Stagflation in the 1970s: lessons for the current situation*
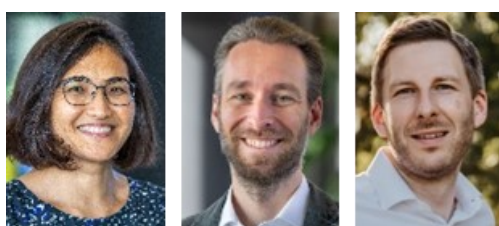
By Almira Enders, Sebastian Giesen, and Dominic Quint

Given the recent surge in inflation in the euro area, the present policy brief calls for a decisive monetary policy response in order to avoid inflation becoming entrenched at elevated levels, risking a de-anchoring of inflation expectations. This is of particular importance because central banks' ability to anchor inflation expectations diminishes with an increasing level of trend inflation. If monetary policy delays a normalisation for too long, it might risk a repetition of the long and painful disinflationary process in the United States in the 1980s.

1. Stagflation in the United States in the 1970s and the current situation in the euro area: parallels and differences

The term "stagflation" (a portmanteau of "stagnation" and "inflation") first appeared in the 1970s when the United States and other industrial countries experienced declining economic activity and a sharp rise in inflation as a result of adverse supply shocks. However, the oil price increases of 1973 and 1979-80 were only part of the story. Inflation in the United States had already started to rise gradually in the mid-1960s, mainly due to military expenditure because of the Vietnam War und welfare-state spending under the so-called Great Society legislation. The literature also judges the US monetary policy at that time to be significantly more expansionary than what would have been compatible with the objective of price stability.[1] Furthermore, data on expectations shows a drifting inflation anchor well before the oil price shocks.[2]

The ramifications of Russia's war against Ukraine constitute a similar supply shock to the oil price shocks in the 1970s, weighing on economic activity and pushing up inflation, particularly in the euro area but also on a global scale. Another similarity is that euro area inflation had started to rise prior to the Ukraine war, mainly due to the strong recovery from the pandemic.

But there are important differences between now and then. A first one is the lower energy intensity of production, which has more than halved since 1980. This makes our economies more resilient against energy price shocks.[3] Furthermore, the lower degree of unionisation and ultimately the lower bargaining power of workers nowadays makes it less likely for workers to be able to enforce wage increases that fully compensate for losses in purchasing power due to energy price shocks.[4]

The key difference between now and the 1970s, however, lies in the central banks' explicit commitment to maintaining price stability. This has helped to anchor long-term inflation expectations even in periods of major inflationary shocks (Figure 1, left). Nevertheless, the strong increase in measures of underlying inflation in recent months (Figure 1, right) suggests that inflationary pressure may not abate anytime soon. The longer realised inflation remains high, the more likely it is that higher inflation will become embedded in expectations.

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[1]E.g. Romer and Romer (2002). For further studies and a short discussion, see footnote 9.

[2]Reis (2021) collected data on historical inflation expectations of different economic agents and shows that the inflation anchor started drifting as early as 1967. He concludes that this could have been spotted well before monetary policymakers actually did so.

[3]The fall in energy intensity is mainly due to the lower reliance on oil and coal. When it comes to natural gas, Europe remains highly vulnerable to supply disruptions.

[4]See Bank for International Settlements (2022).

Figure 1: Inflation expectations and underlying inflation in the euro area
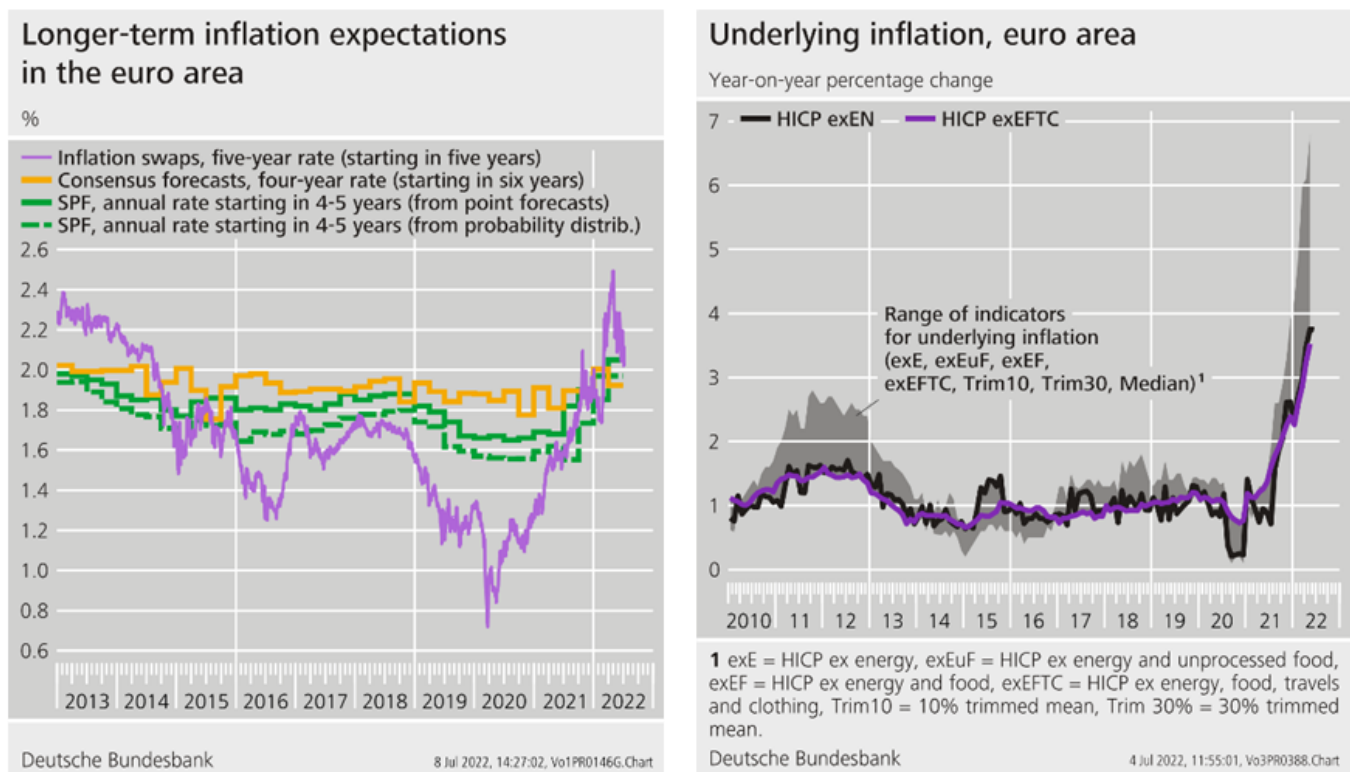

2. Lessons for today's monetary policy: a closer look

Adverse supply shocks such as the oil price shocks of the 1970s or the recent energy price increase pose a challenge for monetary policy. A strong contractionary monetary policy response would reduce the inflationary pressure triggered by the supply shock, but at the same time it would very likely have a further negative impact on economic activity. An optimal monetary policy[5] response to persistent supply shocks would generally be to tighten policy in order to ensure that inflation stabilises towards the target, but still allow a certain degree of tolerance for temporary deviations of the inflation rate from its target. Figure 2 shows, by way of a stylised example, the optimal monetary policy response to a persistent supply shock in a New Keynesian model with price and wage rigidities.[6] In response to the supply shock, implemented here as a persistent cost-push shock, monetary policy rates are raised in order to guide the inflation rate back to target. The central bank nonetheless allows the inflation rate to rise temporarily (blue line). If, by contrast, the inflation rate were stabilised strictly (red line), there would be an (excessively) strong contraction of economic activity. Thus, it may prove expedient to initially "look through" supply shocks and to tolerate some longer-lasting deviations from the inflation target, provided that long-term inflation expectations remain firmly anchored. The latter is, by construction, the case in the rational expectations New Keynesian model.

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[5] Optimal monetary policy is characterised by the minimisation of a given loss function.

[6] See Erceg, Henderson and Levin (2000) for the model setup.

Figure 2: Optimal monetary policy in response to a persistent supply shock
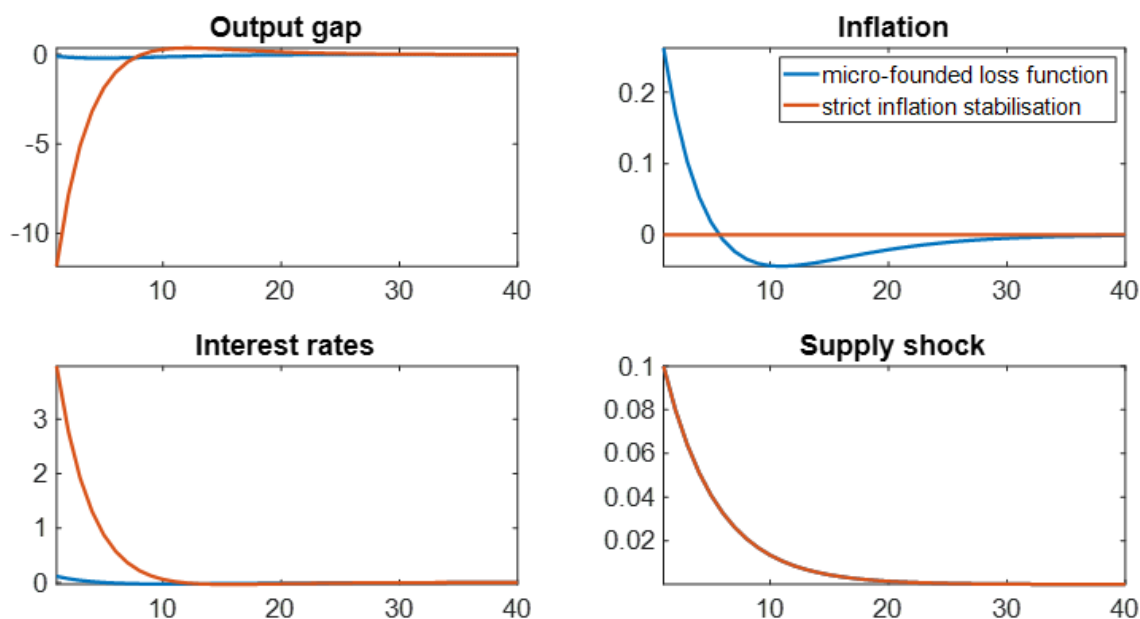
Note: The panels show the optimal response by the monetary policy interest rate (bottom left panel) to a given exo-genous supply shock (bottom right panel; a "cost-push shock") and its macroeconomic implications for the output gap (top left panel) and inflation (top right panel). X-axis: time horizon in quarters. For the output gap and supply shock panels: Y-axis shows percentage deviations from the long-term equilibrium. For the inflation and interest rates panels: Y-axis shows percentage point deviations from the long-term equilibrium. The blue line plots the optimal response by the monetary policy interest rate given a micro-founded loss function that comprises stabilising not just inflation but the output gap and wage inflation as well. The red line indicates the interest rate response given a loss function that aims exclusively to strictly stabilise inflation.

However, monetary policymakers cannot take the stability of inflation expectations for granted. The anchoring of inflation expectations needs to be defended. A central bank that does not decisively combat inflationary developments might itself contribute to a de-anchoring.[7] A concept for assessing a possible de-anchoring of long-run inflation expectations is provided by the literature on learning (E-stability).[8] In models in which agents do not have rational expectations, but form their expectations by means of an adaptive learning process, agents' long-term inflation expectations may deviate from the central bank's inflation target. In such a framework, it can thus be analysed if the central bank is actually able to guide inflation expectations successfully back to its target rate and thereby successfully anchor inflation expectations.

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[7]If the central bank responds "too little, too late", there might be an increased risk of self-fulfilling expectations that are associated with equilibrium indeterminacy. While one can think of indeterminacy as a specific form of a de-anchoring of inflation expectations, rational agents still expect inflation to be in line with the central bank's target inflation rate in the long run (at least in a local analysis). Thus, under rational expectations, it is not possible to model a de-anchoring of long-run inflation expectations from the target rate in the given framework, which is why we refer below to the learning literature to model a de-anchoring of inflation expectations.

[8]In the literature on learning, agents are often assumed to act like econometricians and build their inflation expectations on available data, see e.g. Evans and Honkapohja (2001) and Eusepi and Preston (2018). In this setup, inflation expectations are said to be de-anchored when the learning process does not converge to the rational-expectation solution of the model. In such a case the solution of the model is not stable in expectations (E-stable, for short).

As pointed out above, de-anchored inflation expectations can be considered the root cause of the stagflationary developments in the United States in the 1970s and early 1980s.[9] At that time, inflation rates became entrenched at elevated levels, and the Federal Reserve failed to tighten its monetary policy stance aggressively enough to lean against inflationary pressures and keep inflation expectations anchored. However, in an environment with high trend inflation it is even harder for the central bank to keep inflation expectations anchored. Using a stylised New Keynesian model in which agents build their inflation expectations based on available data via adaptive learning, Figure 3 illustrates that the central banks' ability to anchor inflation expectations diminishes with an increasing level of the trend inflation rate.[10] The chart compares different monetary policy rules that vary from each other in terms of how strongly they respond to changes in output (Y-axis) and inflation (X-axis). In the white area, a given response to changes in inflation and output is sufficient to anchor inflation expectations.[11] In the grey area, the responses to inflation and output fail to anchor inflation expectations. The panels of the chart show that the white area is significantly smaller for a trend inflation rate of 4% (right-hand panel of Figure 3) than for a trend inflation rate of 2% (left-hand panel of Figure 3). A higher trend rate of inflation thus ultimately increases the risk that a given monetary policy response will no longer be sufficient to anchor inflation expectations. If trend inflation rates are higher, conventional interest rate policy is less effective, mainly due to a flattening of the Phillips curve.[12] In order to nonetheless be able to steer inflation developments, the central bank therefore generally needs to take a more aggressive approach towards inflation.

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[9] A number of studies emphasise that the Federal Reserve's monetary policy could have contributed to the persistent stagflation of the 1970s and early 1980s. First, by failing to tighten early and strongly enough in response to the supply shocks (Clarida, Galí and Gertler, 2000) and, second, because it had imperfect knowledge about the effects of the supply shocks on the economy (and, in particular, on potential output) (Orphanides, 2004). It is plausible that both circumstances ultimately contributed to the stagflationary phase triggered by the supply shocks (Lubik and Matthes, 2016). Of particular importance is the level of trend inflation during this period, given that a high rate of trend inflation requires the central bank to adjust the nominal interest rate more strongly to ensure macroeconomic stability and anchored inflation expectations. Put differently, the extent of the Federal Reserve's "passivity" crucially depended on the level of trend inflation in the 1970s (see Coibion and Gorodnichenko, 2011).

[10] In this framework, trend inflation is equivalent to the long-run steady-state inflation rate, which itself is effectively equal to the target rate of the central bank. However, in the 1970s the Federal Reserve did not officially communicate a target inflation rate. The literature has therefore drawn inference on the Federal Reserve's unobserved inflation target based on measures of trend inflation and come to the conclusion that the Federal Reserve's target rose to over 4% in the mid to late 70s (see Ireland (2007) and Cogley and Sbordone (2008)). Thus, the right-hand panel in Figure 3 can be thought of as describing the situation in the United States in the 1970s, where rising inflation was becoming entrenched at much higher levels – a situation that, as things currently stand, is not directly comparable to the situation in the euro area.

[11] Note that – for a given level of trend inflation – the monetary policy response coefficients also influence the speed of convergence of inflation expectations back to the target rate. Thus, in Figure 3, getting closer to the border to the grey areas implies that monetary policy is still able to anchor long-run inflation expectations, but convergence happens at a slower pace (see Ascari, Florio and Gobbi, 2017).

[12] Given higher inflation rates on average, current demand becomes less important for firms' price setting, as they now give greater weighting to the future inflation path. Thus, when the trend inflation rate is higher, the current output gap loses some of its importance as a determinant of the inflation rate. For a discussion, see the article entitled "Lower bound, inflation target and the anchoring of inflation expectations" in the June 2018 issue of the Bundesbank's Monthly Report.

Figure 3: Impact of trend inflation on the anchoring of inflation expectations
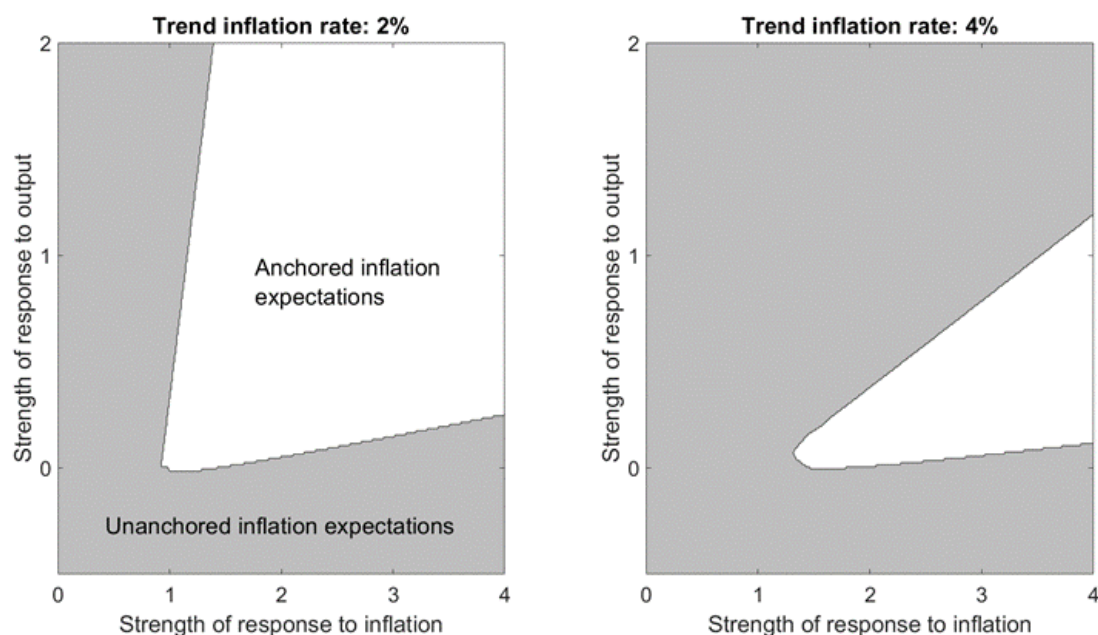
Note that trend inflation is considered to be determined by the long-run (steady-state) inflation rate prevailing in the economy. The figure shows areas where inflation expectations are anchored (white) and unanchored (grey) for a trend inflation rate of 2% (left-hand panel) and 4% (right-hand panel) and depending on the specification of the monetary policy response coefficients to deviations in inflation (X-axis) and output (Y-axis) from their respective targets. Figure is based on Ascari, Florio and Gobbi (2017) and Bundesbank (2018).

3. Conclusion

Given the possibility of inflation becoming entrenched at elevated levels in the euro area, we conclude the following from the experience of the 1970s and 80s: monetary policy should not leave any room for doubt that it will respond decisively to inflationary tendencies in order to avoid inflation becoming entrenched at elevated levels. At the current juncture, inflation rates have repeatedly exceeded expectations, and inflationary pressures are broad-based and likely to persist. Delaying necessary monetary policy normalisation for too long increases the risk of inflation expectations becoming unanchored. This holds despite the fact that the current high inflation is mainly caused by negative supply shocks. With de-anchored inflation expectations, monetary policy will have to tighten even more strongly to rein in the de-anchored inflation expectations, at the risk of repeating the long and painful disinflationary process seen in the United States in the 1980s. ∎

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