Flash Economics

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Are inflation expectations ‘anchored’ in the United States and in the euro zone?

We analyse the reaction of 1-year inflation swaps one year forward, 2-year inflation swaps one year forward ,5-year inflation swaps and 5-year inflation swaps five years forward in inflationary shocks in the United States and the euro zone. If inflation expectations are ‘anchored’, inflationary shocks have no effect on them.

We observe that only 5-year inflation swaps five years forward react little to observed inflation.

The question then is: are long-term inflation expectations (5-year five years forward) anchored naturally or are they anchored because of the monetary policy response to inflation? The theory of central banks credibility hints at the second explanation, but is it correct?

Patrick Artus
Senior Economic Advisor
patrick.artus-ext@ossiam.com
@PatrickArtus

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How can we test whether inflation expectations are anchored?

If **inflation expectations are anchored**, i.e. if the credibility of the Central Bank is strong, **expected inflation will not react to short-term inflation shocks.**

We will look at the cases of the **United States and the euro zone** and **compare 1-year inflation swaps one-year forward, 2-year swaps one year forward, 5-year inflation swaps, and 5-year swaps five years forward** with observed inflation.

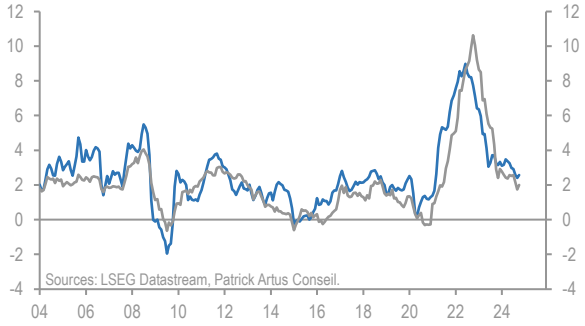
The lack of reaction of inflation swaps to observed inflation would show that inflation expectations are anchored.

Are inflation expectations well anchored?

We therefore compare:

- Observed inflation (**Chart 1**).
- 1-year inflation swaps one year forward, 2-year inflation swaps one year forward, 5-year inflation swaps and 5-year inflation swaps five years forward.

Chart 1
Inflation (as %)



1) United States

Chart 2A
United States: Inflation swaps (as %)

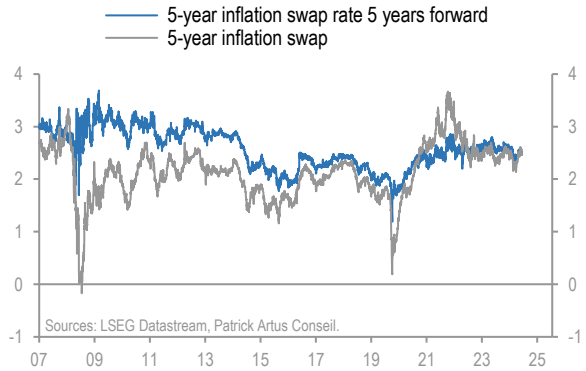
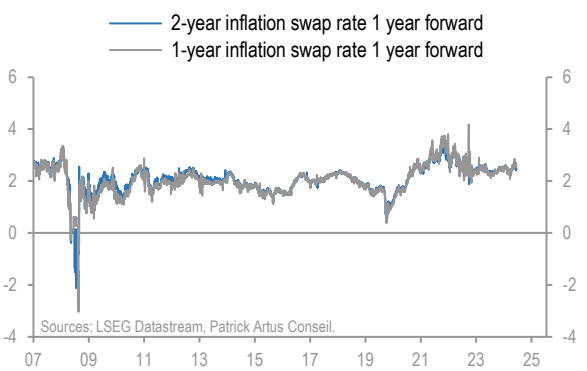


Chart 2B
United States: Inflation swaps (as %)



One can see:

- A clear correlation between actual inflation and expected inflation (measured by inflation swaps) for short-term inflation swaps (1-year one year forward, 2-year one year forward, and five years forward);
- A strong stability in 5-year inflation swaps five years forward, which did not exceed 2.6% in 2021-2022 while inflation exceeded 8%.

2) Euro zone

Chart 3A
Euro zone: Inflation swaps (as %)

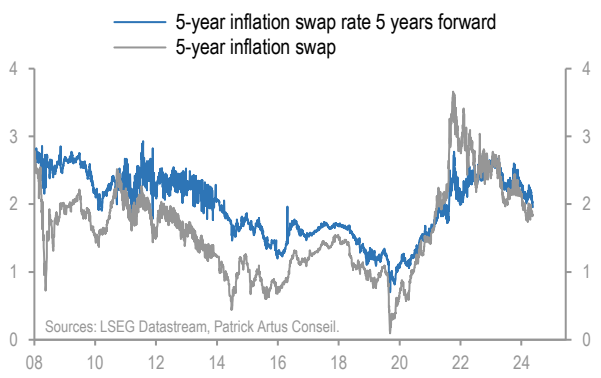
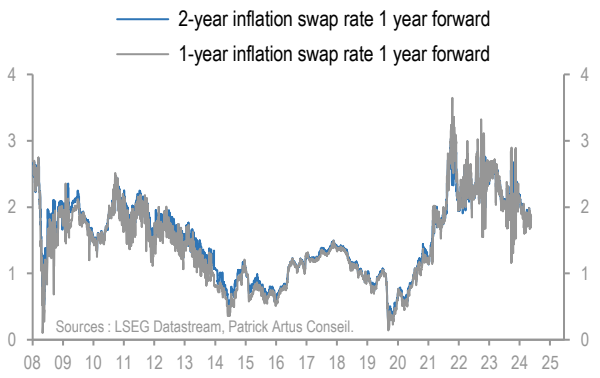


Chart 3B
Euro zone: Inflation swaps (as %)



As one can see, in the United States:

- short-term inflation swaps (1-year one year forward, 2-year one year forward, and 5-year) react sharply to inflation;
- 5-year inflation swaps five years forward have not exceeded 2.5%, even though measured inflation reached 10% in 2022.

Inflation expectations are not anchored at the horizon at which monetary policy is effective

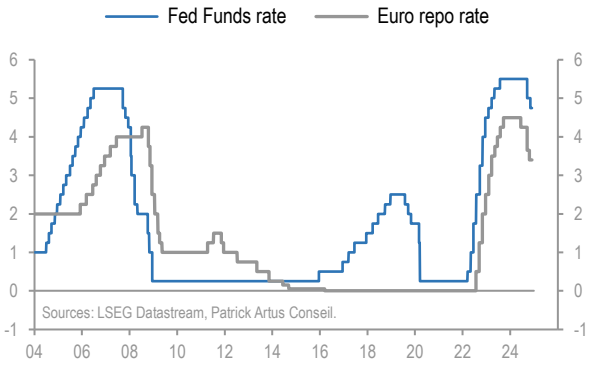
One can see that 1-year inflation swaps one year forward, 2-year one year forward and 5-year clearly react to inflation shocks, whereas five years forward inflation swaps, and even more so 5-year five years forward are inert.

This validates the monetary policy response.

Up to the 2-year, 3-year and 5-year horizons, expected inflation reacts to instantaneous inflation, and the Central Bank must act to prevent the appearance of expected inflation from undermining its credibility.

We can therefore understand the reaction of monetary policy to inflation or to falling inflation (**Charts 1/4**).

Chart 4
Central banks' key interest rate (as %)



Summary: The central question

The central question is as follows: are long-term inflation expectations stable because the Central Bank reacts in the short term to inflationary shocks, or are they stable because normal economic mechanisms protect long-term inflation from fluctuations in short-term inflation? These normal mechanisms of the economy can be the loss of purchasing power and domestic demand due to rising inflation, the under-indexation of wages, the fact that inflation is mainly associated with the rise in commodity prices, in particular energy prices, and that this rise is transitory.

The theory of Central Bank credibility clearly states that it is the actions of the Central Bank that ensure the credibility and stability of long-term inflation expectations.

We may have some doubts when we observe that fluctuations in inflation are closely associated with those in energy prices (**Charts 5A/B**).

Chart 5A
United States: Inflation and energy consumer price index

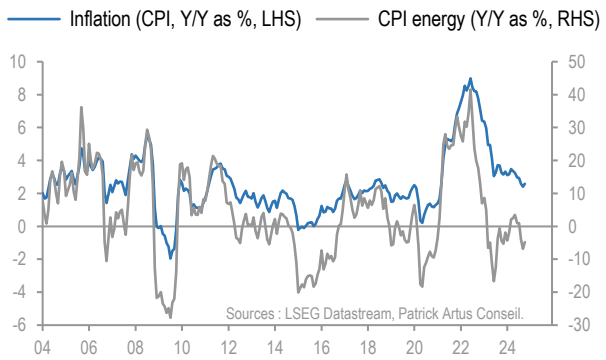
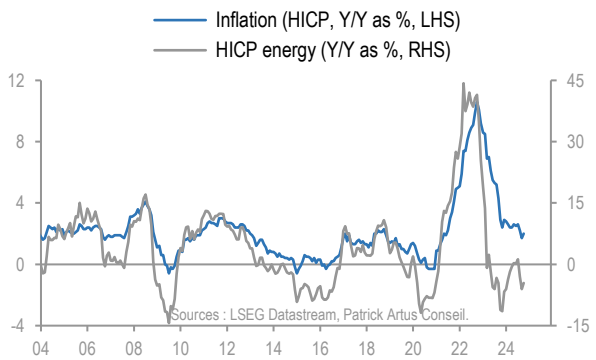


Chart 5B
Euro zone: Inflation and energy consumer price index



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