ESTR, We Have a Problem

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Research

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ESTR missed the bus

- **Euro Short-Term Rate.** €STR in the ECB's alphabet soup. But anyone who doesn't work in **that tower** in Frankfurt calls it ESTR – as in Ester to you and me. ESTR missed the bus. And not by just a few seconds. Oh, and missed the bus as in: everything and everyone got on that bus while ESTR just stood there and barely moved. The money market in the Eurozone has become a lot less easy than it was at its peak, which I date in Q3/Q4 2022. Here are the numbers:

  1. Since late 2022, the spread between Eurex overnight GC repo[1] and the ECB deposit rate has tightened by 12bps. Average settlements in the current quarter have been marginally above the deposit rate;
  2. The average monthly spread between Euribor 3-month and Euribor 6-month and the respective 3-month and 6-month OIS have increased by 11bps and 12bps, respectively.[2]
  3. The aggregated spread on banks STEP commercial paper has increased by about 10bps this year alone;[3]
  4. And since late 2022 the monthly average ESTR-deposit rate spread has narrowed by a lousy 2bps, or 2.5bps on a good day.

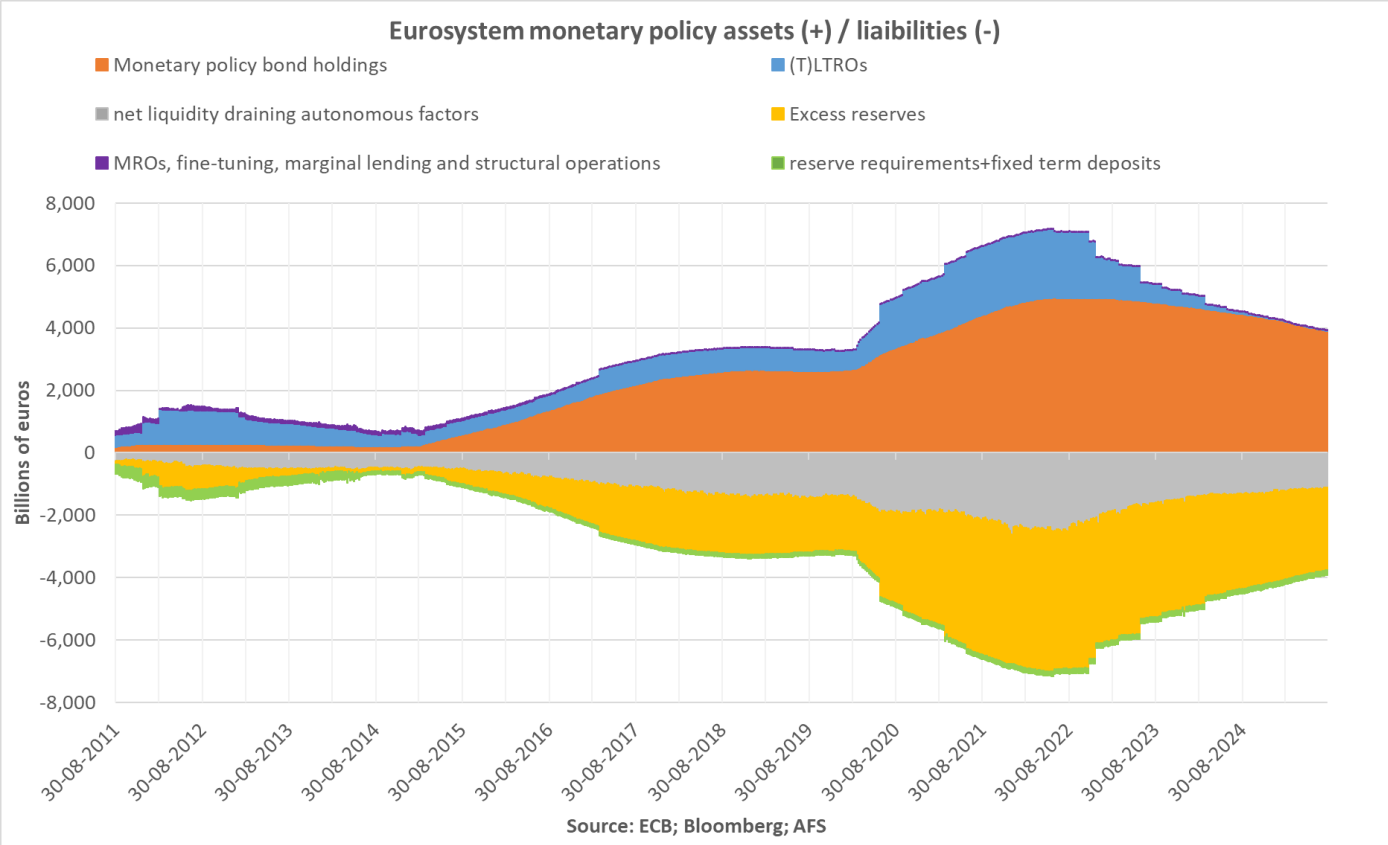
  ESTR reminds me of the Pink Floyd song Time:

  No one told you when to run
  You missed the starting gun

- **Now, I am under the impression that ESTR is the ECB's key overnight rate.** Not just an anchor of stability – the antithesis of volatility – but also best capturing money market conditions. Stable it is indeed. But the best reflection of money market conditions? Hardly.
- **So, is ESTR finally going to catch up with the other benchmarks?** Not according to my models. Secured rates will rise faster because ECB QT is destroying reserves and increasing collateral in public hands at the same time. Furthermore, since Euribor is a term rate, its settlements should increase relative to OIS.

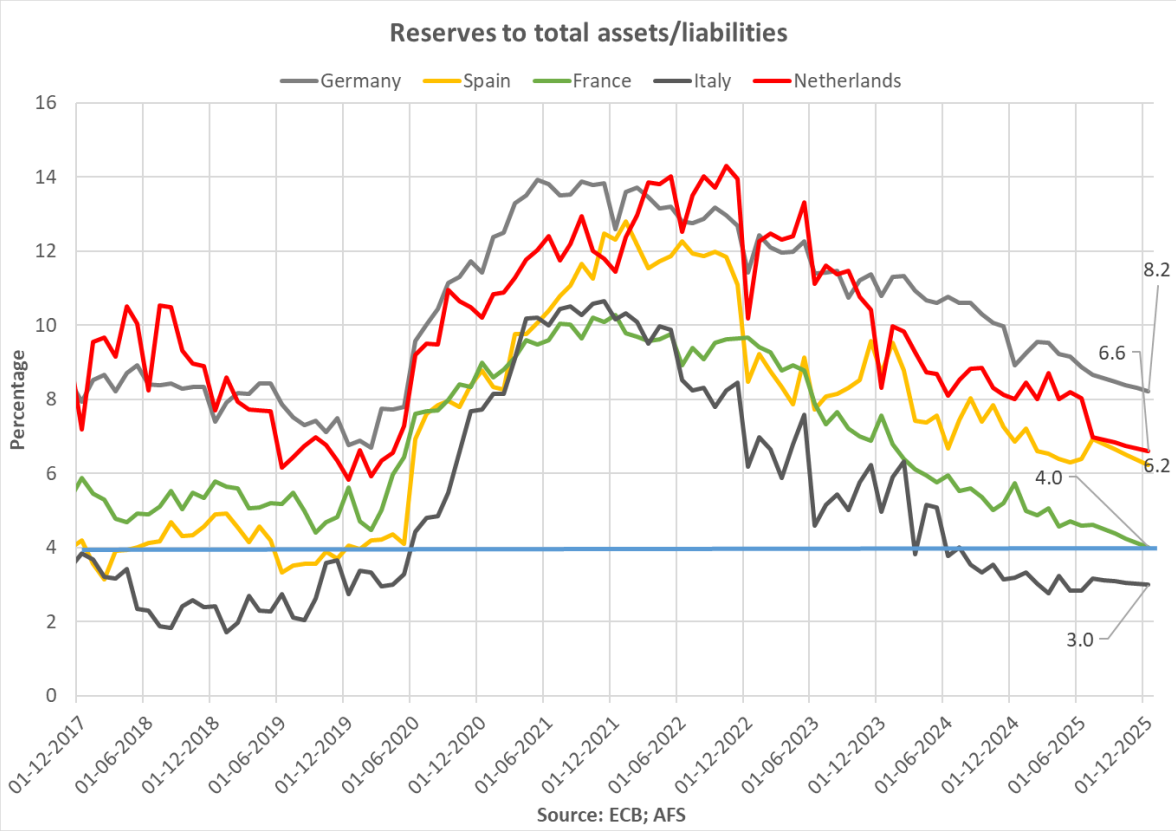
[1] Called Stoxx deferred general collateral pooling rate.
[2] Average monthly spreads to deal with the vagaries of Euribor settlements
[3] ECB STEP data is a work in progress, to put it mildly. Quick overview here.

- **For the uninitiated, the driver of tighter – or less easy – money market conditions is the ECB balance sheet**. Or to be precise, the decline in assets and liabilities resulting from ECB Quantitative Tightening. Bonds roll off the asset side of the balance sheet. And that destroys an equal amount of liabilities: bank reserves. Graphically represented as follows:



- **But something else has been going on, and that has also strongly affected the level of bank reserves**. And that's the decline in so-called net autonomous factors: liabilities on the ECB's balance sheet that drain reserves from the banking system. Think principally of the government, supranational, and foreign official deposits at the Eurosystem. The balances on these deposits have declined, and the reserves have shifted to the banking system. This migration of reserves has sterilized a large part of ECB QT. Without the decrease in net autonomous factors, excess reserves would stand at 1.7 trillion instead of 2.7 trillion euros. Believe me when I say that spreads would be a hell of a lot tighter if excess reserves were a trillion euros smaller. The bottom: reserves matter a lot.
- **So, where do I see money market spreads in the next twelve months?** I will go through the ones I mentioned in the introduction: Euribor (3m and 6m), GC repo, and ESTR. I will not go into excruciating detail but stick with broad outlines instead. The forecast horizon is a bit mixed, unfortunately: 2025 year-end for BORs, and 2026 year-end for the overnight rates. The takeaway from the models is that spread increases remain gradual as far as the eye can see. We will not reach yet the steep part of the demand curve for reserves. That's the point on the curve where decreases in bank reserves result in proportionally stronger increases in spreads.

- **A caveat.** To be blunt: shit can happen. It's not that I am using linear models that will break down eventually. Money market breakdowns in the Eurozone have, except for that big one in 2008, resulted from politics, not from ECB mismanagement. I am thinking of something like the Eurozone crisis, which I experienced firsthand (I am that old, yes). Capital flight and a balance of payments crisis mean money market spread blowouts too – blowouts aren't reserved to just the bond market.
- **In any case, I am not going to speculate about a balance of payments crisis in this or that member state.** I am talking about France here, of course. A BOP crisis would drain the reserves of the banking system.
- **France isn't suffering a BOP crisis, though it has a BOP deficit that preceded its political crisis.** That is: the sum of the current account and the financial account is in deficit. And French banks lose reserves to other member states equal to the French BOP deficit.
- **Last week's ECB bank balance sheet data showed nothing new or worrisome with regards to the liquidity situation of the French banking system**. French bank reserves drop faster than elsewhere and to the benefit of Italian banks. But the process is not speeding up if anything:

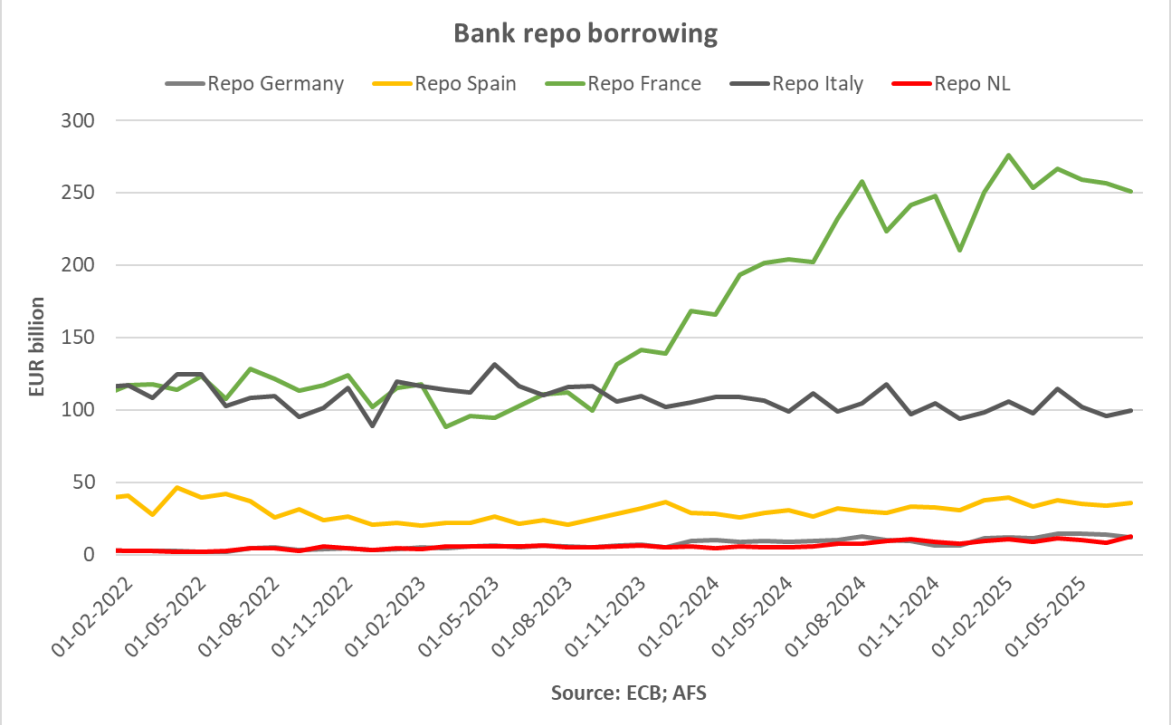


Yes, events could intrude, and French banks, which have been on the receiving end for quite some time, could suffer even more. But I repeat myself when I say that I am not going theorize about French politics.

- **There's more than meets the eye.** Look closely at the chart and notice the flat-lining of the Italian reserve ratio at three percent of total assets/liabilities. That compares with two percent before the crisis and the four percent that has been mentioned in scholarly research. Italian banks prefer to hold a higher level of reserves nowadays. I assume because there's no longer an ECB TLTRO

safety net. For future money market research, I will use a three percent reserve ratio as a yardstick for hitting the steeper part of the demand curve for reserves. That is, if large parts of the banking system hit three percent, then we will likely start to see proportional stronger increases in spreads and more borrowing from the Eurosystem. Unless the ECB calls it a day and ends QT. In any case, the forecast for non-linear increases in money market spreads is a topic for a future research note.

- **Back to my obsession, French banks**. Despite the ongoing budget uncertainty – which came to a head last week – the liquidity situation of French banks is not worsening. Yes, the data in the chart on the prior page is through July – the rest (until year-end) is a forecast. But back in July we also knew that France wasn't solved, fiscally speaking. What changed is that we now have a deadline for a confidence vote.
- **Furthermore, repo borrowing by French banks has also stabilized (data also through July):**



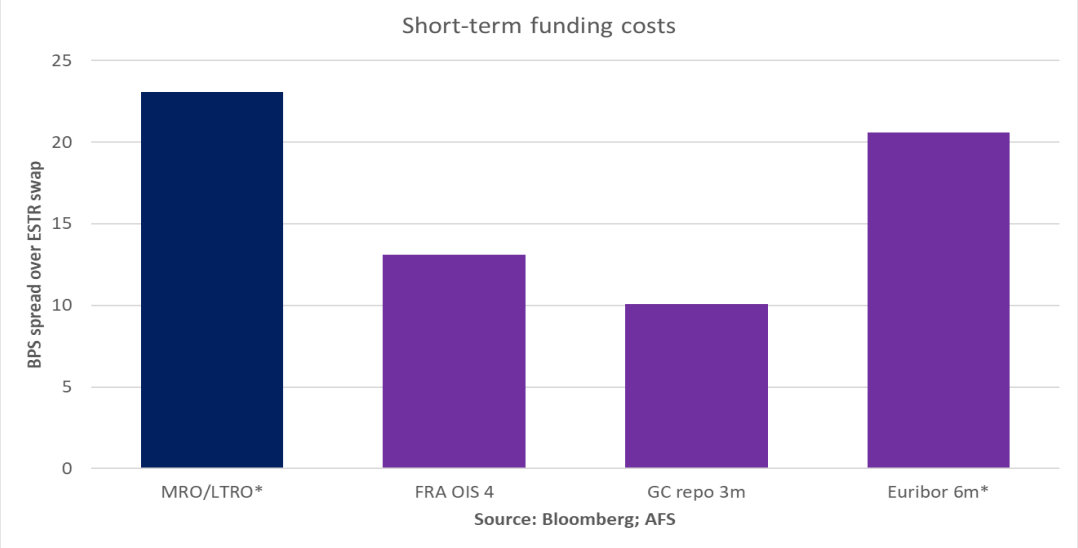
The takeaway from the two charts is that a redistribution of reserves from one member state's banking system to (the) other(s) can be the trigger of faster money market spread increases. In this regard, I want to emphasize that the Italian banks' 'stealing' of reserves from French banks hasn't moved the broad benchmarks yet.

- **Turning to the models, in each case the key independent variable is bank reserves.** The future level of bank reserves can be forecasted simply by taking the ECB QT schedule, plus a few assumptions. The assumptions are: no further changes in government/supranational/foreign official balances at the Eurosystem[4]; a modest liquidity boost from increases in the Eurosystem so-

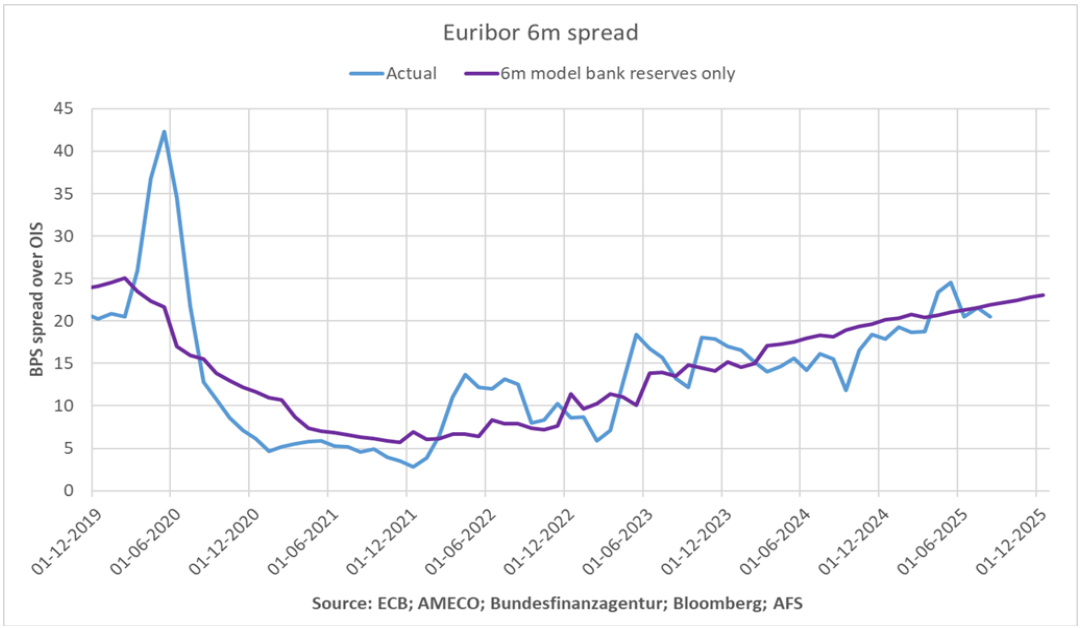
[4] The ECB controls the balances by setting the remuneration rate.

called net financial assets;[5] and no meaningful effect from banknotes. I assume LTRO/MRO borrowing to increase by 10 billion euros per quarter, an assumption that has proven to be way too optimistic. Regardless my MRO/LTRO forecasts not crystalizing has only a marginal effect on the model outcomes (and none in the case of ESTR).

- **On a side note, the low MRO/LTRO uptake can be explained by the relative expensiveness of the MRO/LTRO:**



Market financing is still cheaper, even in the case of relatively LCR-friendly 6-month unsecured borrowings. However, according to the model, which is simply based on the reserve ratio[6] of Eurozone banks (R2 0.56), the spread over OIS will soon match that of MRO/LTRO:

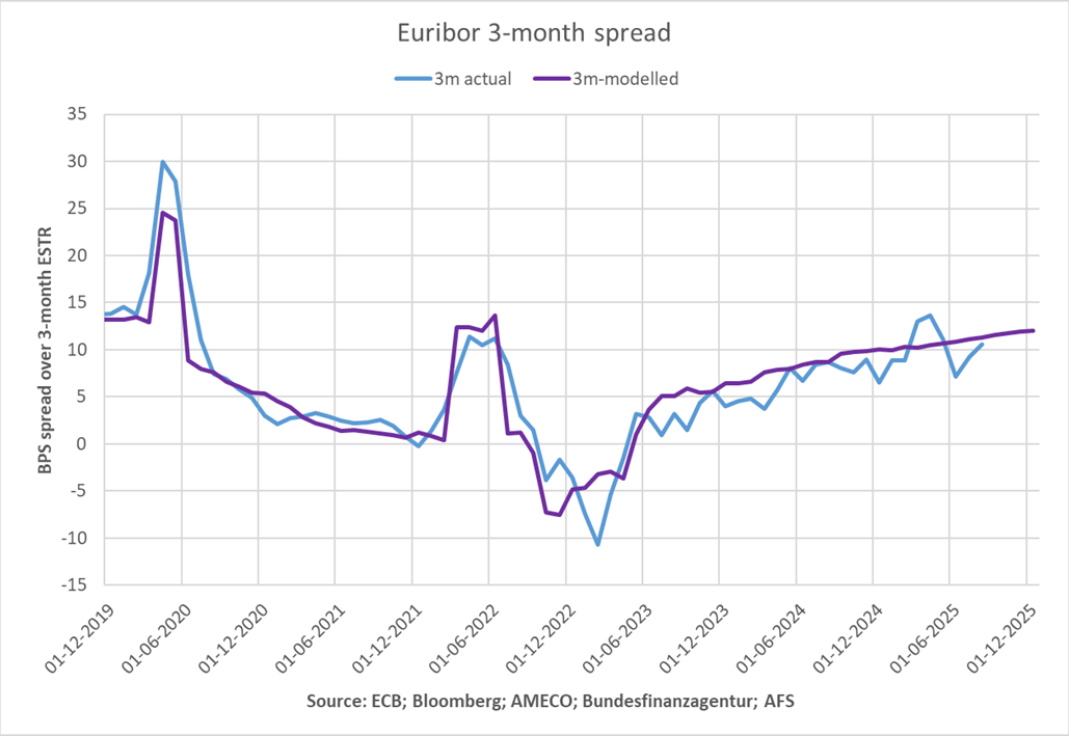


[5] Mostly securities bought for non-monetary policy purposes, such as reserves management and employee pensions. Forecasting Net Financial Assets is just guesswork.

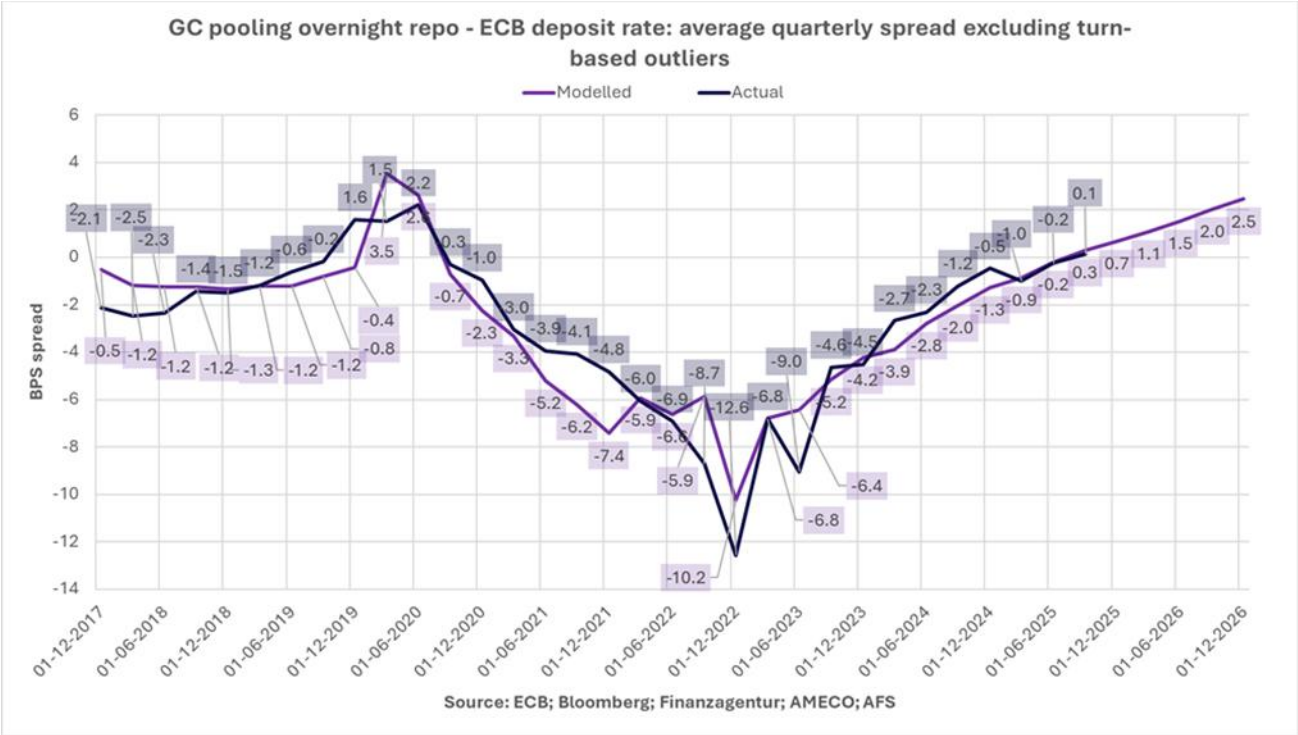
[6] Reserves to total assets/liabilities. Asset/liability growth is trending over time with relatively low volatility. It's easy to make assumptions on assets/liabilities growth over a short time-frame by just taking recent average growth.

When Euribor 6-month matches MRO/LTRO, perhaps then we will finally see growth in MRO/LTRO uptake.

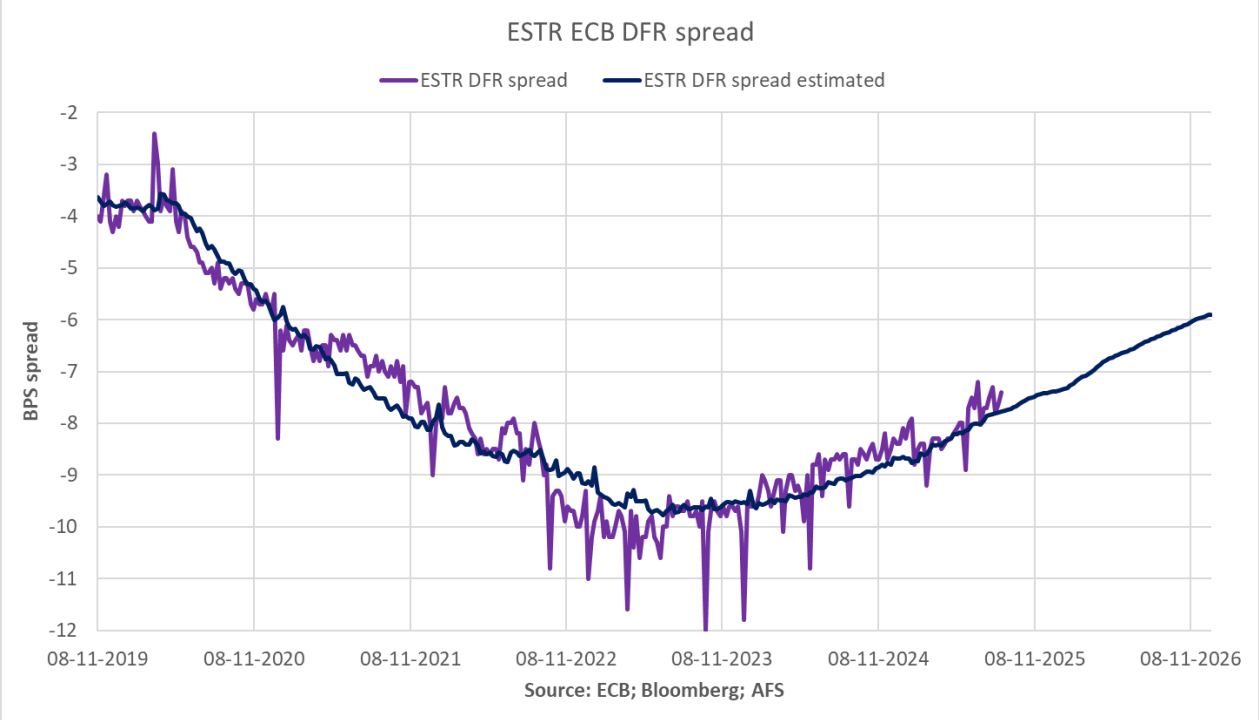
- **For the Euribor 3-month model I added the GC repo spread and dummies for the dash-for-cash spread widening of 2020 and the transmission lags during the rapid rate hike cycle of 2022-2023.** Here's the chart:



- **Yes, it's a bit of goal-seeking with the dummies to arrive at a good R2 of 0.83.** In any case, the takeaway from the Euribor models is that term spreads should basically match pre-pandemic levels around the upcoming year turn.
- **Let's have look at repo spreads next.** It's still the same model that I have used for a year and a quarter now: the ratio between 'core' collateral and bank reserves. Core collateral is defined as French, German, and Dutch sovereign and agency debt, supranational debt, and extreme high-quality covered bonds from these member states. ECB QT is destroying reserves while at the same time increasing collateral in private hands. Add to that the 'natural' increase in debt because of fiscal deficits and issuance, and you have relatively brisk increases in repo rates.
- **The model is still working like clockwork:**

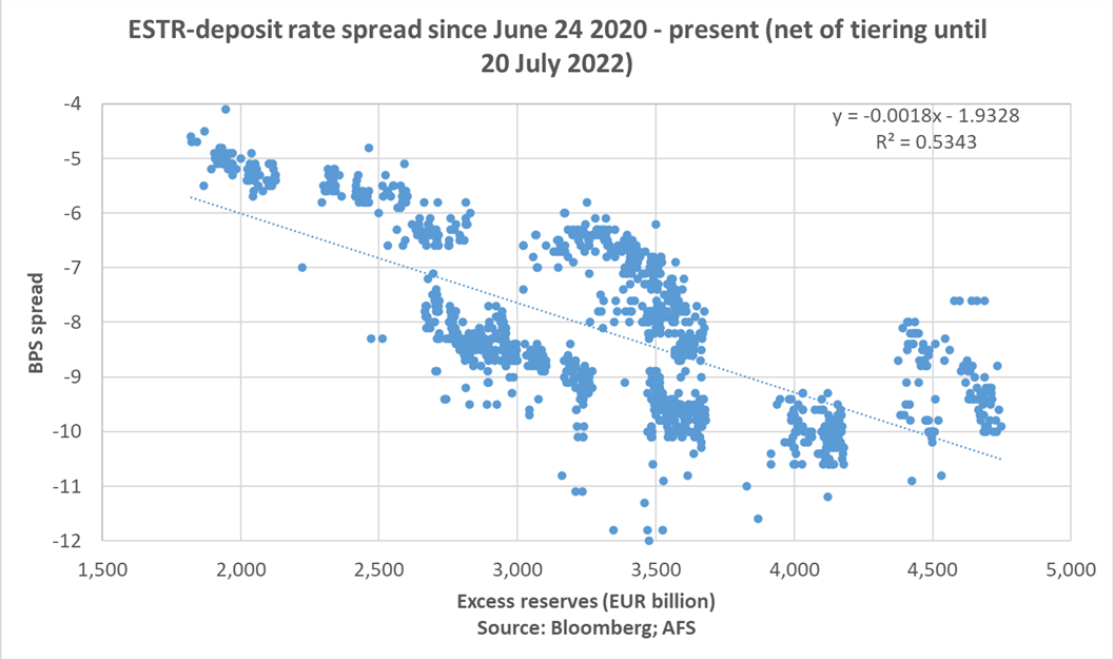


- **In Q2 of 2026, the spread should return to its pre-pandemic level.** So, we're looking at the normalization of the repo market more than anything else.
- **Concluding with the new kid on the block: the ESTR model.** Which takes a small leap of faith. The R2 is very strong (0.92) and the independent variables are very straightforward. They are the ECB's bond holdings, which reflect unborrowed bank reserves (reserves that were not created by ECB lending to banks, but by QE), and net autonomous factors. Unfortunately, I am still at a loss why the fit is so strong. I am sure the folks at the ECB know. The creators of ESTR will know – of that I am sure.
- **Forecasting the ESTR spread is child's play.** As mentioned before, the ECB publishes the QT schedule on its website. And one can confidently make assumptions about autonomous factors. In any case, here's the chart:



The forecast ends in December 2026 mind you.

- **To conclude, the fair-weather-oblivious-to-political-risk models tell me the ESTR spread will lag spread increases for GC repo and 3-month and 6-month Euribor.** Furthermore, the models show that we're still in the normalization phase of the money market. Spreads are rising to late 2019 levels: some faster (Euribor); others slower (GC repo and ESTR especially). And in case you forgot, the money market is becoming less easy because of ECB QT plain and simple.
- **If the ECB was fed up with the slow increases in its prized ESTR it could accelerate QT by selling bonds outright (the ECB has already ceased all reinvestments**). But that would only lead to faster increases in the other spreads, which are more sensitive to tighter liquidity conditions in the banking system. You might counter by saying that there is no good explanation for the strong relationship between unborrowed reserves and autonomous factors that explain the ESTR-deposit rate spread. True indeed. I am still trying to come up with the reasoning behind the model. Quite the fatal flaw, isn't it? But for now, it's all we have. More importantly, I haven't seen anything better out there. As a matter of fact, the only model you will come across is simply plotting bank reserves against the spread with the deposit rate:



- **That produces an inferior R2.** The R2 is much lower when we take the full history of ESTR into account (including the October 2019 – June 2020 data). Here's my model, which includes settlements since the official launch of ESTR six years ago.

SUMMARY OUTPUT								
Regression Statistics								
Multiple F	0.960996							
R Square	0.923514							
Adjusted I	0.922995							
Standard E	0.554691							
Observati	298							
ANOVA								
	df	*SS*	*MS*	*F*	*gnificance F*			
Regressio	2	1095.931	547.9655	1780.95	2.1E-165			
Residual	295	90.76606	0.307682					
Total	297	1186.697						
	Coefficients	*andard Err*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*ower 95.0%*	*pper 95.0%*
Intercept	1.00053	0.220791	4.531568	8.52E-06	0.566005	1.435055	0.566005	1.435055
ECB mone	-0.00288	4.82E-05	-59.676	1.1E-166	-0.00297	-0.00278	-0.00297	-0.00278
domestic	-0.00167	8.37E-05	-19.9114	1.66E-56	-0.00183	-0.0015	-0.00183	-0.0015