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Research Global

High inflation flashbacks

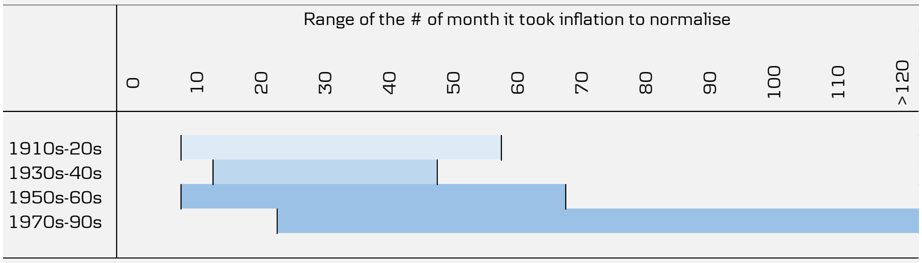
- **We have looked at past episodes of high inflation in the US, UK, Germany and the Nordics during the past 100 years to see how fast inflation normalise.**
- **We find that it takes two and a half years and possibly more than four years before inflation returns to 2%, which in the current setting would mean that inflation might not normalise before earliest during the summer or autumn 2024.**
- **The market and professional forecasters look for inflation to return close to 2% in about 2Y, i.e. a rapid normalisation from a historical perspective.**
- **Central banks now target price stability, which means inflation could revert faster than in earlier high inflation episodes. However, market participants risk underestimating stickiness in high inflation regimes.**

The surge in inflation in the US and Europe puts macroeconomic models to the test. When can we expect inflation to return to 2 %? We attempt to answer this question by looking back at history. The world economy has endured periods of high inflation in the past, and we use this experience as a guide to what to expect.

We use data for inflation in the US, UK, Germany, Denmark, Sweden, Norway and Finland going as far back as 1914. We count the number of months it takes for annual inflation to return below 3% for three consecutive months after it has risen above 7% and use this as a measure of the time it takes for inflation to normalise again – see box 1 for more details on methodology.

In the rest of the paper, we first go through our results. Then we compare our results with other forecasts and expectations and finally, we discuss how the current situation differs from the past and what implications our analysis has for policy makers. Our results are not that encouraging.

Figure 1. A look back at history shows it can take a long time for inflation to come down again



We calculate the number of months it takes for inflation to return below 3% in three consecutive months after it has risen above 7%. We use longest available monthly or quartely CPI data series for US, UK, Germany, Denmark, Norway, Sweden and Finland.

Source: Macrobond Financial and Danske Bank calculations

Box 1. What we did:

- We use available monthly or quarterly data for consumer price inflation the past 100 years
- We include data for US, UK, Germany, Denmark, Sweden, Norway and Finland
- We counted the number of months it takes for annual inflation to return below 3 % for three consecutive months after it has risen above 7 %.
- We end up with a dataset of 35 episodes of high inflation since 1914 – we do not have data all the way back to 1914 for all countries though.
- We calculate the medium, minimum and maximum time it took for inflation to normalise.

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Two and a half years – possibly longer

Two and half years – that is the median number of months it took historically for inflation to normalise. During some episodes, it took around five years or longer. If history is a guide in the current situation, inflation returns to 2% in the US in the summer of 2024 and during the autumn of the same year in euro area, Denmark, Sweden and Finland. In Norway, inflation has not topped 7%. If it happens over the coming months, history suggests Norway may need until early 2025 to get inflation down close to 2% again.

There is a possibility; however, high inflation drags on into the latter part of the 2020s. In a third of the high inflation episodes, it took four years or longer to get inflation down again. Our results are robust over time. All our four subgroups include episodes of inflation dragging on for around four years or longer. Hence, this part of our results does not just arrive from the persistent high inflation of the 1970s and 1980s. For an overview of our results, see figure 1 on the front page.

Market participants expect inflation to normalise in two years

We benchmark our empirical analysis and link it to today's situation by looking at current inflation forecasts and expectations to see if there are any significant discrepancies between now and the past. We use two commonly used estimates of inflation expectations; surveys of professional forecasters and expectations derived from inflation swaps and look at 1Y, 2Y and 5Y inflation expectations. We look at data for US and euro area.

In the euro area, both measures indicate a strong expectation or belief that inflation returns close to The European Central Bank's target in 1, 2 and 5Y perspective. The only exception is the 1Y forecast from Survey of Professional Forecasters – it predicts still elevated inflation. For the US, there appears to be more stickiness in expectation and consensus seems to be that inflation will come down from current levels around 8-9% to levels around 3-4% already within the coming years and then drift lower to 2-3%, and thus to Federal Reserve's inflation target, over the longer term. See figure 2 and 3 for illustrations.

Despite some differences between the euro area and the US there appears to be strong conviction both in markets and among professional forecasters that inflation reverts back to more normal levels rather rapidly. It is in our view striking how similar market based and forecasters' expectations are. A low natural rate in the euro area and higher risk premium related to inflation risk in the US may explain the difference in longer-term inflation expectations between the two regions.

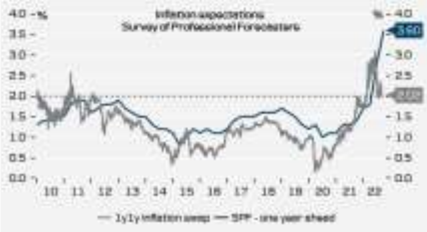
Are the market and forecasters too optimistic?

We observe that historically inflation has proven to be sticky once it has risen above sufficiently high levels, as is the situation today. But market participants expect inflation behaves differently this time around and normalise faster. Either this time around is different or market participants are too optimistic.

A key difference between this time and history is that central banks now officially target inflation. Hence, the current monetary policy framework prioritise low inflation as opposed to previous exchange rate targeting regimes, i.e. Bretton Woods and the Gold standard. In our view, this is the key argument why inflation could correct faster than before.

A key problem for central banks is, however, that the inflation surge, especially in Europe, predominantly is driven by negative supply shocks, which, as it looks now, is not a short-term problem and difficult to tackle for monetary policy. Tighter monetary policy can push down demand but cannot address the fundamental problem of supply shortfall.

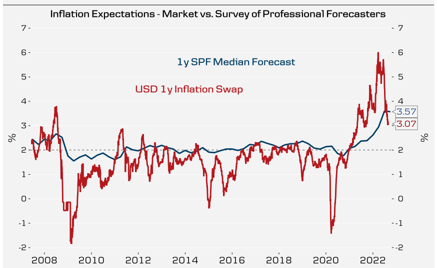
Figure 2. Short term expectations Euro area



Past performance is not a reliable indicator of current or future results.

Source: Danske Bank

Figure 3. Short term expectations US



Past performance is not a reliable indicator of current or future results.

Source: Danske Bank

Another argument for rapidly falling inflation is that the reasons for rapidly increasing inflation are due to exceptional circumstances; the pandemic, extremely expansive policy and changes in consumer behaviour are all temporary. But some of the inflationary issues at hand are not necessarily temporary; the energy price surge following the war in Ukraine combined with the green transition has more longer term implications as has the impulse from climate related issues such as insufficient water levels, lack of wind and drought. Ageing labour forces could also add inflationary pressures medium term.

There is also a risk policy makers, market participants, business and households underestimate the stickiness of high inflation. E.g., few people working with macroeconomics and monetary policy today have personal experience of high inflation.; workhorse macroeconomic models, such as DSGE models, works when the economy is close to steady state – recent shocks have likely pushed the economy far away from steady state.

Our empirical analysis shows high inflation can be sticky. During episodes of high inflation, price increases spill over and price increases are much broader than in low inflation regimes when there is less spill over from price increases. As we see it, there is a risk that we, and others, underestimate the dynamics of a high inflation regime because we lack experience of high inflation regimes.

A key factor for price stickiness in the current setup will be labour unions behaviour in a high inflation regime combined with tight labour markets. Wage indexation does not play as big a role as it did in the past, but collective bargaining agreements etc. has also relied on central banks keeping inflation stable around 2%.

Robustness of our analysis

With our analysis above, we are not taking a stance on how inflation develops in the coming years. Instead, we provide a perspective on the difficulty of forecasting inflation in the current environment and point to factors modellers, policy makers and market participants may overlook. E.g. the possibility of a monetary policy regime change as a way out of high inflation.

Money growth targeting during Paul Volcker’s span as Federal Reserve chair in the 1980s is probably the most prominent example of this. Central banks are in unchartered waters and may need to tweak their monetary policy frameworks to regain credibility and get inflation under control.

We hope our results can complement model-based predictions of inflation and other forecasts even if they are not that encouraging. We only have 35 observations and some of them overlap, so our results are not significant from a statistical perspective. Our empirical study also puts less weight on the current structures of the economy, e.g. price stickiness, expectations etc. But as mentioned above our empirical study provides robustness on other factors.

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This research report has been prepared by Danske Bank A/S (‘Danske Bank’). The author of this research report is Heidi Schauman, Global Head of Research, and Jens Nærvig Pedersen, Chief Analyst.

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