas rather than oil.** Oil price shocks primarily affect the euro area through globally traded fuel prices, whereas natural gas shocks have a more direct impact on electricity prices, industrial production costs, and household energy expenditure. European gas markets are more regional and are more closely linked to electricity generation and energy-intensive industries, which strengthens the transmission of energy price shocks to broader inflation. Alessandri and Gazzani (2025) demonstrate that gas supply shocks generate stronger stagflationary effects and a greater impact on core inflation than oil shocks in the euro area.

**The composition of the 2022-23 energy shock seems consistent with this explanation.** Figure 2, based on the work of Corsello and Tagliabracchi (2023), illustrates the decomposition of euro area headline inflation into energy and non-energy components since 2018. The sharp increase in inflation after 2022 was largely driven by energy prices, with energy inflation relatively evenly split across electricity, gas, and liquid fuels. While these observations do not establish causality, they are consistent with the view that gas and electricity prices played a much larger role than in previous episodes, potentially contributing to the wider impact of the shock on consumer prices.

**Taken together, the evidence suggests that the disruption of Russian gas supplies represented a qualitatively different type of energy shock for the euro area.** By amplifying cost pressures across large parts of the economy, it resulted in stronger pass-through to producer and consumer prices than is typical of oil price shocks. This may help to explain why inflationary pressures in 2022-23 proved unusually persistent and difficult to stabilise with monetary policy.

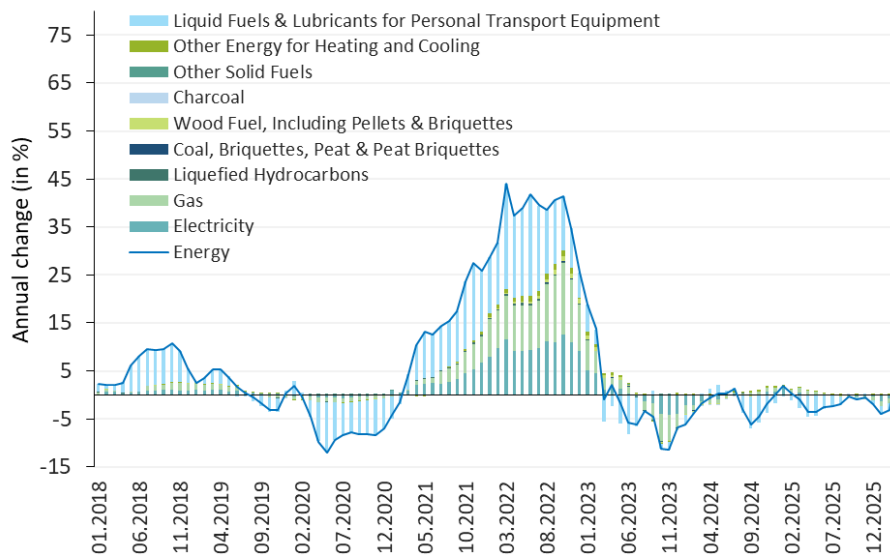
Figure 1: Energy prices HICP and overall HICP in the euro area since 1998



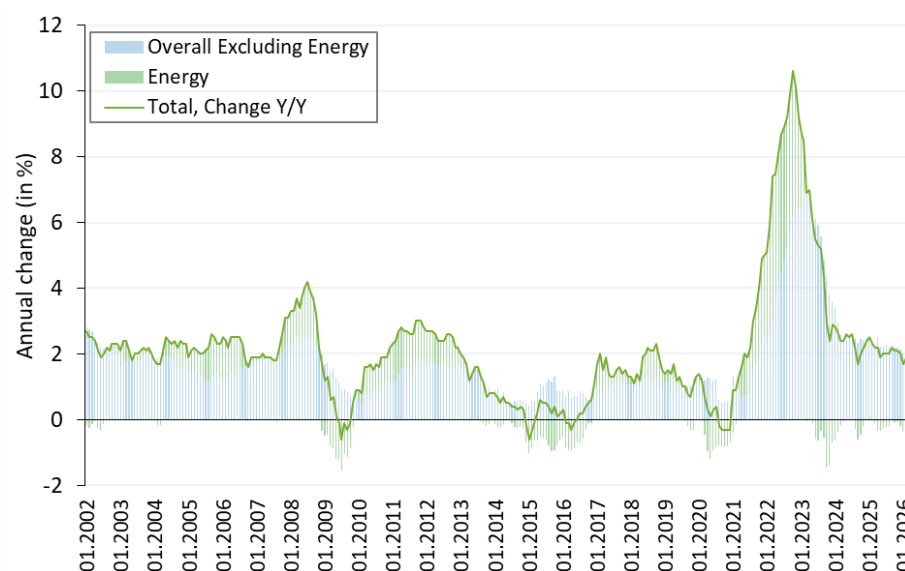
Source: Macrobond

Figure 2: Energy inflation and its contribution to headline inflation in the euro area

a) Decomposition of energy inflation (y-o-y variation)



b) Contribution to headline inflation (y-o-y variation)



Source: Eurostat – Macrobond.

### 3.2. Expectations and second-round effects

**The main risk posed by supply shocks is not the initial price increase itself, but the possibility that inflation expectations become unanchored.** Once firms and households anticipate persistently higher inflation, this can influence wage demands and firms' pricing decisions, creating a cycle of inflation that prolongs the consequences of the initial shock. In this context, while monetary policy cannot offset the supply shock directly, it can prevent these endogenous propagation mechanisms from becoming entrenched.

**Therefore, a central challenge for monetary policy is to distinguish between temporary price adjustments and inflationary dynamics that could become self-perpetuating.** Whether an initial price shock becomes persistent depends critically on how firms and households adjust their pricing and wage-setting behaviour in response to changing inflation expectations.

**Empirical evidence shows that inflation expectations are shaped strongly by individuals' personal inflation experiences and by highly salient and volatile prices, particularly food and energy prices** (Malmendier and Nagel, 2016; D'Acunto et al., 2021). This is particularly relevant for energy-price shocks, as fuel and utility prices are frequently observed and highly visible, while also disproportionately affecting low-income households with limited scope to substitute consumption (D'Acunto et al., 2019; Känzig, 2021). As a result, energy-price shocks may influence inflation expectations more strongly than other relative-price changes, increasing the risk that temporary price pressures become embedded in wage-setting and pricing decisions.

**Anchored inflation expectations are therefore a key mechanism through which monetary policy can mitigate the long-term effects of supply shocks.** The management of expectations is a central feature of modern monetary policy frameworks. Woodford (2003) demonstrate that a central bank's credibility in achieving its inflation target is a key channel through which monetary policy influences inflation outcomes. When inflation expectations remain firmly anchored, the inflationary effects of supply shocks can be contained without the need for large increases in policy rates.

**However, recent research suggests that this anchoring may become more fragile in times of geopolitical stress.** By using randomised scenario questions in the ECB Consumer Expectations Survey, Gorodnichenko et al. (2025) demonstrate that anticipating a protracted geopolitical conflict leads European households to expect higher inflation and slower economic growth, while also reducing their planned consumption. These findings imply that geopolitical risk can directly influence inflation expectations and demand, which has implications for the persistence of inflationary pressures in the current environment.

**Effective central bank communication is crucial in limiting the persistence of energy-driven inflation.** Forward guidance, in particular, can help to anchor inflation expectations, strengthen the transmission of monetary policy and reinforce the central bank's commitment to price stability. However, in an environment characterised by substantial uncertainty regarding the magnitude, duration, and economic consequences of supply shocks, as is currently the case following the outbreak of conflict in the Middle East, central banks should exercise caution when providing strong forward guidance on the future path of policy rates. If economic conditions change rapidly, it may be difficult to maintain commitments to a particular policy path, which could potentially undermine credibility. Therefore, communication should focus on the central bank's reaction function, emphasising its commitment to price stability while retaining the flexibility to respond to new information. This data-dependent communication strategy can help to anchor inflation expectations without unduly constraining future policy decisions.

### 3.3. Non-linear transmission mechanisms

**The inflationary effects of supply shocks may become more persistent when price adjustments become nonlinear during periods of high inflation.** Large energy shocks are transmitted throughout the economy via input-output linkages, as higher energy costs increase production costs across a wide range of sectors. As these cost pressures accumulate, a growing number of firms reach the point at which adjusting prices becomes unavoidable. This increases the frequency of repricing, which strengthens the pass-through of cost increases to consumer prices. This can amplify inflationary pressures beyond the predictions of standard linear models.

**Inflation can therefore become self-reinforcing when many firms adjust their prices simultaneously.** As the proportion of firms repricing rises, pass-through accelerates, with inflation itself inducing further repricing decisions. Standard Calvo-style models, which assume a fixed repricing

frequency, fail to capture these feedback effects and consequently underpredict the speed and persistence of inflation during large supply shocks (Blanco et al., 2024; 2025).

**These nonlinearities have important implications for monetary policy.** When inflation is already high and repricing is frequent, disinflation may be less costly in terms of output, as price adjustments propagate more rapidly through the economy. Conversely, delayed tightening could become substantially more costly if self-reinforcing inflationary dynamics take hold (Karadi et al., 2025).

**Empirical evidence from the euro area confirms this.** Data from 1999 to 2024 show that the impact of a supply shock depends critically on its size and timing, as well as on the prevailing level of inflation. When inflation is already high when a shock occurs, firms and households are more likely to revise their expectations upwards, thereby amplifying the second-round effects on wages and prices. Conventional linear models do not fully capture these nonlinearities, which has important implications for how central banks should calibrate their response to large, energy-driven surges in inflation (Ascari et al., 2025).

### 3.4. Distributional and Structural Effects

**Recent contributions (e.g. Peersman & Wauters, 2024; Chan, 2024) emphasise that heterogeneous household responses can mitigate the inflationary impact of an energy-driven supply shock.** An increase in energy prices acts as a negative real income shock that disproportionately affects lower-income households, who typically spend a larger proportion of their income on energy and essential goods and have fewer financial reserves. As these households generally have a higher marginal propensity to consume, they tend to reduce spending more rapidly following an energy price shock.

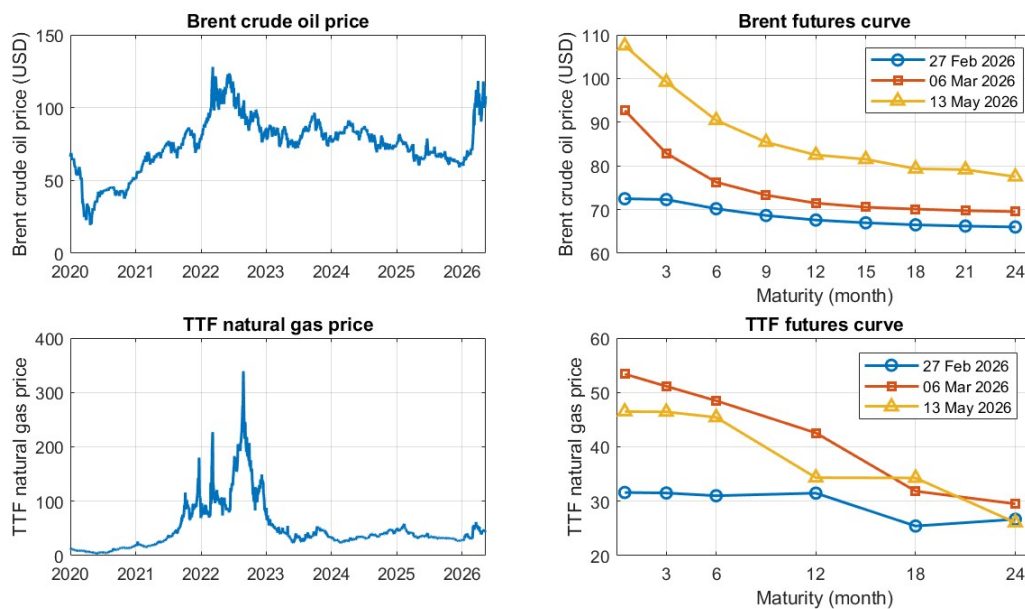
**The resulting demand compression partly offsets the inflationary effects of the initial supply disturbance.** Therefore, the persistence of inflation depends not only on the magnitude of the cost shock itself, but also on the speed and strength with which the associated loss of purchasing power feeds through to aggregate demand. To capture these distributional dynamics, Chapter 5 analyses the macroeconomic effects of the current oil shock using a heterogeneous agent New Keynesian (HANK) model based on the work of Bayer et al. (2023). This framework explicitly accounts for heterogeneity in households' energy expenditure shares and liquidity positions. This allows for a richer assessment of the shock's inflationary and real economic consequences than a representative-agent model would permit.

## 4. THE CURRENT ENERGY CRISIS IN CONTEXT

### 4.1. Magnitude of the current shock

**The current energy shock is concentrated primarily in oil markets rather than European natural gas markets.** The left-hand panels of Figure 3 illustrate the recent developments in the prices of Brent crude oil and Title Transfer Facility (TTF) natural gas in the context of the 2022–23 energy crisis. The right-hand panels show how the futures curves adjusted across maturities following the outbreak of war in Iran. The curves are shown for three dates: 27 February 2026 (immediately before the start of the war); 6 March 2026 (one week after the outbreak); and 13 May 2026, representing the current market assessment.

Figure 3: Current and Expected Development of Brent Crude Oil and TTF Natural Gas Prices



Source: Bloomberg and own calculations.

**Oil markets have experienced significant and sustained repricing since the outbreak of the war.**

Brent crude oil prices have risen sharply from around US Dollar 70 per barrel prior to the conflict to levels above US Dollar 100 per barrel in the current scenario. The Brent futures curve shifted markedly upwards immediately after the war began, indicating a rapid repricing of geopolitical and supply risks. By 13 May, the entire curve had moved further upwards, particularly at shorter maturities, suggesting that markets increasingly viewed the shock as larger and more persistent than initially expected.

**Nevertheless, markets continue to expect part of the oil price increase to unwind over time.**

Despite the substantial upward shift, the Brent futures curve remains strongly downward-sloping, implying expectations of declining oil prices over the longer term. At the same time, the May 2026 curve remains well above the pre-war curve, even at longer maturities, indicating that markets are also pricing in a persistent component of the shock. The current repricing therefore reflects more than just a temporary supply disruption, pointing to expectations of tighter oil market conditions over the medium term.

**In contrast, the response of European natural gas markets has been relatively moderate.** Although TTF gas prices increased after the start of the war, the magnitude of the adjustment was much smaller than in oil markets, remaining far below the extreme levels observed during the 2022–23 European gas crisis. The historical price series illustrates the exceptional nature of the previous gas price surge, when

TTF prices reached several hundred euros per MWh at their peak. In the current situation, gas price increases have been relatively limited, and gas futures markets do not indicate the same sustained upward repricing seen in oil markets. This more muted response reflects Europe's improved energy security since the crisis of 2022–23, which has seen greater supply diversification, increased LNG import capacity, and stronger storage infrastructure. Furthermore, the current conflict poses a more direct threat to global oil supply and transport routes than to European gas deliveries, which limits concerns about physical gas shortages.

**Gas futures markets also suggest that the current shock is not expected to cause renewed systemic stress to the European gas supply.** While the March 2026 TTF futures curve has shifted upwards compared to the pre-war curve, the May 2026 curve has fallen again at several maturities, converging towards levels far below those reached during the 2022 crisis. Therefore, markets appear to view the current increase in gas prices as being limited and temporary rather than as the start of another severe European gas supply shock.

**Overall, the current situation differs significantly from the energy crisis of 2022–23.** While the earlier shock was driven by extreme stress in European gas markets, the present episode is characterised primarily by persistent repricing in global oil markets, with limited spillovers to European natural gas prices so far. While the current energy shock is sizeable, it remains oil-centred rather than gas-centred, and does not currently indicate a renewed episode of extreme stress in European natural gas markets.

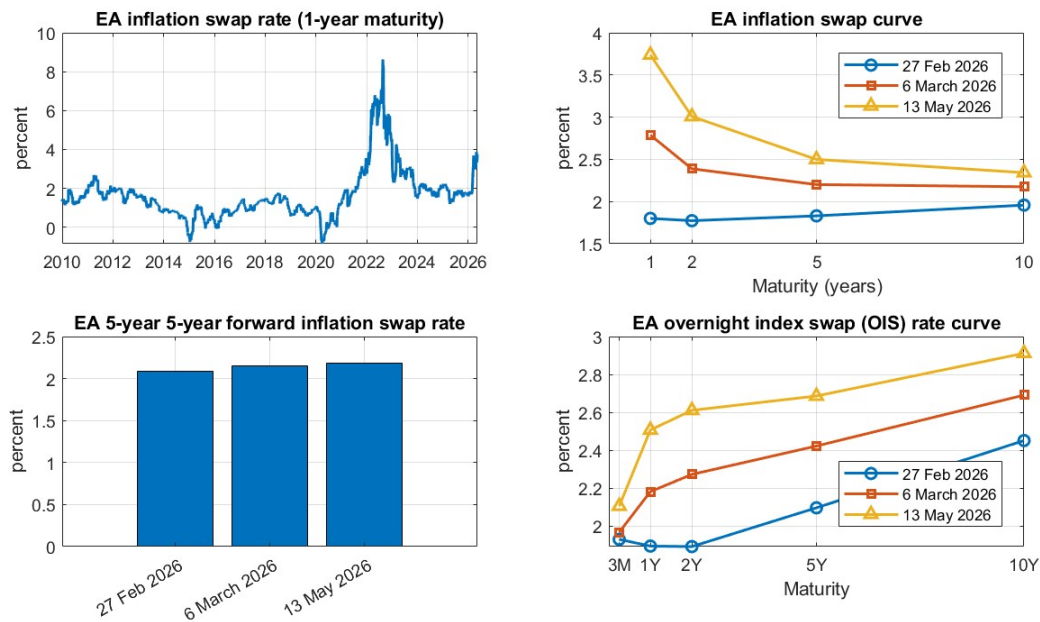
## 4.2. Inflation and inflation expectations developments

**Euro area headline inflation has increased sharply since the outbreak of conflict in the Middle East, with spillovers into underlying inflation remaining limited so far.** According to Eurostat, annual HICP inflation increased from 1.9% in February 2026, prior to the outbreak of the conflict, to 2.6% in March, 3.0% in April and 3.2% in May. This increase was primarily driven by rising energy prices, with energy inflation moving from –3.1% in February to 5.1% in March, 10.8% in April and 10.9% in May. In contrast, core inflation (defined as HICP excluding energy, food, alcohol and tobacco) continued to ease, falling from 2.4% in February to 2.3% in March, 2.2% in April and 2.0% in May. While the recent rise in headline inflation reflects the direct impact of higher energy prices, the continued moderation in core inflation suggests that broader inflationary pressures and second-round effects remain limited at present.

**The current limited pass-through to core inflation should be interpreted with caution, given that the shock is recent and has increased in magnitude since the outbreak of war.** Figure 4 shows the development of euro area inflation expectations. Financial markets have already revised the short-term inflation outlook upwards significantly. The one-year euro area inflation swap rate rose from approximately 1.8% on 27 February to around 2.8% on 6 March, reaching roughly 3.7% by 13 May. The two-year inflation swap rate also rose markedly, from around 1.8% prior to the war to approximately 2.4% one week after its outbreak, reaching around 3.0% in the current scenario. This repricing was therefore concentrated at shorter maturities, which is consistent with market expectations of a significant near-term inflationary effect from higher oil prices.

**Inflation expectations at medium-term horizons have also increased, although markets still anticipate that inflationary pressures will ease over time.** The five-year inflation swap rate increased from approximately 1.8% prior to the war, reaching around 2.2% in early March and approximately 2.5% by mid-May. This suggests that investors are increasingly anticipating a more persistent inflationary trend. Nevertheless, the inflation swap curve remains downward sloping in the current scenario, indicating that markets continue to expect inflationary pressures to moderate over longer timeframes.

Figure 4: Development of Euro Area Inflation Expectations



Source: Bloomberg and own calculations.

### Household inflation expectations have reacted particularly strongly to the energy price shock.

According to the ECB Consumer Expectations Survey, the median household's one-year inflation expectations increased from 2.5% to 4.0% between February and April. As the February survey did not yet take into account the war, which began unexpectedly at the end of the month, this increase mainly reflects the initial household response to the shock. This sharp adjustment is important because household inflation expectations tend to react strongly to the prices of frequently purchased, highly visible items such as fuel and energy.

### However, longer-term inflation expectations remain broadly anchored close to the ECB's inflation target.

The five-year, five-year forward inflation swap rate in the euro area increased only modestly, from around 2.1% before the war to approximately 2.2% by 13 May 2026. There is also little evidence of de-anchoring in household longer-term inflation expectations: In the ECB Consumer Expectations Survey, the median household's five-year-ahead expectations increased from 2.3% to 2.4% between February and April. This limited movement over longer horizons suggests that markets and households do not currently anticipate significant and enduring second-round effects from the energy shock.

### The current Iran-related energy shock is also expected to be stagflationary, although the channel differs from the 2022-23 gas crisis.

Consistent with the deterioration in inflation expectations in the short- to medium-run discussed above, Bloomberg professional forecasters increasingly expect the shock to weaken medium-term economic activity. The real gross domestic product (GDP) growth forecast for 2027Q2 remained broadly stable at around 1.5% before and immediately after the outbreak of the war, but was revised down markedly from mid-April onwards, reaching approximately 1.2% by 13 May. This combination of rising inflationary pressures and weakening growth expectations is consistent with the stagflationary effects typically associated with adverse energy supply shocks.

## 4.3. Household consumption and consumer confidence

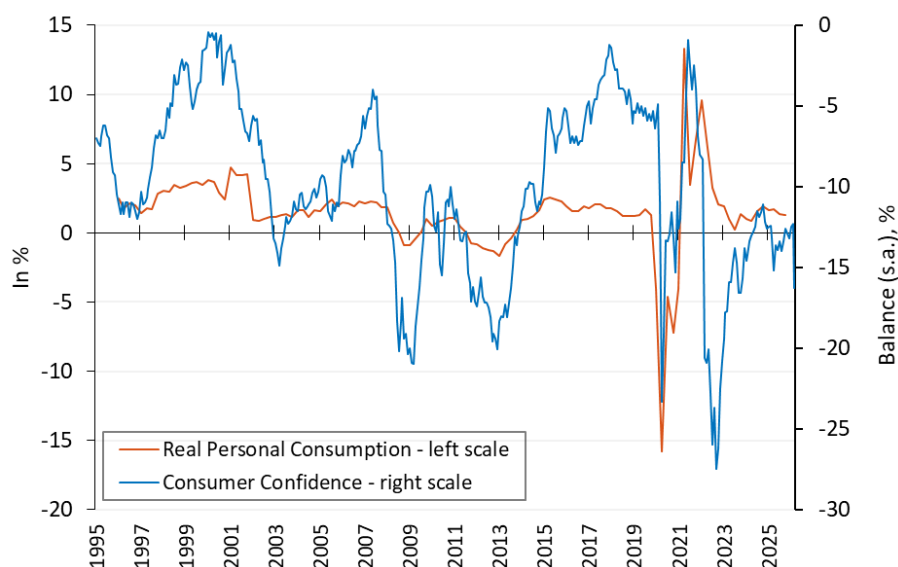
**Indicators of household consumption, consumer confidence and spending behaviour across income groups could provide further insight into whether the shock is likely to generate sustained inflationary pressures.** However, disaggregated data are usually only available with a considerable

delay, which makes them less useful for real-time assessments. For the sake of time, we focus here on aggregate indicators, which already provide a good picture of economic developments.

Figure 5 plots year-on-year real personal consumption growth alongside consumer confidence in the euro area since 1995. The two series move closely together across the cycle, with confidence typically leading consumption. The sharp deterioration in consumer confidence following the energy price surge of 2022–23 preceded a marked slowdown in real consumption growth. This is consistent with the view that households' loss of purchasing power led to demand compression, helping to contain the second-round effects of inflation.

**The current energy shock triggered by the conflict in the Middle East has not yet resulted in significant disruption to either consumer confidence or real personal consumption.** Both series remain stable. Whether this reflects the more subdued demand backdrop against which the current shock is unfolding, or is simply due to the early stage of its transmission, remains to be seen and should be monitored closely in the coming months.

Figure 5: Euro area Personal Consumption Change (y-on-y) and consumer confidence



Note: The indicator is the arithmetic average of the balances (%) of four questions: the financial situation of households over the last 12 months and over the next 12 months, the general economic situation over the next 12 months, and major purchases over the next 12 months.

Source: European Commission, Eurostat, Macrobond.

## 5. THE MACROECONOMIC AND WELFARE EFFECTS OF THE ENERGY-PRICE SHOCK IN A HANK MODEL

**A structural macroeconomic model is used to evaluate the impact of the recent surge in energy prices on the euro area economy and to assess how alternative monetary policy responses affect inflation, economic activity and household welfare.** The model used is a Dynamic Stochastic General Equilibrium (DSGE) model, a framework that is widely used to simulate how the economy responds to shocks over time. The model accounts for the fact that households differ in terms of their energy consumption and financial constraints (a so-called heterogenous agent (HANK) model). Energy also enters directly into production, meaning that a rise in energy costs has an impact on the whole economy, not just on household energy bills. The model is described in more detail in the Annex. The Annex also explains how the model captures second-round effects (through nominal price and wage rigidities) and inflation expectations (assumed to be model-consistent). As discussed in Section 3.4, differences between households significantly impact how energy price shocks propagate through the economy. The model therefore enables us to examine not only the aggregate effects of different monetary policy responses, but also the winners and losers under each approach.

**The model is calibrated to match euro area economic data provided by Kase and Dinis Rigato (2025).<sup>1</sup>** The energy price shock fed into the model mirrors the actual estimated path of euro area energy prices, as described in Section 4, including both the sharp initial spike and the gradual easing over roughly three years.

**In the wake of the current energy-price shock, the ECB faces a difficult choice. It can either largely look through the temporary increase in inflation caused by higher energy prices or tighten monetary policy more decisively to reduce the risk that broader inflationary pressures become entrenched.** To illustrate this trade-off, our model compares two alternative policy responses. Because a complete absence of a monetary policy reaction would not be consistent with stable inflation dynamics in the model, the first scenario is represented by the weakest policy response that still keeps inflation expectations anchored (the 'limited-response scenario'). The second scenario assumes a stronger policy response to rising inflation risks (the 'stronger-response scenario'). These scenarios are intended to illustrate the trade-offs facing policymakers and should not be interpreted as identifying the optimal policy response. Figure 6 shows how key economic variables respond under each scenario.<sup>2</sup>

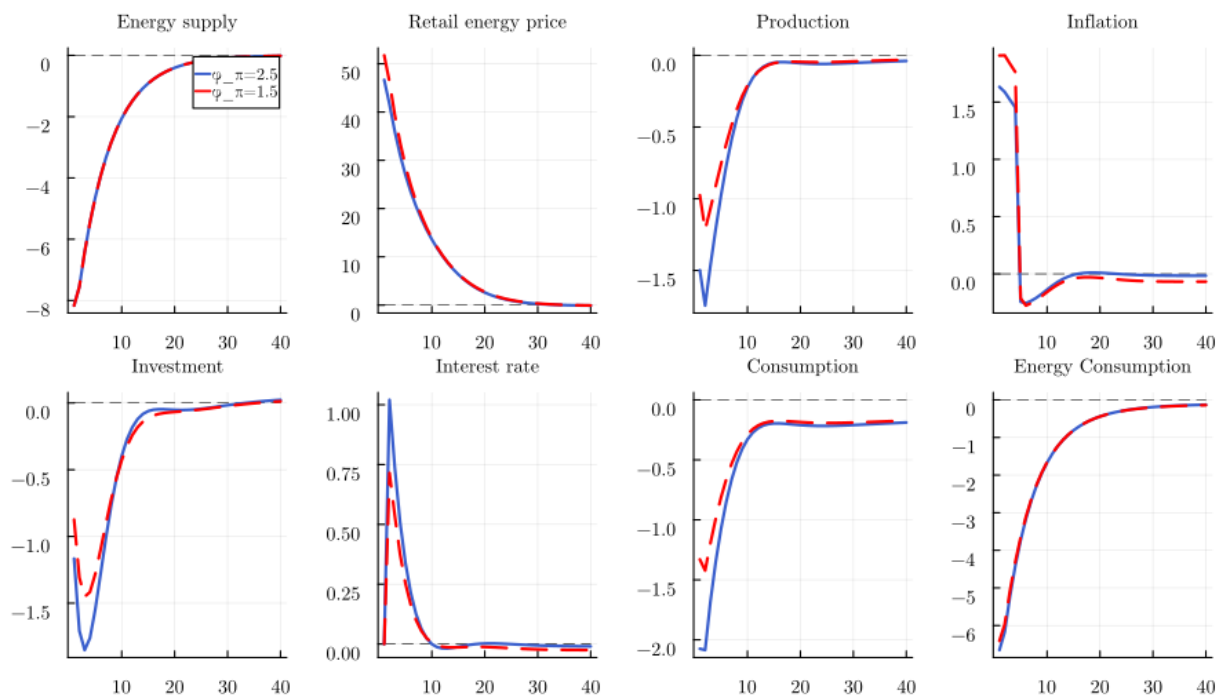
**The model results confirm that, from a monetary policy perspective, an energy price shock poses a particular challenge under both policy rules, as it simultaneously pushes inflation up and growth down, which economists refer to as a 'cost-push shock'.** Initially, inflation jumps sharply before

<sup>1</sup> Kase and Dinis Rigato (2025) estimate a set of aggregate and distributional moments for the euro area from the ECB's Household Finance and Consumption Survey (HFCS). Table 2 in the Annex reports the targeted aggregate moments alongside their model counterparts. The model captures the broad structure of euro area household balance sheets and the public sector. It reproduces the ratio of aggregate investment to output and the share of government spending in output almost exactly. It somewhat overstates the stock of total and liquid household wealth relative to output, as well as the government debt ratio, but the ordering and the orders of magnitude are preserved. Crucially, the model matches the euro area wealth Gini coefficient of about 0.72 very closely (0.715), which is important because the degree of wealth inequality shapes how many households are liquidity-constrained and therefore how strongly aggregate demand responds to the energy price shock. The share of oil and gas in intermediate production is calibrated to 1.2%, the combined cost share of gas and oil in euro area production.

<sup>2</sup> The look-through scenario assumes a Taylor-rule coefficient on inflation of 1.5, while the stronger-response scenario assumes a coefficient of 2.5.

dipping briefly as markets begin to anticipate a return to normal energy supply. It then gradually returns to target. Output, investment and consumption all fall. The contraction is made worse by the fact that energy is closely linked to both production and non-energy consumption. This means that it cannot easily be replaced, so higher energy costs suppress activity more broadly than the size of the energy sector alone might suggest. Consequently, the reduction in energy use depresses factor returns and erodes household purchasing power by a greater amount than would be suggested by energy's relatively small share of total expenditure. The impact causes a sharp fall in energy consumption, by about 5-6%, before it recovers as the shock gradually dissipates.

Figure 6: Aggregate responses to an energy-price shock under alternative monetary-policy rules



**Under the stronger-response scenario, when the ECB raises its policy rate more sharply, the stronger tightening does bring inflation down faster, with peak inflation reaching 1.6 percentage points above target.** However, it also deepens the economic contraction by tightening borrowing conditions, particularly for households that are already financially constrained. At their lowest points, output falls by 1.75%, investment by 1.85%, and consumption by 2.1%.

**Under the limited-response scenario, the policy rate rises by less, which allows the energy price shock to feed more fully into inflation, peak inflation reaches 1.9 percentage points.** Energy prices also rise by more, since stronger demand puts additional upward pressure on prices. On the other hand, the more modest tightening provides greater protection for real economic activity. The trough in output is more than half a percentage point lower (-1.22% rather than -1.75%), investment falls by 0.4 percentage points less, and the decline in consumption is reduced by almost a third. The reason is straightforward: when real interest rates rise by less, households who rely on borrowing and tend to spend a high share of any additional income, cut back less on consumption. Since these households make up a substantial share of overall demand, this limits the extent to which the shock is amplified through the demand side of the economy.

**The output-inflation trade-off might seem to favour the limited-response scenario, but this picture changes once broader household welfare is taken into account.** Importantly, the simulations compare the two stylised policy responses and are not intended to identify the optimal policy path. Table 1

presents a standard welfare metric known as the consumption-equivalent variation (CEV), which measures how much of their permanent consumption households would be willing to give up in order to avoid the energy price shock altogether. A less negative number means a smaller welfare loss.

**Two findings stand out. First, aggregate welfare losses are actually larger under the limited-response scenario.** On average, households would sacrifice 0.41% of their permanent consumption to avoid the shock, compared to 0.33% under the stronger-response scenario. Although the more accommodative response cushions output and consumption in the short run, these benefits are outweighed by the broader welfare costs associated with a more prolonged period of elevated inflation and energy prices.

**Second, the welfare losses are unevenly distributed. Households with high energy consumption suffer larger welfare costs under either policy rule.** In other words, the limited-response scenario results in smaller aggregate output and consumption losses at the cost of a more prolonged period of higher inflation, with households most exposed to the energy shock bearing the largest welfare losses. Taken together, the simulations suggest that the welfare costs associated with more persistent inflation may outweigh the short-run benefits of a more accommodative monetary policy response.

Table 1: Welfare cost of the energy-price shock under two monetary-policy stances (CEV, % of permanent consumption; negative values indicate welfare losses)

Group	Stronger-response	Limited response
<b>Aggregate</b>	<b>-0.33</b>	<b>-0.41</b>
Low-energy households	-0.32	-0.40
High-energy households	-0.36	-0.43

Source: Model simulations. CEV computed following the procedure in Bayer et al. (2023), excluding the owners of energy resources.

## 6. IMPLICATIONS FOR ECB MONETARY POLICY

**The standard recommendation for central banks facing temporary supply shocks is to look through them rather than respond with monetary tightening.** If a cost-push shock is expected to reverse on its own, tightening policy will impose unnecessary costs on output and employment without materially reducing inflation. By avoiding excessive tightening, the central bank can sustain consumption and employment at higher levels, thereby minimising the sacrifice ratio.

**Recent research suggests that this strategy may apply particularly strongly to energy-importing economies, such as the euro area.** Drechsel et al. (2026) demonstrate that the optimal policy response involves not only looking through the direct effects of energy price increases on headline inflation, but also their indirect effects transmitted through firms' input costs. They also argue that, in this context, wage inflation may provide a more reliable anchor than price-based inflation measures, since wages are less directly affected by movements in commodity prices.

**However, as discussed in Section 3, the case for tightening sooner rather than later becomes stronger when several conditions coincide.** This is particularly true in the event of large and persistent supply shocks that could trigger non-linear repricing dynamics, especially if the shock is gas- rather than oil-driven, given that gas prices are transmitted more strongly to electricity costs and broader production chains. The case for earlier tightening is further strengthened when inflation expectations are fragile and increasingly influenced by recent inflationary experiences, and when geopolitical uncertainty is high, making expectations more susceptible to new shocks.

**Several of these amplifying conditions are currently present in the euro area.** Although headline inflation has fallen back close to the ECB's target, short- and medium-term inflation expectations have risen noticeably following the recent increase in energy prices. Households and firms are likely still influenced by the recent period of elevated inflation, which increases the likelihood that renewed energy price increases will feed more rapidly into wage and price setting behaviour. At the same time, negotiated wage growth in the euro area has remained above headline inflation in recent quarters, suggesting that domestic inflationary pressures may not yet have fully adjusted to the earlier decline in headline inflation.

**Elevated geopolitical uncertainty could further amplify these dynamics.** Inflation expectations tend to become more sensitive during periods of heightened geopolitical risk. Given the current elevated level of geopolitical uncertainty following the outbreak of war in the Middle East, even temporary increases in energy prices could trigger disproportionately strong reactions in inflation expectations, thereby increasing the risk of second-round effects.

**At the same time, the composition of the current energy shock offers some reassuring signals.** As previously discussed, gas price shocks have historically been particularly relevant to broader euro area inflation dynamics due to their significant impact on electricity prices, industrial input costs and household energy expenditure. However, in contrast to the 2022-23 episode, the recent rise in energy prices has so far been largely driven by oil prices, with gas price increases remaining comparatively moderate. If this pattern continues, the impact on core inflation and broader price dynamics may be more limited and gradual than during the previous energy crisis.

**The inflationary and macroeconomic environment facing the ECB remains highly uncertain.** Two factors will be particularly important in determining whether the current shock remains temporary or becomes more persistent. The first is the duration and potential escalation of the conflict in the Middle East, and its implications for the global energy supply. The second is whether higher energy prices lead to broader wage demands, changes in pricing behaviour, and altered inflation expectations. Recent

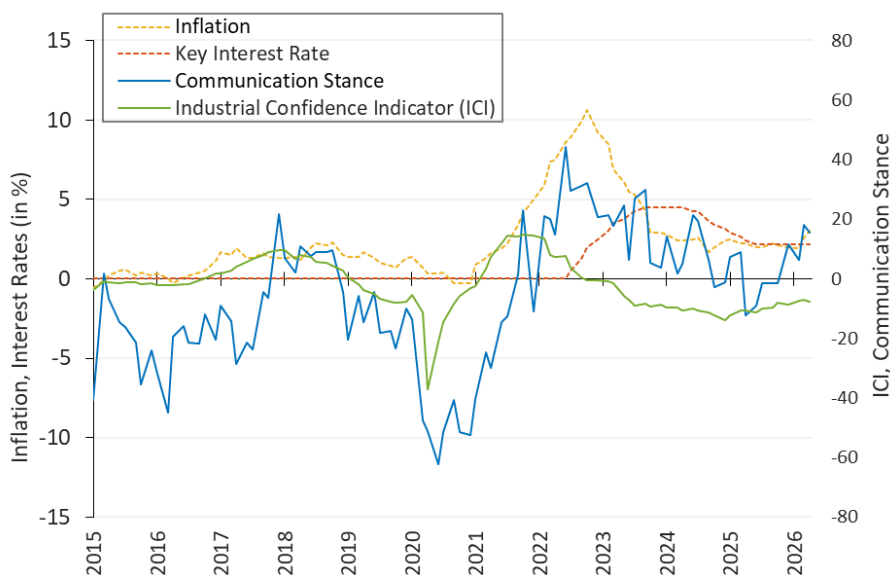
increases in short- and medium-term inflation expectations suggest that these risks cannot be dismissed.

**Also, the extent to which higher energy prices lead to reduced consumption and economic activity among households will be a key factor in determining the persistence of inflation.** Heterogeneous responses to the shock could reduce aggregate demand and prevent broader inflationary pressures from emerging. Therefore, monitoring developments in consumption, consumer confidence, and other indicators of economic activity is important when assessing the appropriate monetary policy response.

**In this environment, central bank communication becomes a particularly important policy instrument.** By signalling that the ECB is closely monitoring the risk of broader inflationary spillovers and is prepared to act if necessary, communication can help to stabilise inflation expectations and reinforce policy credibility, thereby reducing the need for a more aggressive monetary policy response later. However, monetary policy must also balance the risk of reacting too slowly to emerging second-round effects with the risk of prematurely tightening in response to what may still prove to be a temporary supply shock.

**Although the ECB's communication tone is currently comparatively hawkish by historical standards, it is still below the exceptionally high levels observed during the 2022-23 inflation episode,** when the ECB aggressively raised its key interest rate from -0.5% to 4.0% (see Figure 7). Nevertheless, the current tone signals that policymakers are prepared to tighten monetary policy further should inflationary pressures become more persistent or intensify. At the same time, the figure also highlights the dilemma facing monetary policy. The industrial confidence indicator is at comparatively weak levels, indicating subdued economic activity and ongoing growth concerns within the euro area. The ECB is therefore faced with the challenge of maintaining inflation credibility and anchoring expectations without exacerbating the ongoing economic stagnation.

Figure 7: ECB Hawkish-Dovish Communication Stance and Main Economic Indicators



Notes: The Communication Stance indicator measures the hawkishness or dovishness of ECB communication using a transformer-based textual sentiment model applied to ECB monetary policy communication. Positive values indicate a more hawkish communication stance, while negative values reflect more dovish communication. The series is standardised and aggregated at monthly frequency. For details on the construction and validation of the indicator, see Bernoth (2026).

Source : Macrobond, own calculations.

**HANK model simulations provide an additional perspective.** While higher energy prices may reduce aggregate demand and thereby dampen inflationary pressures, the simulations suggest that the costs of responding too cautiously to renewed inflationary pressures could outweigh the costs of a stronger policy response. Although a more accommodating response cushions the decline in output and consumption in the short term, it also allows inflationary pressures to persist for longer, resulting in greater overall welfare losses. These losses disproportionately affect households with high energy expenditure. It is important to note that the simulations compare stylised policy responses and do not identify the optimal policy path. Rather, they highlight that the balance of risks may shift towards a stronger response when concerns about inflation persistence and second-round effects increase.

**In the current situation, an increase in ECB policy rates would be a prudent risk-management response.** In light of the anticipated increase in inflation in the short-term, this would help to prevent an inadvertent loosening of monetary conditions and demonstrate the ECB's commitment to maintaining price stability. However, the appropriate degree of policy adjustment should be data-dependent, taking into account the persistence of the shock, the evolution of inflation expectations, wage and consumption dynamics, and incoming information on inflation and economic activity.

**Financial markets already appear to be anticipating a somewhat tighter policy path from the ECB.** Following the escalation of the conflict in the Middle East, the overnight index swap (OIS) curve shifted upwards across maturities (see Figure 4), reflecting rising market concerns about upside inflation risks. However, central banks must ultimately act independently based on their assessment of the inflation outlook and underlying economic conditions, rather than following market expectations. Nevertheless, the market reaction illustrates that investors increasingly expect the ECB to respond decisively should inflationary pressures persist. In such an environment, prolonged policy inaction could risk undermining policy credibility and contributing to a further increase in inflation expectations.

## REFERENCES

- Alessandri, P. & Gazzani, A. (2025). Natural gas and the macroeconomy: Not all energy shocks are alike. *Journal of Monetary Economics*, 151, 103749. <https://doi.org/10.1016/j.jmoneco.2025.103749>
- Ascari, G., Carrier, A., Gasteiger, E., Grimaud, A., & Vermandel, G. (2025). Monetary Policy in the Euro Area, When Phillips Curves ... Are Curves. CEPR Discussion Paper No. 20489. <https://cepr.org/publications/dp20489>
- Bayer, C., Kriwoluzky, A., Müller, G. J., & Seyrich, F. (2023). Hicks in HANK: Fiscal Responses to an Energy Shock. *DIW Discussion Paper No. 2056*. [https://www.diw.de/documents/publikationen/73/diw\\_01.c.884321.de/dp2056.pdf](https://www.diw.de/documents/publikationen/73/diw_01.c.884321.de/dp2056.pdf)
- Bernoth, K. (2026). *Dovish Coos or Hawkish Screech: Identifying ECB Communication Shocks and their Macroeconomic Effects*. [https://papers.ssrn.com/sol3/papers.cfm?abstract\\_id=6550926](https://papers.ssrn.com/sol3/papers.cfm?abstract_id=6550926)
- Blanchard, O. J., & Galí, J. (2009). *The Macroeconomic Effects of Oil Price Shocks: Why are the 2000s so Different from the 1970s?* In J. Galí & M. Gertler (Eds.), *International Dimensions of Monetary Policy* (pp. 373–428). Chicago: University of Chicago Press.
- Blanco, A., Boar, C., Jones, C., & Midrigan, V. (2025). *The Inflation Accelerator*. NBER Working Paper No. 32531. <https://doi.org/10.3386/w32531>
- Blanco, A., Boar, C., Jones, C., & Midrigan, V. (2024). Nonlinear Inflation Dynamics in Menu Cost Economies. NBER Working Paper No. 32094. <https://doi.org/10.3386/w32094>
- Chan, J., Diz, S., and Kanngiesser, D. (2024). "Energy prices and household heterogeneity: Monetary policy in a Gas-TANK." *Journal of Monetary Economics*, 147. <https://doi.org/10.1016/j.jmoneco.2024.103620>.
- Corsello, F., & Tagliabracchi, A. (2023). Assessing the pass-through of energy prices to inflation in the euro area. *Questioni Di Economia e Finanza (Occasional Papers), Questioni Di Economia e Finanza (Occasional Papers)*, (745), Artikel 745. [https://ideas.repec.org/p/bdi/opques/qef\\_745\\_23.html](https://ideas.repec.org/p/bdi/opques/qef_745_23.html)
- D'Acunto, F., Hoang, T., Paloviita, M., & Weber, M. (2019). Cognitive Abilities and Inflation Expectations. *AEA Papers and Proceedings*, 109, 562–566. <https://www.aeaweb.org/articles?id=10.1257/pandp.20191050>
- D'Acunto, F., Malmendier, U., Ospina, J., & Weber, M. (2021). Exposure to Grocery Prices and Inflation Expectations. *Journal of Political Economy*, 129(5), 1615–1639. <https://doi.org/10.1086/714447>
- Drechsel, T., McLeay, M., Tenreyro, S., & Turri, E. D. (2026). *How should central banks respond to commodity price shocks? Optimal monetary and exchange rate frameworks for commodity-exposed economies*.
- Gorodnichenko, Y., Georgarakos, D., Kenny, G., & Coibion, O. (2025). The Impact of Geopolitical Risk on Consumer Expectations and Spending. NBER Working Paper No. 34195. <https://www.nber.org/papers/w34195>
- Kase, H., & Dinis Rigato, R. (2025). Beyond averages: heterogeneous effects of monetary policy in a HANK model for the euro area. *ECB Working Paper No. 3086*. <https://www.ecb.europa.eu/pub/pdf/scpwps/ecb.wp3086~5c2ee96b1e.en.pdf>

- Känzig, D. R. (2021). The Macroeconomic Effects of Oil Supply News: Evidence from OPEC Announcements. *American Economic Review*, 111(4), 1092–1125. <https://doi.org/10.1257/aer.20190964>
- Karadi, P., Nakov, A., Nuño, G., Pastén, E., & Thaler, D. (2025). Strike While the Iron is Hot: Optimal Monetary Policy with a Nonlinear Phillips Curve. Banco de España Working Paper No. 2510. <https://doi.org/10.2139/ssrn.5278613>
- Malmendier, U., & Nagel, S. (2016). Learning from Inflation Experiences. *The Quarterly Journal of Economics*, 131(1), 53–87. <https://doi.org/10.1093/qje/qjv037>
- Peersman, G., and Wauters, J. (2024). Heterogeneous household responses to energy price shocks. *Energy Economics*, 132. <https://doi.org/10.1016/j.eneco.2024.107421>
- Woodford, M. (2003). *Interest and Prices: Foundations of a Theory of Monetary Policy*. Princeton, NJ: Princeton University Press.

## ANNEX

### Description of the HANK model

We analyse the effects of the energy crisis in response to the war in the Middle East on the euro area using a version of the model of Bayer et al. (2023). The model incorporates the use of energy both in production and in household consumption. It features two countries. One country with incomplete financial markets, heterogeneity in income, wealth, and energy consumption. The second country is modelled as an energy supplier with a simple capital market and a representative household. This way the model captures key features of the euro area economy and household heterogeneity. For these reasons, it is particularly well suited to analyse an energy price shock—such as one that has been triggered by the war in the Middle East.

More precisely, in the country with incomplete financial markets households are exposed to idiosyncratic, household-specific income risk, but can self-insure. To do so, they have access to two types of assets: nominal bonds and physical capital. As a result, households differ in terms of income and wealth. Households with low wealth or with predominantly illiquid assets (e.g., housing) exhibit a high marginal propensity to consume out of disposable income and transfers. The second country, for example Norway, is represented by a single household that owns the energy resources that are exported. This household consumes domestic goods as well as goods from the euro area. Trade surpluses are invested in bonds issued by the euro area, which only unwind slowly. As a result, demand for goods from the euro area economy is weak following an energy price shock.

Prices and wages are rigid. The parameters governing the costs of price adjustment are set to relatively high but plausible values. The firm sector in the euro area include firms that use capital, labour, and energy. The elasticity of substitution in production is low, meaning that energy is difficult to substitute for other production factors in the short run. The share of energy in production is approximately 2 %. The model links directly to the paper's discussion of inflation expectations and second-round effects. Second-round dynamics operate through the joint nominal rigidity of prices and wages: both final goods producers and wage-setting unions face Calvo-type adjustment frictions. An energy-driven cost-push shock therefore feeds gradually into both goods prices and nominal wages, generating the kind of wage-price dynamics that characterise second-round effects.

We calibrate the energy consumption of the households to German data as a representative country. Data for Italian households is very similar (see Bayer et al. for a reference). Energy consumption in both countries shows substantial dispersion and we expect this dispersion to hold for the majority of countries in the euro area. This heterogeneity and wide dispersion reflects the fact that some households live in poorly insulated buildings and therefore have higher energy needs. In particular, because of that, the households in the first income quintile could, even in absolute terms, spend more on heating than households on the highest income quintile. To capture this dispersion, we distinguish between two types of households in the model that differ in their energy expenditure shares: households with high energy intensity and households with low energy intensity. Since energy consumption is tied to the type of building, it is state-dependent and persistent. We model the energy market as a capacity-constrained import market: the energy supply available to the euro area is (almost) fixed in the short run and is cleared by a common equilibrium price.

Monetary policy is conducted by a central bank that responds to inflation. In one scenario, the central bank responds quite strongly ('strong-response scenario') on another case only mildly ('limited-response scenario'). Fiscal policy in the euro area levies (linear) taxes, pays social transfers, and spends on government consumption. It also issues public debt, which is held by households in both countries.

Table 2: Aggregate calibration targets and model fit (euro area)

<b>Moment</b>	<b>Target (EA)</b>	<b>Model</b>
Total household wealth / annual GDP	2.85	3.5
Liquid wealth / annual GDP	0.45	0.65
Aggregate investment / output	0.214	0.203
Government spending / output (G/Y)	0.209	0.22
Government debt / output	0.50	0.65
Gini coefficient (total wealth)	0.72	0.715

Source: Targets from Kase and Dinis Rigato (2025), ECB Working Paper 3086, based on HFCS data.

This paper examines the factors that influence the persistence of inflation following energy price shocks. Although the current oil price shock is economically significant, it is less likely to generate persistent inflationary pressures than the energy crisis of 2022–23, as European gas markets remain relatively stable. Nevertheless, elevated geopolitical uncertainty and households' recent inflation experience may increase the risk of second-round effects. Model simulations suggest that the long-term welfare costs of responding too cautiously to renewed inflationary pressures may exceed those associated with a somewhat stronger monetary policy response.

This document was provided by the Economic Governance and EMU Scrutiny Unit at the request of the Committee on Economic and Monetary Affairs (ECON) ahead of the Monetary Dialogue with the ECB President on 22 June 2026.