How well have ECB rate hikes been transmitted to the money market?

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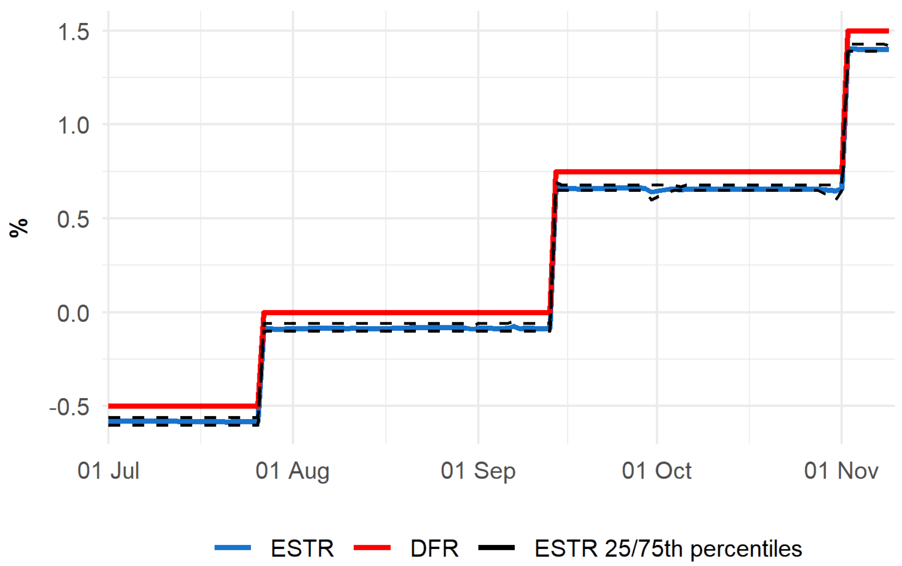
Since July, the ECB increased its key interest rates by 200 basis points in total (once by 50bps and twice by 75 bps). These are the largest single rate hikes of the ECB key interest rates. In this post, we examine to what extent these changes of policy rates passed through to the money market, the first step of monetary policy transmission. Transmission has been nearly complete in the unsecured market (e.g. on €STR) but subdued in the secured market (i.e. on repo transactions).

Graph 1: Changes for unsecured money market rates from July to November 2022



Source: ECB, Statistical Data Warehouse. Note: DFR stands for Deposit Facility Rate.

Raising rates with large excess liquidity: a new challenge for the Eurosystem

The increases in policy rates since July occurred in a context radically different from previous rate hike cycles in the euro area. They occurred in a context of large liquidity (currently around €4500 billion) while it stood at just around €30 bn in 2011. This excess liquidity is related to the Eurosystem asset purchases -- that contributed to reduce the quantity of safe assets in the hands of the public -- and long-term refinancing operations (TLTROs).

In such a situation, the transmission of central bank interest rate hikes might not be passed one-for-one to money market rates, *i.e.* the rates at which banks and other financial intermediaries borrow and lend cash for very short periods of time, typically 1-day, and no more than 1-year.

At this level of excess of liquidity, money market rates fall close to the deposit facility rate, the rate of remuneration of banks reserves at their central bank. Indeed, most short-term interest rates have traded even slightly below the deposit facility rate for years: the €STR rate (the benchmark rate for uncollateralized loans of 1-day maturity) traded consistently 8 to 10 basis points below the deposit facility rate. This kind of situation also occurred in the US, and raised doubts on the ability of the Federal Reserve to raise market rates (Bech and Klee (2011)). In the same vein, Duffie and Krishnamurthy (2016) document an imperfect pass-through to money market rates of the 2015 US tightening cycle.

The lower pass-through of secured rates compared to unsecured rates

We do not see evidence of weaker pass-through on the unsecured market: the €STR rate rose almost perfectly in line with policy rates, in July, September and November. Looking at the 5-business day-average before and after the rate hike reveals that uncollateralized or "unsecured" interest rates in the euro area rose by 49.5 basis points in July (compared to the 50 basis points rate hike), and by 74.3 and 74.6 basis points in September and November (compared to 75 basis points hikes). In all three cases, the pass-through was 99%.

The distribution of transactions around the €STR rate remained remarkably unchanged, as seen in Graph 1, as well as its 8-10 bps spread below the deposit facility.

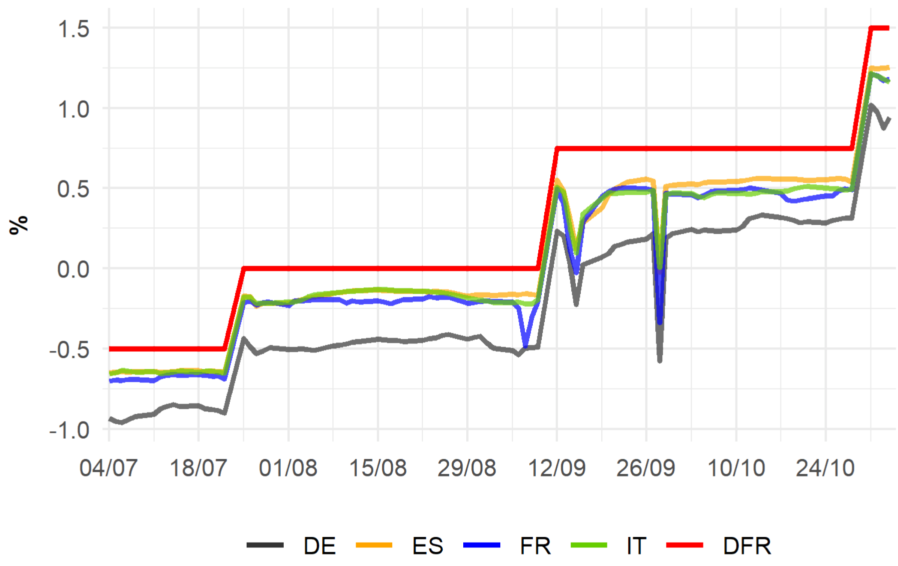
However, the large majority of transactions in the money market actually do not occur in the unsecured market, but rather in the secured market, where transactions are backed by collateral, i.e. the borrower of cash pledges securities to its lender, for instance a government bond, in guarantee.

Transactions data show that transmission in this market has been subdued in July in particular for German collateral and even more so in September and November (Graph 2). In July, comparing the average rate of German repos rate over the 5 days preceding and succeeding the rate hike shows an increase of only 38.7 basis points (– 87.9 to – 49.2 bps) in July, a pass-through of 77%. Repos against French, Italian and Spanish collateral responded with a stronger pass-through between 87% and 91%.

In September, the pass-through has been higher and cross-country heterogeneity much lower, at least initially, but the volatility of repo rates increased in the following days. On the first day of trading after the 75 basis point hike, repos of the most standard maturity (1-day, "Spot-Next") increase by 72 basis points in Germany, 70.4 in France, 71.9 in Spain and 70.1 in Italy. These are pass-through comprised between 94-96%. However, 4 days after the hike, repo rates subsequently declined by as much as 51.8 basis points in the case of France. After this through, repo rates progressively recovered, close but below their post 0.75%-hike-levels., Repo rate dropped again on September 30th, before recovering immediately, a phenomenon observed regularly in recent years on the last day of each quarter. This pattern is related to the willingness of banks to shrink their balance sheet (thus avoiding borrowing) on the last day of the quarter, due to reporting constraints.

Based on the latest data at our disposal (using a symmetric window of 4-days), the November hike (announced on October 27th) saw a rise of repo rates of 64 (Germany) to 71 (France) basis points, a pass-through of 86 to 95%.

Graph 2: Rate hikes and variations in secured money market rates, between July and November 2022 (in %)



Source: ECB, Money Market Statistical Reporting (MMSR), Bloomberg.

Collateral scarcity could explain the difference in pass-through

As explained by Arrata *et al.* (2020) repo can be motivated by borrowing cash but also by borrowing a specific type of collateral. As such, repo rates are affected by the relative scarcity of high-quality assets, and reflect the relative supply and demand in the market for borrowing bonds such as French and German government bonds.

The demand for the safest collateral might have increased in September for several reasons. For example, according to Lane (2022), some Government agencies might have been willing to redirect funds in the repo market , in spite of a technical change that would make the remuneration of their funds deposited with the Eurosystem more attractive, as announced on 8 September 2022.

Other explanations for imperfect pass-through have been put forward in the literature, related to competition and segmentation issues in the repo market (Eisenschmidt *et al.* (2022) and Ballensiefen *et al.* (2020)).

At this stage, the significant difference in the behavior of unsecured and secured markets suggests that the subdued pass-through observed in the repo market is likely to be related to collateral scarcity. In this regard, at least three measures might alleviate this phenomenon:

- The Eurosystem securities lending facility, in which the ECB and national central banks lend bonds purchased under their asset purchases programs to market participants. On November 10th, the maximum amount of securities that can be borrowed from the Eurosytem against cash was raised from 150 to 250 billion EUR
- The decision made by the German debt management office – the Finanzagentur - to lend a larger amount of German bonds in the market
- The upcoming reimbursement of TLTRO operations, which should free up some collateral and might reduce safe assets scarcity