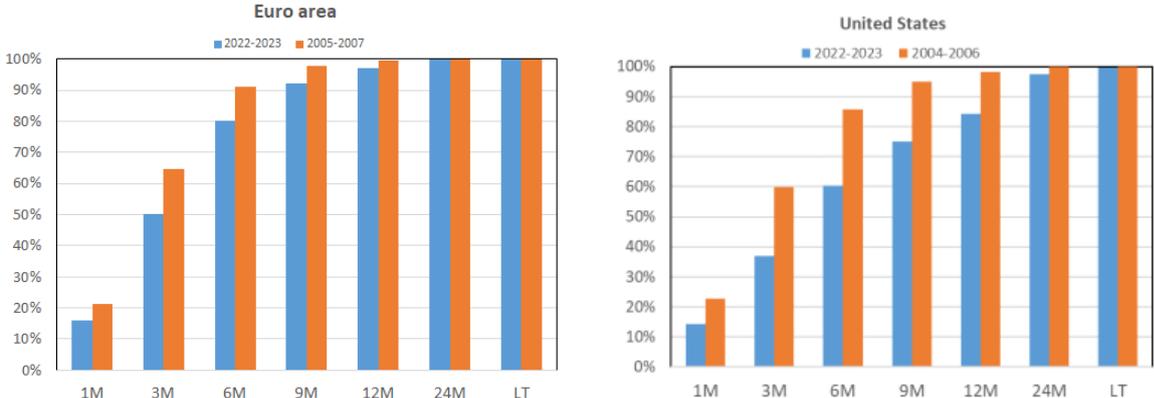


# The pass-through of past monetary policy tightening to financing conditions

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Both the US Fed and the ECB have hiked their key interest rates in 2022-2023 at an unprecedented pace. The estimated pass-through of this tightening to financial conditions is similar in the euro area and the US, and comparable to previous cycles: almost 95% of the total response of financing conditions occurs within 12 months. However, the ultimate transmission from financing conditions to inflation comes about with longer and more variable lags.

**Figure 1 – Estimated pass-through to financing conditions**



These bars represent the transmission path, as a % of total transmission expected in the long run, at different horizons (in months) following a key rate hike. Source: [Jude and Levieuge, 2024](#).

Following the spike of inflation in the post-Covid era, most central banks have engaged in monetary tightening, with the aim of rendering financing conditions restrictive. This should lead to a reduction in excess demand and declining inflation ([Lane, 2022](#)). The transmission of such a policy depends, among others, on the *pass-through* of the monetary policy tightening to financing conditions. It also depends of the impact of tighter financial conditions on final aggregate demand and ultimately on inflation. In this blog, we only study the first stage of monetary policy transmission to central bank interest rates from financial conditions.

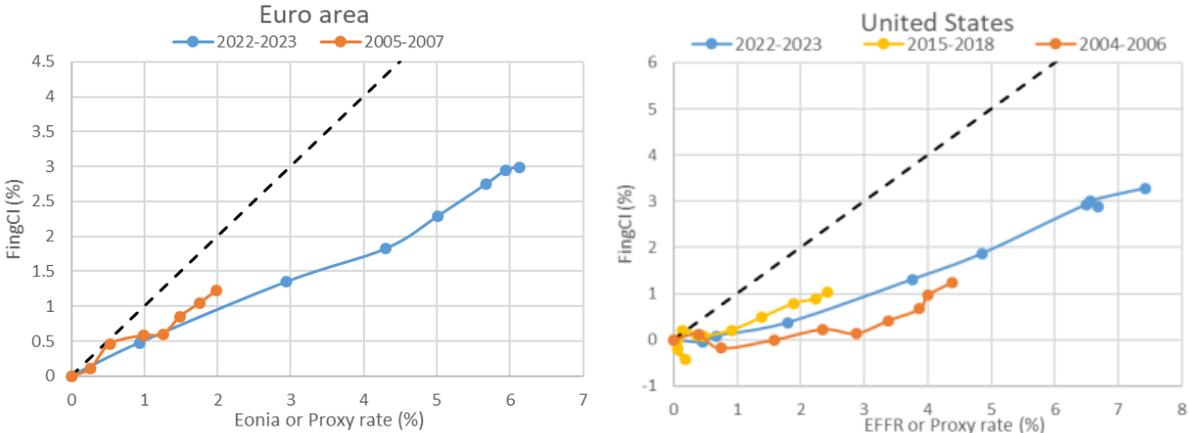
As financing conditions respond to changes in the policy rate, but also to balance sheet policies and forward guidance, studying the pass-through requires a broad measure of monetary policy stance. [Choi et al. 2022](#) have developed such a measure – i.e. the “proxy rate”- by assuming that market rates have a common component driven by monetary policy. The proxy rate, similar to the “shadow rate” of [Wu and Xia \(2016\)](#), can be seen as the policy rate that “would typically be associated with prevailing market rates and spreads, had the policy rate been the only monetary policy tool being used”.

As a measure of financing conditions, we use a synthetic indicator (labelled *FingCI*), defined as a weighted average of several lending rates and yields on newly contracted

debt by households, corporates and the government. Both market and bank debt financing are taken into account. The weights correspond to the relative importance of each type of debt in the total stock of non-financial sector debt in each jurisdiction (see details in [Jude and Leveuge, 2024](#)). Note that this indicator does not measure the pass-through to the effective average cost of debt, which also depends on whether or not existing debt is at fixed or variable rate and on its maturity structure.

Figure 2 illustrates the joint evolutions of the proxy rate and the *FingCI* in the euro area (EA) and the United-States (US), across several tightening cycles. The EA *FingCI* has increased following the rising proxy rate, but less than proportionally (as shown by the distance to the 45-degree dotted line), as usually found in the literature ([de Bondt, 2005](#)). Moreover, the pass-through does not appear stronger this time than in the 2005 tightening cycle (the slopes of the curves appear similar). Hence, the significant tightening of financing conditions during the current cycle only reflects the unprecedented speed and magnitude of policy tightening, but not a stronger response of lending rates to the policy rate. The same conclusion holds for the US, where the pass-through appears similar to the 2015-2018 cycle but slightly higher than in the 2004-2006 cycle.

**Figure 2 – Evolution of financing conditions relative to the monetary policy stance**



Charts plot the change in *FingCI* relative to the change in the monetary policy stance, over tightening cycles. Eonia and Effective Federal Funds Rate (EFFR) over 2004-2007, proxy rates thereafter. Source: Authors, BdF, ECB, FED.

More formally, we rely on an econometric model (auto-regressive distributed lags model) to estimate the extent of long-run adjustment of financing conditions to changes in the proxy rate (“completeness”) and the time needed to reach this long run pass-through (“speed of transmission”).

As illustrated in Figure 1, the speed of transmission has been rapid. For the EA, during the 2022-2023 tightening cycle, 50% of the expected pass-through is completed within the first 3 months and 80% is reached in the first 6 months. A year later, the expected pass-through towards the long-run target is almost fully completed. For the US, transmission is also fast, but slightly less than for the EA: 40% of the expected pass-through is completed within the first 3 months and 60% in the first 6 months. A year later, the expected pass-through is close to its maximum. The fast and strong monetary tightening in 2022-2023 has led to an impression of fast transmission to borrowers’ interest rates. However, the adjustment in the EA appears similar to that found for the 2005-2007 tightening episode. For the US, monetary transmission appears similar to 2015-2018, but slightly slower than in 2004-2006 (when unconventional measures were not yet in use). This difference essentially arises from

the lower response of US long rates this time, due to an earlier inversion of the yield curve compared to the euro area (see details in [Jude and Levieuge, 2024](#)).

Importantly, this adjustment of the cost of new debt is not found to be strictly proportional to the total change in proxy rates. In line with Fig. 2, we estimate that only half of the total change in the proxy rate is eventually transmitted to financing conditions in the EA and the US. For bank lending rates, such an incomplete pass-through is usually due to structural factors, like imperfect competition ([Kopecky and Van Hoose, 2012](#)) and long-term “relationship banking” ([Allen and Gale, 2004](#)). Moreover, a large share of non-financial debt, private and public, has medium to long-term maturities, less dependent on short-term rates.

Finally, based on this estimated pass-through and the increase in the proxy rate up to the latest policy tightening decisions (July 2023 for the Fed and September for the ECB), it is possible to evaluate the “remaining tightening in the pipeline”. We find this remaining tightening to be marginal in for both regions: as of April 2024, it is only 3 bps in the EA and close to 20 bps in the US. Moreover, in the euro area, this remaining tightening might be offset by downward pressures on lending rates and yields resulting from expectations of a monetary policy easing later in the year 2024.

To conclude, the current tightening of monetary policy has been unprecedented, in terms of both speed and total rate increases. However, the estimated pass-through to financing conditions has followed the previous cycle and is estimated to be close to be completed now. Having said that, it is likely that the transmission from financing conditions to final aggregate demand and prices takes longer and is not yet over.