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Energy shocks and inflation: challenges for monetary policy

Key takeaways

- *The recent energy shock ranks among the most significant since the 1990s.*
- *Structural factors and initial conditions influence how energy shocks propagate into inflation – directly and through second-round effects.*
- *The appropriate monetary policy reaction depends on the persistence of the inflationary pressures as well as the magnitude of the growth impact, and it differs across economies. Uncertainty about these effects further complicates the policy challenge.*

The recent surge in energy prices, driven by the conflict in the Middle East, raised questions about the appropriate monetary policy response. Central banks face challenges in balancing the benefits of "looking through" temporary energy price spikes with the risks of second-round effects that could entrench higher inflation. This balance hinges on the nature of the shock – whether it stems from demand or supply – and its magnitude and persistence, both influenced by structural factors and initial conditions.

Surging energy prices: a historical perspective

The recent energy shock ranks among the most significant since the 1990s. Over the five months following the onset of the war in Iran, global oil supply contracted by nearly 15%. Oil prices spiked by over 120% from pre-war lows, before eventually falling towards pre-conflict levels, albeit with significant volatility. For context, oil prices spiked by around 180% after Iraq's 1990 invasion of Kuwait and peaked 77% higher following Russia's 2022 invasion of Ukraine (Graph 1.A). In both previous episodes, prices retrenched quickly as the Iraq–Kuwait conflict ended or alternative sources of energy supply were tapped.[1] During the recent Iran conflict, the drawdown of abundant oil reserves available at the start of the crisis helped to prevent a much larger price increase.[2] Unlike war-driven episodes, the oil price surges before the 2008 Great Financial Crisis (GFC) and during the post-GFC recovery in 2011 were primarily attributed to strong demand, with prices rising over months and years rather than weeks (Graph 1.B). Over time, supply adjusted to meet higher demand, also through development of alternatives such as shale oil. Similarly, the post-pandemic oil price surge in 2021 was largely driven by a rebound in demand from reopenings.

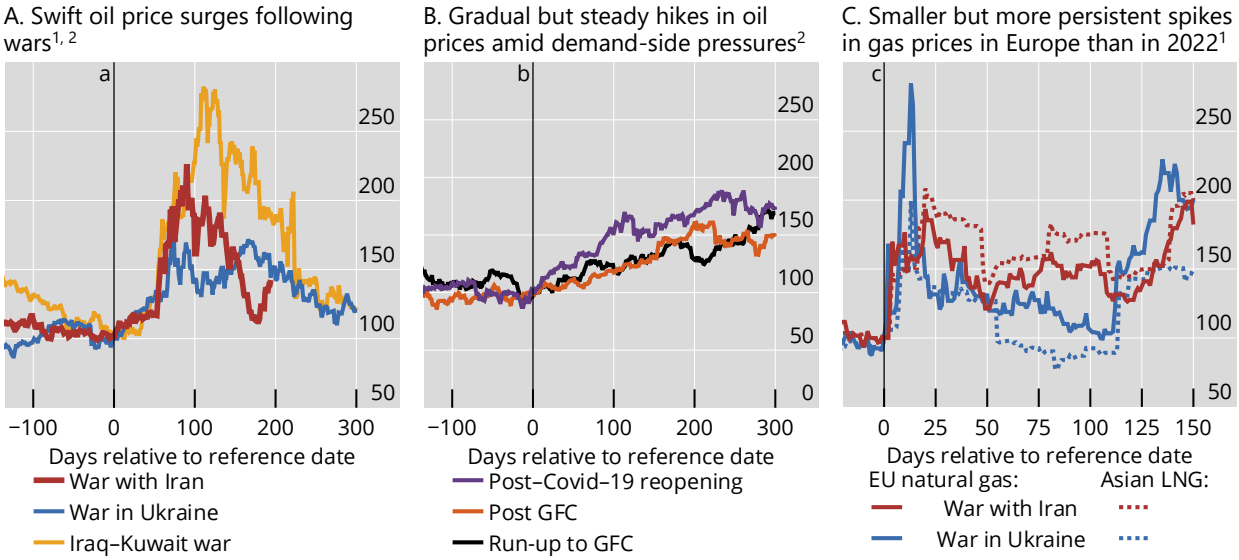
In addition to disruptions in oil supply, the conflict in Iran has affected major gas producers. Asia saw the largest increases in gas prices, which doubled in the first month of the conflict, even though the increase was less than that experienced in Europe following the Russian invasion of Ukraine (Graph 1.C). Gas prices have fluctuated since then, but infrastructure damage and challenges in securing alternative supply sources may have set the stage for renewed volatility and potential price spikes in the future.

[1] For example, following the embargo on Russian oil and gas in 2022, European countries increased their imports of gas from Norway and liquified natural gas from the United States and Qatar.

[2] See BIS (2026).

The current energy price surge mirrors those in previous conflicts

Index (reference date = 100) Graph 1



[a] The vertical line corresponds to the trough within the 60 days prior to each conflict. [b] The vertical line corresponds to the following reference dates: Post-Covid-19 reopening = 9 November 2020; Post GFC = 21 September 2010; Run-up to GFC = 22 January 2007. [c] The vertical line corresponds to the day before each conflict.

[1] Conflict dates: War with Iran = 28 February 2026; War in Ukraine = 24 February 2022; Iraq–Kuwait war = 2 August 1990. [2] Brent crude oil spot prices for oil prices.

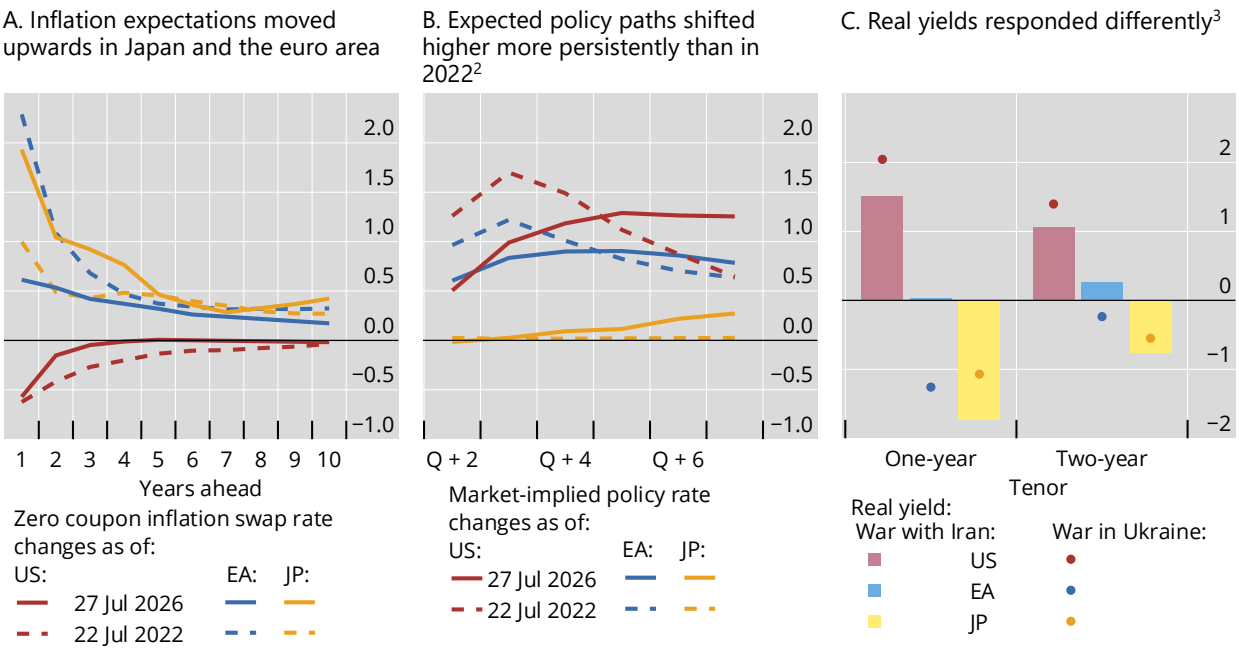
Sources: Federal Reserve Bank of St Louis; Bloomberg; LSEG Datastream; BIS.

A distinguishing feature of the recent oil supply shock is the potential scale of disruptions due to the protracted closure of the Strait of Hormuz. Beyond energy, the Strait is a critical chokepoint for other non-energy commodities such as fertilisers, essential for food production, and helium, a cooling agent used in semiconductor production. The uncertainty over these supply disruptions complicates assessments of commodity price prospects and the broader macroeconomic implications of the conflict.

Market expectations have evolved differently during the Iran war compared with the 2022 episode, reflecting differences in structural conditions and uncertainty about the conflict's duration and future energy prices. Five months into the conflict, short-term inflation expectations in the euro area and Japan remained above pre-conflict levels, while in the United States they declined, reversing the initial increase. Notably, the increase in the euro area was significantly smaller than in 2022. In both conflicts, long-term inflation expectations in the euro area and Japan stayed slightly above pre-conflict levels (Graph 2.A). Markets also anticipated a distinct policy rate response to the energy shock. Initially, they expected a milder response in the United States and the euro area compared with 2022. However, they projected a more rapid and persistent tightening one year after the conflict began. In contrast, the expected policy reaction in Japan remained subdued, likely influenced by extensive energy subsidies and a legacy of persistently low inflation and limited pass-through of energy price increases (Graph 2.B). Notably, the June 2026 increase had already been anticipated prior to the conflict. Five months after the onset of the conflict, changes in real interest rates were less pronounced in the United States and Japan compared with 2022. Changes in rates were more significant in the euro area, possibly reflecting concerns about the region's greater reliance on oil and gas imports (Graph 2.C).

Expectations of inflation and policy rates reflect uncertainty about the current conflict's duration and future energy prices[1]

Five-month changes relative to event days, in percentage points — Graph 2



[1] Event day: War with Iran = 27 February 2026; War in Ukraine = 22 February 2022. [2] Q refers to Q1 2022 for the 2022 episode and Q1 2026 for the 2026 episode. The x-axis (Q + 2, Q + 4, etc) shows standardised quarters relative to the starting quarter of each episode. [3] Approximated by the difference between the nominal bond yield and the inflation swap rate at the same tenor.

Sources: Bloomberg; LSEG Workspace; BIS.

Role of structural factors and initial conditions for the response of inflation

Assessing the impact of energy shocks on underlying inflation is a key ingredient of monetary policymaking: its magnitude and persistence play a crucial role in shaping the appropriate policy response.

Historically, large supply-driven energy price increases have had disproportionately greater and longer-lasting effects on core inflation compared with smaller increases (Graph 3.A).[3] Moreover, non-linearities in the inflation-output relationship, as observed during the 2022 inflation surge, can amplify the inflationary impact of supply-driven output contractions.[4] That said, the effects of energy price shocks generally depend on country-specific structural factors as well as on the broader backdrop of specific macroeconomic circumstances against which the shock hits. First of all, the impact of energy price shocks differs significantly between energy-exporting and energy-importing economies. For energy-exporting economies, higher energy prices tend to boost national income through improved terms of trade, while exchange rate appreciation, typical in this case, eases inflationary pressures.[5] In contrast, shifts in the terms of trade and exchange rate depreciation exacerbate the impact of the shock on commodity importers (Graph 3.B). Energy intensity acts as another amplifying factor. All else equal, the inflationary impact of the

[3] De Fiore et al (2025) document a larger pass-through of energy costs to prices for upstream, energy-dependent firms.

[4] See Gautier et al (2026) for micro evidence showing a rise in the frequency of price increases during the 2022 inflation surge, followed by a subsequent decrease starting in 2023.

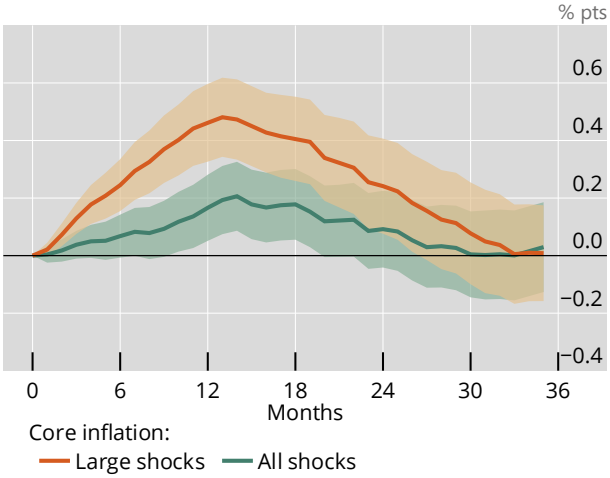
[5] Such effects, however, would largely be absent for energy-exporting countries that are disrupted by the shock.

shock is larger in economies where energy constitutes a significant part of production processes or a larger share of consumption baskets.[6]

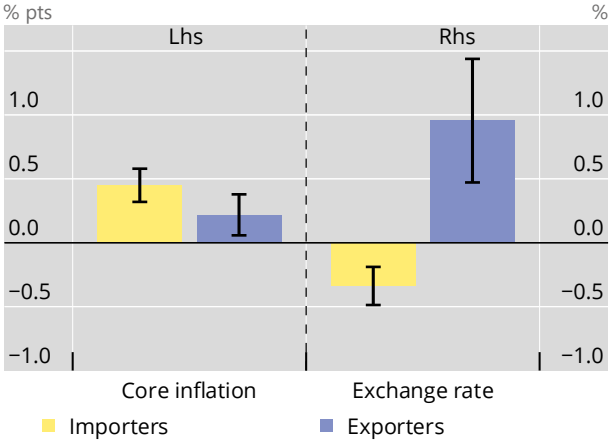
Macroeconomic effects depend on the size of the shock and on structural factors

Graph 3

A. Large energy supply shocks have disproportionate effects on core inflation[1]



B. Supply-driven energy price increases affect energy importers and exporters differently[2]



[1] Response to a 10% increase in energy prices. Estimates based on an instrumental variable local projection of year-on-year core inflation on the log change in energy prices, instrumented with OPEC production announcements plus additional control variables; error bands indicate 90% confidence intervals. See Avalos et al (2025) for details. Large shocks = months of absolute monthly log change in energy prices above the 75th percentile. [2] Peak effects of a response to a 10% rise in energy prices. Peaks identified as the maximum of the absolute value of the impulse response over three years. Energy price growth instrumented by OPEC oil supply shocks. Error bars indicate 90% confidence intervals. Energy exporters are defined as economies where energy exports exceed 60% of total exports.

Sources: Avalos et al (2025); Baumeister and Hamilton (2019); Känzig (2021); World Bank; LSEG Datastream; national data; BIS.

Beyond structural factors, initial conditions shape how energy shocks propagate into inflation through second-round effects. Anchoring inflation expectations is critical. When expectations are above target, the inflationary impact of oil supply shocks can be more than twice as large as when they are well anchored (Graph 4.A). This may reflect greater public attention to inflation during periods of high inflation and the salience of energy prices for households, which strongly influences their inflation expectations.[7] Labour market conditions further influence inflation dynamics. Tight labour markets can intensify workers' demand for higher wages, particularly as they seek to preserve purchasing power following an energy price shock. While this can accelerate and amplify the pass-through of higher energy costs, the differences relative to slack labour markets appear moderate and not statistically conclusive (Graph 4.B).[8] The fiscal stance adds complexity to the inflationary impact of energy shocks: expansionary measures like subsidies support demand and amplify inflationary pressures, particularly if they raise debt sustainability concerns. Conversely, measures like energy price caps can shield households, while limiting the direct pass-through to prices. On balance, an energy price surge combined with a loose fiscal position tends to be followed by higher inflation, while a tighter fiscal stance dampens the pass-through (Graph 4.C). Finally, a tighter initial monetary policy stance can help contain inflationary pressures, as the pass-through of energy prices to final consumer prices tends to moderate when demand and inflation are relatively low (Graph 4.D).[9]

6 Kharroubi et al (2023) find that higher energy intensity is associated with greater pass-through to producer prices, but this is less so when the sectoral markup is higher.

7 Data from a household survey across 31 countries show that expectations are most heavily influenced by the price of food and groceries as well as oil and energy (D'Acunto et al (2025)).

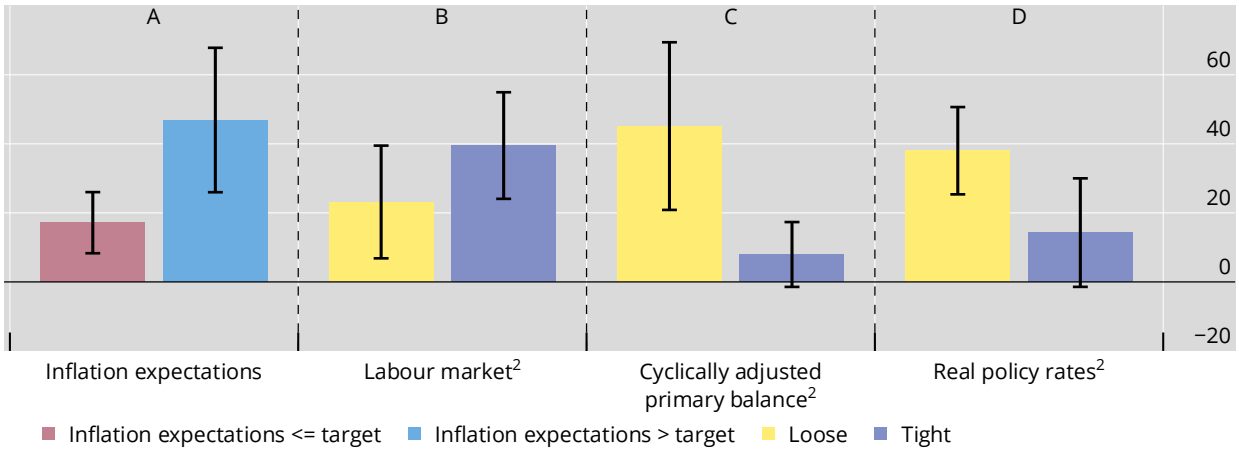
8 The inflationary impact of higher wage claims critically depends on underlying labour productivity, which is challenging to quantify empirically in response to an energy shock and might vary significantly across countries.

9 De Santis and Tornese (2025) show that energy shocks have a stronger and more persistent pricing impact when inflation is high.

The inflationary impact of oil shocks depends on initial conditions[1]

In basis points

Graph 4



[1] Impact of a 10% oil supply shock on core inflation after 12 months. Estimates based on an instrumental variable local projection of year-on-year core inflation 12 months ahead on the log change in oil prices instrumented with Baumeister and Hamilton (2019) oil supply shocks. Control variables include country fixed effects, output gap and lagged 12-month log changes in core consumer price index inflation, industrial production and the nominal effective exchange rate. Each panel shows estimates from sample splits based on the listed variable at the time of the shock. The sample includes 16 advanced economies and 11 emerging market economies. The difference between the estimates is statistically significant at the 10% level for panel A, at the 1% level for panel C, at the 5% level for panel D and not significant for panel B. [2] Loose (tight) variable measured as below (above) the median value of the variable over the sample.

Sources: Baumeister and Hamilton (2019); IMF; OECD; Consensus Economics; LSEG Datastream; Macrobond; national data; BIS.

At the time of the recent energy shock, initial conditions varied significantly across countries. But overall, they did not appear to enhance the economies' vulnerability to inflation risks. On the one hand, households' inflation expectations were significantly above central bank targets, especially in advanced economies, increasing the likelihood of knock-on effects and persistent inflation. On the other hand, weakening labour markets and uncertainty about firms' labour demand, driven by the rapid adoption of artificial intelligence, may have helped mitigate upward inflationary pressure. While global shortages of key commodities, such as airline fuel, have so far not triggered non-linear effects and substantial repricing, non-linearities could surface in countries where oil inventories are significantly depleted. The stance of fiscal and monetary policy during this episode also differed from the 2022 episode. Fiscal deficits were smaller on average, indicating a less expansionary fiscal position prior to the shock, while tighter monetary policy contributed to weaker demand pressures.

Monetary policy response to domestic inflation and output effects

The oil supply shocks induced by the conflict in Iran have acted as a global shock to the world economy. However, even when a shock hits all countries similarly, the resulting impact on inflation and output will depend on structural factors and initial conditions, hence eliciting a different monetary policy response. For central banks in economies where the shock triggers both significant inflationary pressures and a severe contraction in economic activity, managing the impact of the shock becomes particularly challenging. In contrast, central banks in economies where real activity remains relatively resilient face a more favourable scenario, as a prompt monetary policy response to counteract inflationary pressures involves less costly trade-offs (Graph 5).

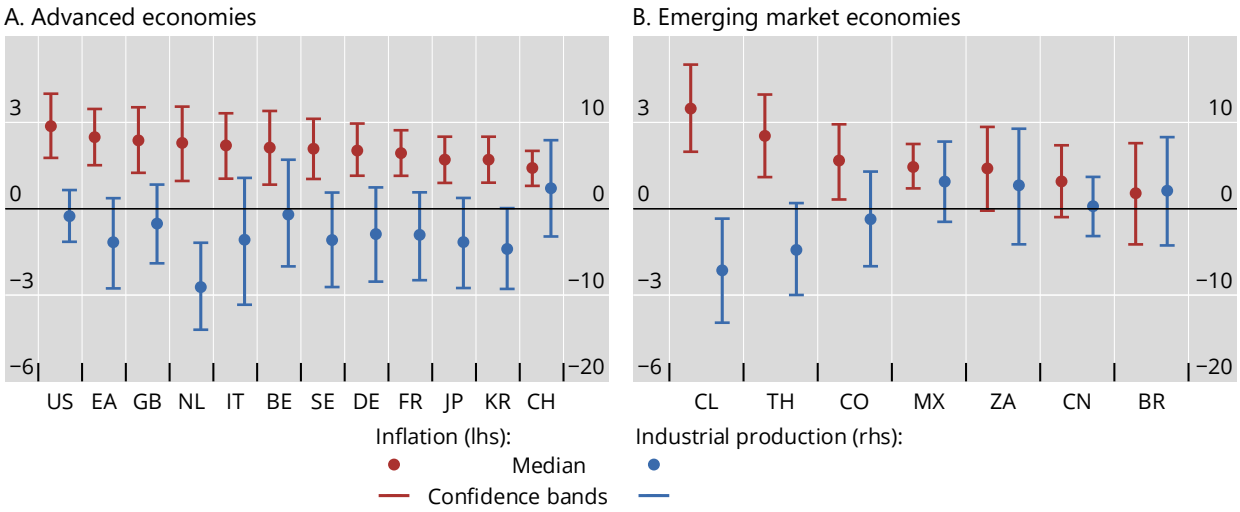
Overall, the appropriate monetary policy response to energy price spikes hinges on the nature of the shock – whether it stems from demand or supply – as well as its magnitude and persistence, both of which are influenced by structural factors and initial conditions. Uncertainty surrounding the intensity and duration of the shock further complicates the policy challenge. While a "wait-and-see" strategy allows the

central bank to gain clarity as the situation evolves, enabling a more informed policy response, the risks of ripple effects – such as unanchored inflation expectations – may warrant hiking rates more quickly.

Cross-country response of inflation and output to a common oil price shock[1]

In percentage points

Graph 5



[1] The panels show the average response, over 24 months, of inflation and industrial production (log difference) to a Baumeister and Hamilton (2019) oil price shock, estimated using local projections. The specification for horizon $t + h$ is: $y_{i,t+h} = \alpha_{i,h} + \beta_{i,h} s_t + \sum_{\ell=1}^{6} \gamma_{h,\ell}\, y_{i,t-\ell} + \sum_{\ell=1}^{6} \delta_{h,\ell}\, s_{t-\ell} + u_{i,t,h}$, where $y_{i,t+h}$ is either inflation or industrial production growth for country i, and s_t is the common oil shock, normalised to an increase in the oil price from USD 70 to USD 100. Dots correspond to the median average response, while whiskers show the 68% confidence bands.

Sources: Bloomberg; LSEG Datastream; national data; BIS.

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