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# Money Market Update:

## *Pedal to the metal for ECB QT*

December 3, 2025

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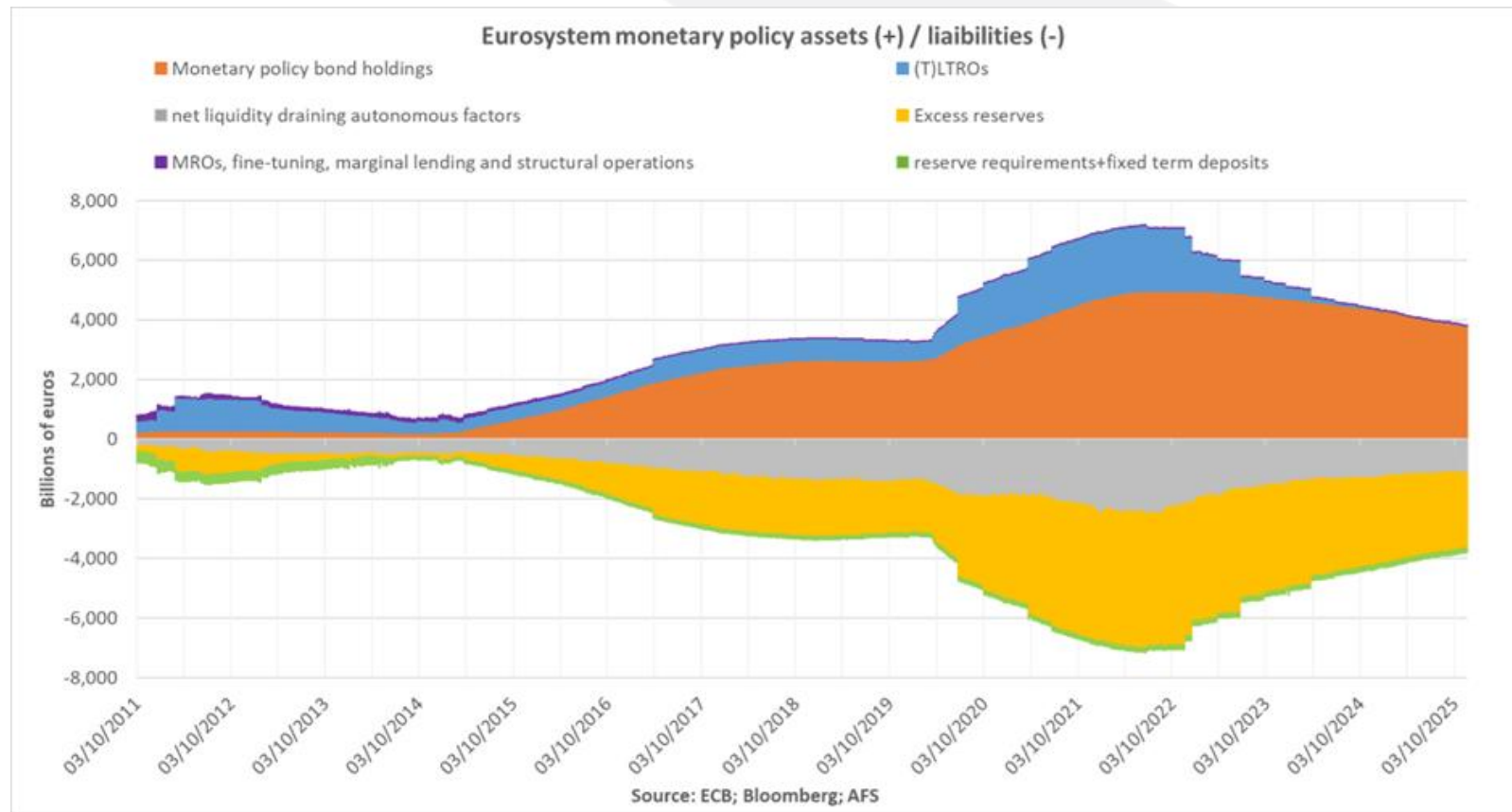
# Once Upon a Time

- **Like pretty much all things in life, everything starts with a balance sheet.** In this case the ECB balance sheet, which used to be quite corpulent, though a bit less so these days. The ECB has been engaged for about two years now in Quantitative Tightening, which entails no longer reinvesting the proceeds of maturing bonds that the central bank bought under its various Quantitative Easing programs;
- **With the Fed having thrown in the towel on QT because of the jittery money market** (as in overnight rates becoming too elevated and volatile relative to the Fed's administered rates), the question is: when will the ECB stop QT?



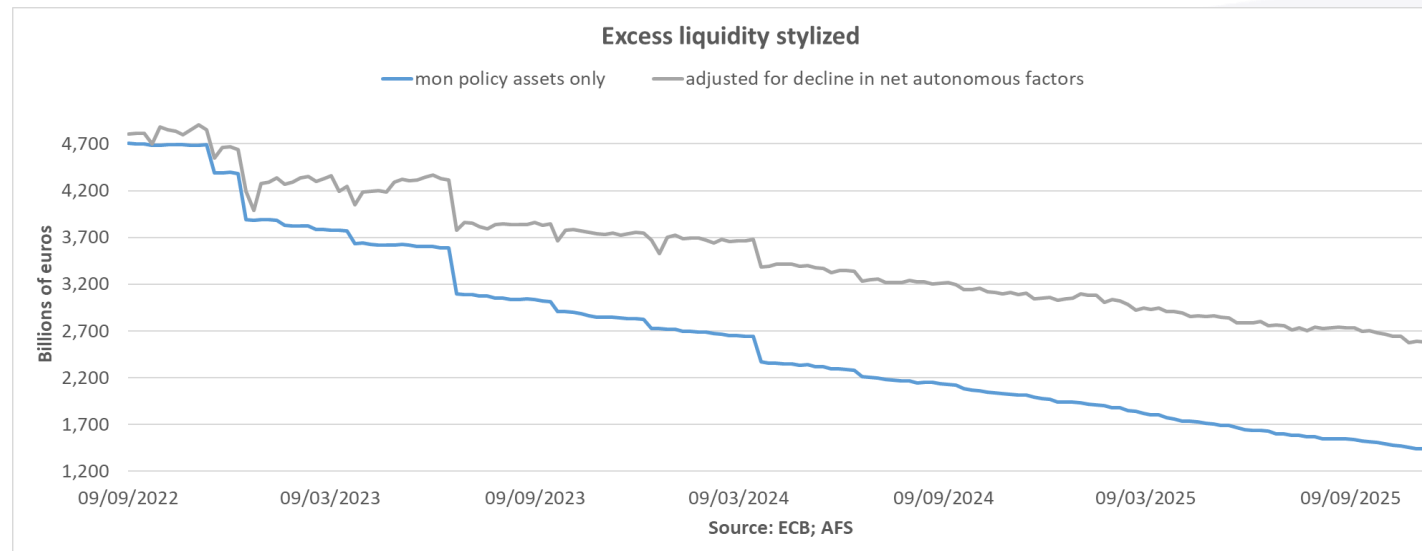
# One word: reserves

- To answer the question about ECB QT's end date, we must look at bank reserves. That's because bank reserves determine money market spreads;
- Bank reserves are the liability that the ECB created 'out of thin air' when it bought bonds (the bonds are the corresponding asset). Without going through the exact balance sheet steps of QT (I've done that plenty of times), this is what QT (and QE before) looks like:



# The Counterfactual

- **Since 2023, a bit more than a trillion euros in bonds have rolled off the ECB's balance sheet.** The decline in excess reserves is much smaller though. That's because other so-called 'autonomous factors' on the Eurosystem balance sheet, principally government and supranational/agency deposits at the Eurosystem, have declined too. The decline in autonomous factors has boosted bank reserves strongly;
- **During the negative interest era, it costs governments etc. little to maintain elevated balances with the Eurosystem.** As a matter of fact, it often paid to borrow and simply park the proceeds at the Eurosystem. The ECB put an end to that arbitrage with rate hikes and the remuneration tweak for nonbank reserve balances, capping them at ESTR minus 20bps;
- **As a counterfactual,** if these nonbank balances had not fallen, or if Euro Area governments ran budget surpluses and had paid down debt, excess reserves in the banking system would have been much, much lower:



# QT-infinity

- **ECB QT is an ongoing process.** And if you listen to ECB-speakers, no one is saying that it should stop any time soon. There's still about 2.5 trillion euros in reserves left. Which sounds like a lot. But is it enough to prevent volatility in euro overnight rates?
- **Based on the data at hand, bank reserves remain very ample.** A year from now, reserves will still be ample. Therefore, I do not think that the ECB will end QT next year. The wildcard is the distribution of bank reserves. A more unequal distribution of bank reserves could force the ECB to end QE sooner than expected (before the end of my 12-month forecast horizon). On the other hand, the ECB could continue with QT well into 2027 if bank reserves are redistributed more evenly than is currently the case.
- **Let us found out why reserves will remain ample,** and what the implications for money market benchmark rates are.

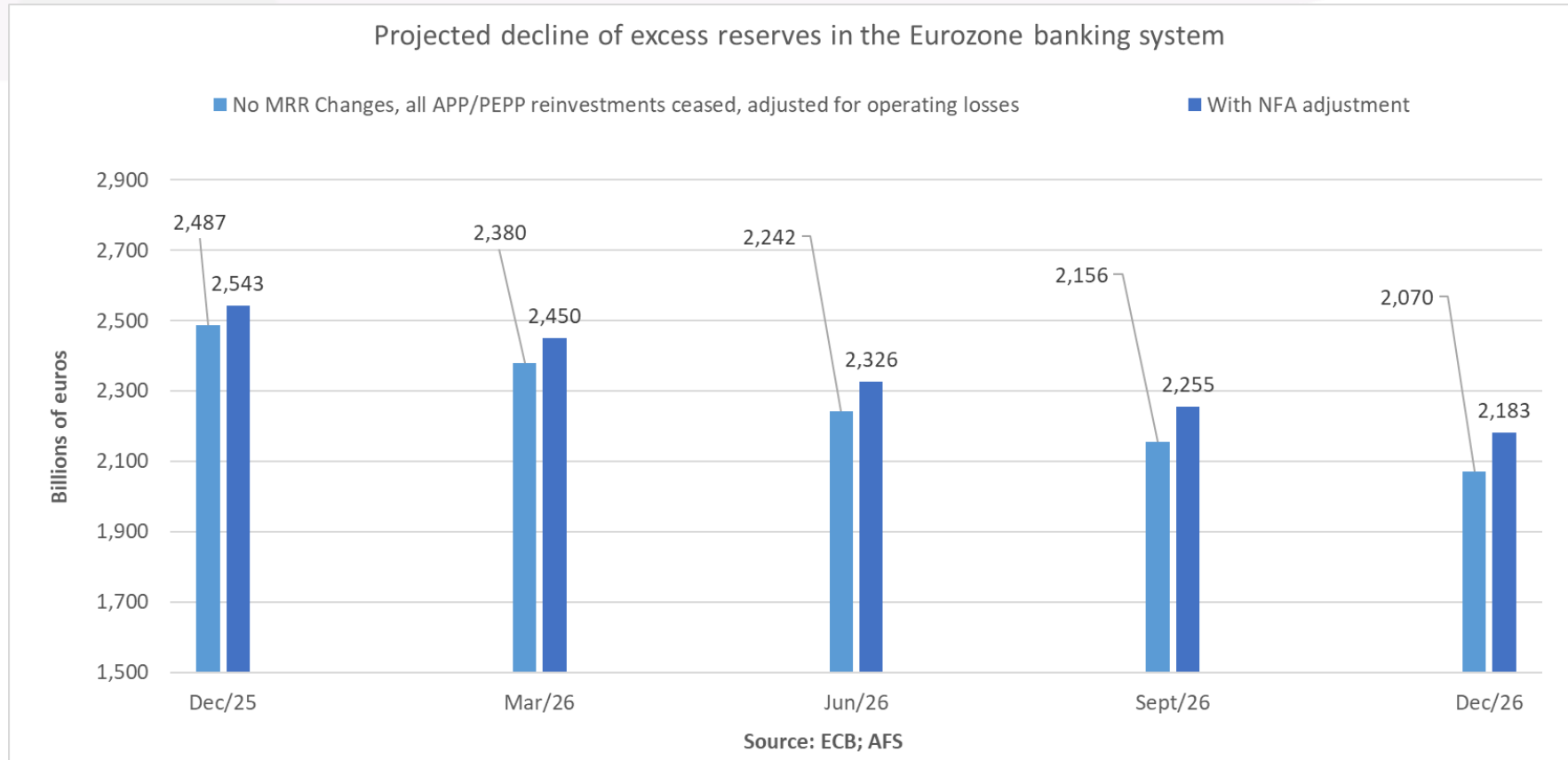


# My loss is your gain

- **The ECB publishes the QT schedule in advance.** That helps us analyst to forecast the level of excess reserves without any guesswork on the notional amount of bonds that roll off the Eurosystem balance sheet every month. But, as I explained earlier, there's more to forecasting liquidity conditions than ECB bond roll-offs. You're forced to make assumptions about autonomous factors. And take Eurosystem operating losses into account;
- **Regarding the former, I expect autonomous factors to boost excess reserves marginally.** National central bank asset buying for nonmonetary policy purposes has boosted reserves meaningfully in 2023 and 2024, but this year buying has slowed considerably. Going forward, I expect a low pace of buying, with an equally low but positive contribution to excess reserves;
- **Eurosystem operating losses – the negative interest rate margin on bonds versus deposit facility holdings – will continue to boost excess reserves by small but meaningful amounts.** Assuming an unchanged deposit rate of two percent as per ESTR pricing, estimated operating losses next year of 20 billion euros will increase excess reserves by the same amount. That won't wipe out Eurosystem capital and reserves, by the way. The Eurosystem will be left with a rather thin cushion of capital and reserves of 16 billion euros by year-end 2026.

# NFA, not NWA

- As per the chart below, excess reserves will be close but above two trillion euros a year from now. And a bit more when I take the non-monetary policy asset buying (NFA for Net Financial Assets) into account.



# Ample liquidity

- **The level of excess reserves by itself is a meaningless figure.** It needs to be compared bank system total assets/liabilities and the amount of collateral that is circulating in the secured market. Therefore, let's have a look at this table from my recently published annual year turn report;
- **Ahead of the current turn (the 2025/2026 column), excess reserves are at the lowest level since late 2020.** But, as I just told you, that's a meaningless metric;
- **Reserves to total assets/liabilities of the Eurozone banking system are at six percent (for reference purposes: in the US the level is roughly double, and the US money market is much, much tighter).** The level of reserves hasn't returned to the pre-pandemic level of 2.9% in late 2019, when the newly instituted tiering system pushed down the level of 'free' reserves sharply compared to late 2018;
- **According to the most recent update from the ECB, the Liquidity Coverage Ratio (LCR) of systemic banks was 141 percent last June.** For what it's worth, that's bit higher than pre-pandemic levels and in line with late 2024 levels. More importantly, despite a much lower level of reserves, LCRs have remained stable. That's only possible when banks 'massage' short-term inflows and outflows, or buy each other's covered bonds in one merry-go-round circle jerk.

	2025/2026	2024/2025	2023/2024	2022/2023	2021/2022	2020/2021	2019/2020	2018/2019	2017/2018
<b>Banking system liquidity</b>									
Excess liquidity (EUR billion; adjusted for tiering)*	2,585	3,082	3,634	4,500	3,467	2,440	1,155	1,876	1,841
Excess liquidity (net of tiering) to total assets, quarter-end value*	6.0%	7.5%	8.9%	10.9%	8.6%	7.0%	2.9%	5.7%	5.7%
GSIB Q4 Liquidity Coverage Ratio**	140.6	141.3	150.0	145.9	152.0	160.8	132.1	136.7	134.4
All wholesale deposits to total assets, Q4 average*	11.5%	11.7%	11.7%	11.9%	12.1%	11.7%	10.8%	10.8%	10.5%
MRO/LTRO borrowing over the turn (EUR billion)		8.1	5.7	---	--	---	5.4	---	---

\*for 2025/2026 Q3 2025 data

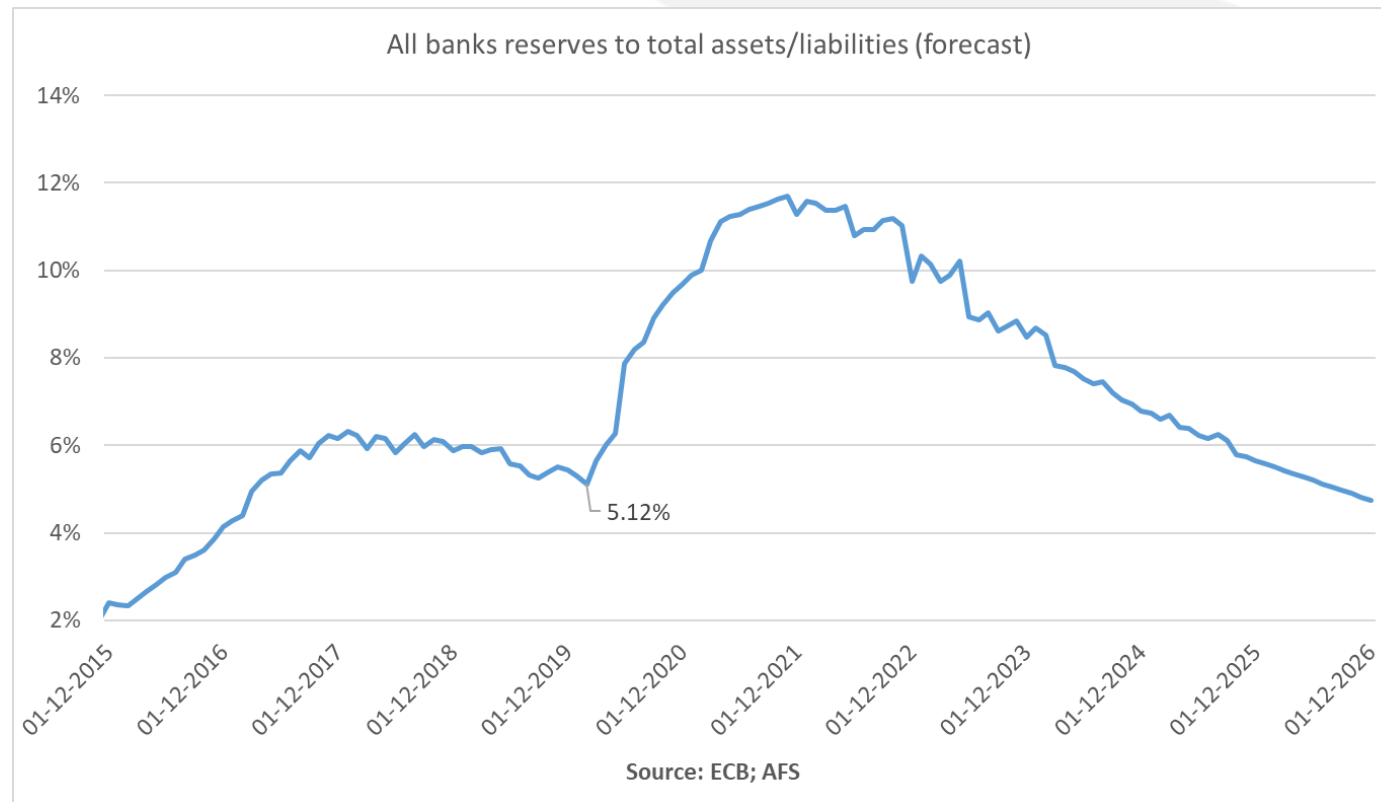
\*\*for 2025/2026 2025 Q2 data

Source: ECB SDW; SSM; Federal Reserve; Bloomberg; Eurostat



# Normalization

- **At the aggregate level, reserves will remain plentiful for as far as the eye can see.** Here's the reserves to total assets/liabilities ratio of the Eurozone banking system. I assumed asset/liability growth more or less in line with the current year. And, for argument's sake, no increase in MRO/LTRO borrowing;
- **A year from now, the ratio will return to the low on the eve of the pandemic.** Note that I made no adjustments for tiering of the deposit facility in 2019 and subsequent years. Adjusted for tiering, the reserve ratio was three percent at the low, not five percent (5.12%):



# Euroclear, that sink hole

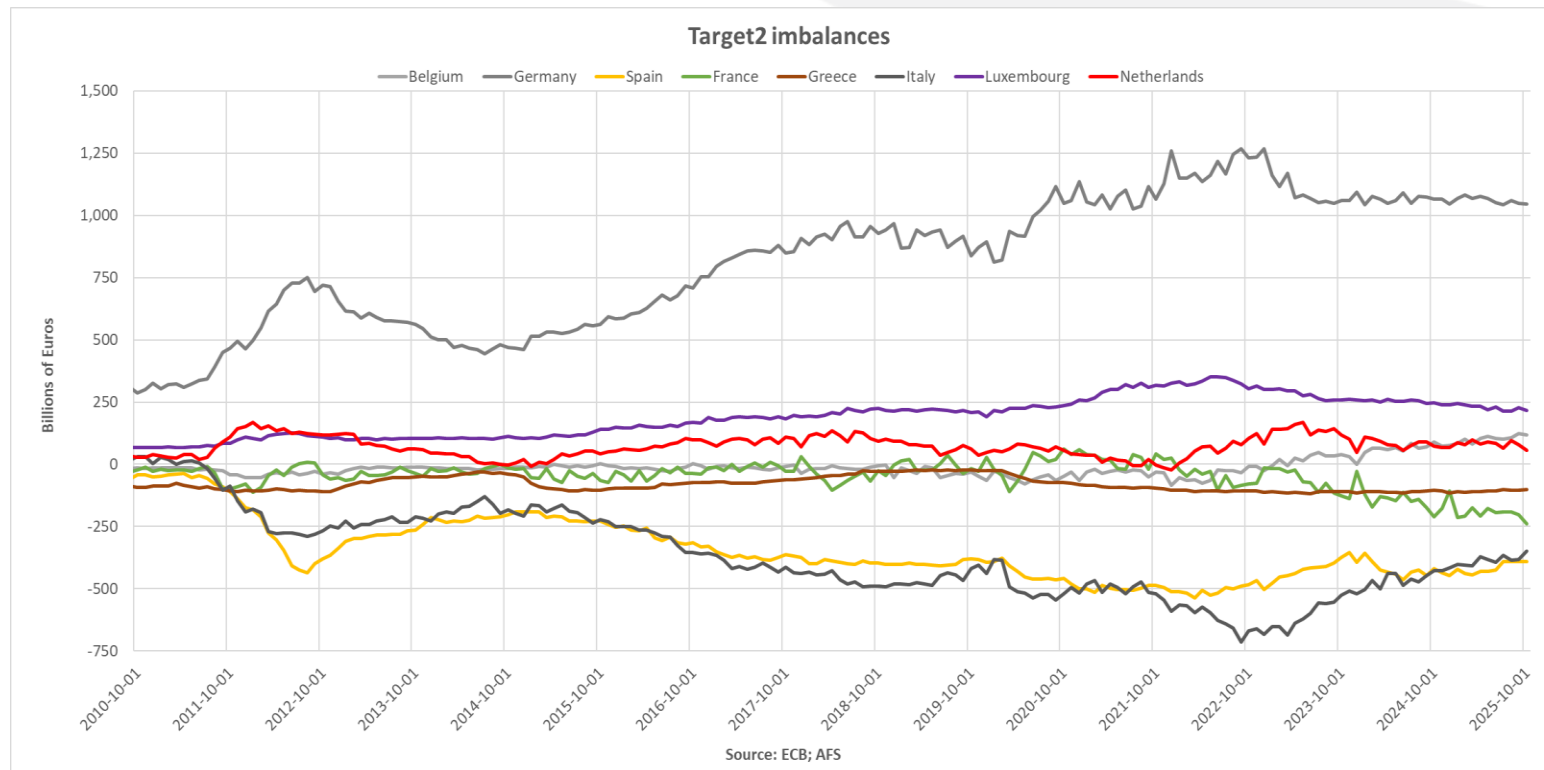
- **A recurring theme in the Money Market Updates is that location matters.** Reserve are unequally across member states and within member states. That's why I track and forecast reserves ratios for the five biggest member states. In the case of smaller member states except Belgium, I only track but not forecast reserves ratios.
- **Belgium is a special case.** Reserves are piling up in Belgium – at Euroclear Bank to be precise – because of the West freezing Russia's foreign assets. We're talking real 'money' here. Russia's assets frozen at Euroclear are reportedly worth a notional 180 billion euros. Before the war Russia invested its euro dominated reserves mostly in Euro Area government debt (primarily Bunds and OATs). When the bonds matured, DMOs paid the placeholders – in this case Euroclear. But instead of Euroclear passing on the proceeds to wherever the Kremlin held its account (likely in Germany, France, or both), Euroclear held on to the reserves (as in bank reserves). At year-end 2024, Euroclear's balance with the *Nationale Bank van België* (NBB, the Belgian central bank) had grown to 145 billion euros. Before the war, Euroclear balances with the Eurosystem stood at few billion euros – an insignificant amount;
- **I've tried to ask Euroclear for clarification on the status of its elevated reserve balances with the NBB.** Unfortunately, Euroclear responds even slower than a banker on a Friday. So far, Euroclear answered part of my question. It was confirmed to me that Euroclear can deploy the interest that the Eurosystem pays on the Russian reserve balances. Meaning that Eurosystem interest payments enter the money market (eventually). Regarding principal balances, I am still waiting for an answer. Given Belgium's elevated Target2 claims, we can safely assume that the balances are completely frozen and held until further notice at the NBB. Regardless, there isn't enough short-term Belgian government debt around for Euroclear to splurge on.

# Russians don't matter

- **In my money market spread models, I should adjust bank reserves for Russia's frozen and thus sterilized reserve balances.** Given time constraints, I haven't been able to. So, some perspective is in order. The frozen balances are worth about four months of ECB QT. They are greater than the combined DMO balances at the Eurosystem, which fluctuate around a hundred billion euros these days. The frozen balances are about equal in size to supranational/agency balance at the Eurosystem. Bottom line: we're talking about a significant autonomous liquidity draining factor;
- **There is no need yet to adjust the models.** Actual money market spreads (ESTR-DFR; GC repo-DFR; BOR-OIS) have been a bit lower than my model-based forecasts. The key independent variable in these simple models are bank reserves, by the way;
- **If I crudely assume that by the end of next year close to 200 billion euros in Euroclear balances are frozen/sterilized, the reserve ratio of the Eurozone banking system would be 4.1 percent instead of 4.8 percent.** Four percent should be a manageable level still. On the eve of the pandemic, we stood at three percent because of tiering. ESTR settled 4-5bps below DFR, while GC repo was a bp or two above DFR. Bottom line: I don't think Russia/Euroclear will matter in the next twelve months. But I will definitely continue to keep an eye on the Belgium banking system and Belgium's rising Target2 claims;

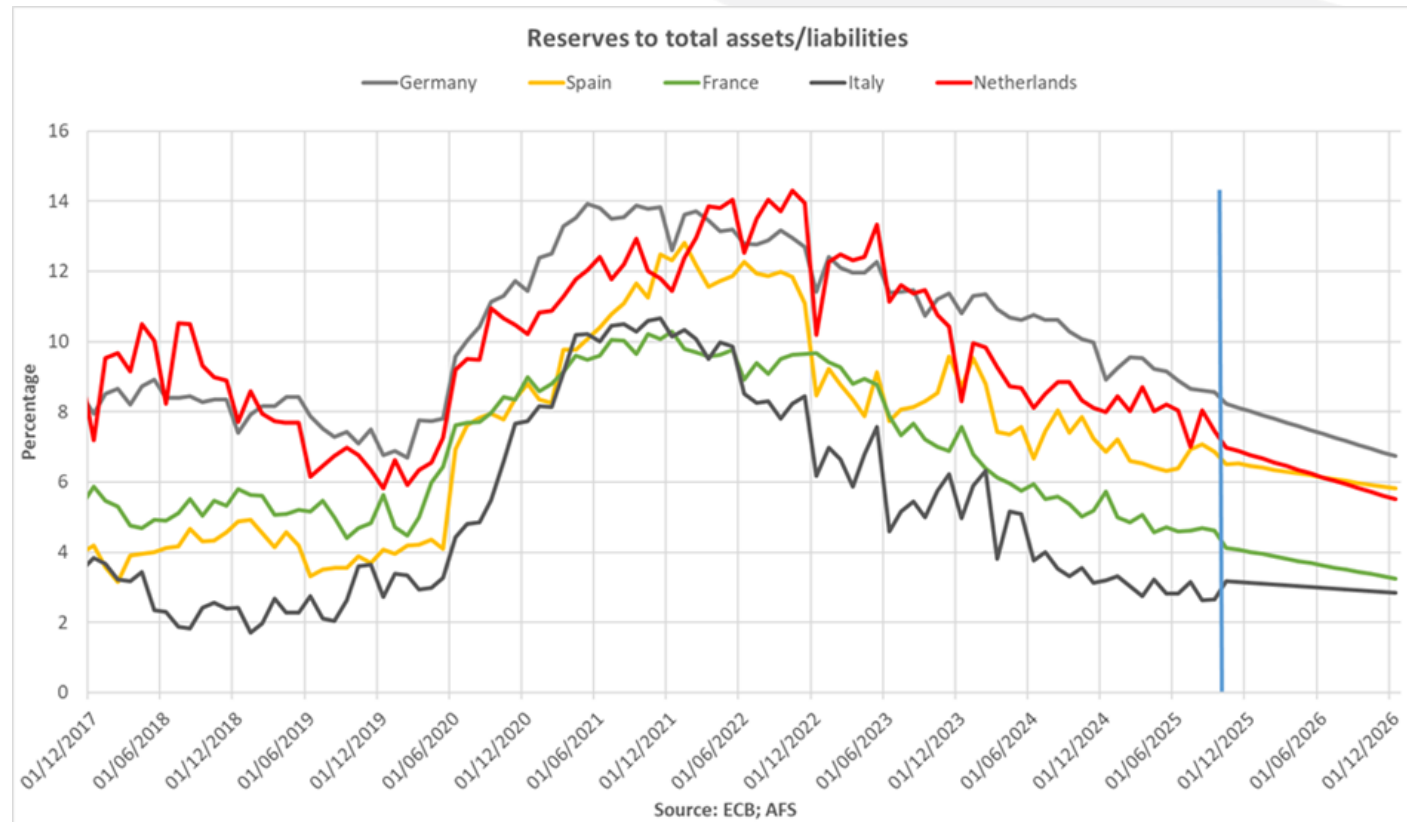
# Target2 is king

- **And speaking of Target2, the ECB recently published the data for October.** Remember: Target2 allows us to track the redistribution of bank reserves across the Euro Area;
- **In October, Belgian claims fell marginally but stayed elevated for obvious reasons.** German balances were stable while Dutch balances fell. French liabilities rose to a record-high while Italian liabilities fell further. Put differently, Dutch, French, and – to a lesser – extent – Belgian banks lost reserves while Italian banks gained reserves. Be aware that I left out most member states – that's why the numbers don't add up.



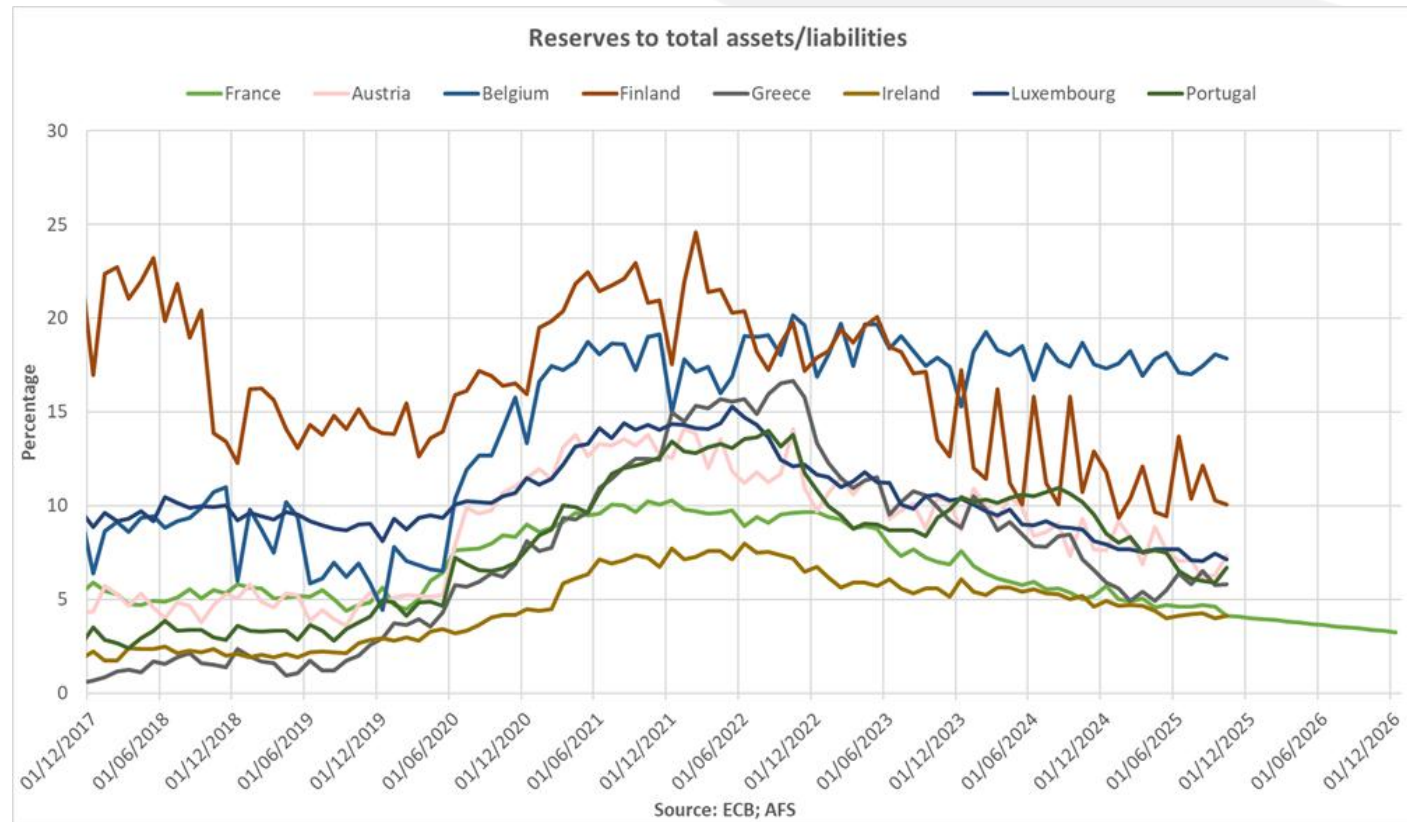
# Trading places

- **Let's look at reserve balances of Euro member states in greater detail.** Below are the big five. Forecasts are mechanical – no judgement involved. It's simply extrapolating recent trends in Target2 balances, assets/liabilities growth, and estimated QT redemptions per member state according to the ECB capital key. In the forecast I assume no increase in French Target2 liabilities. The outcome of French budget crisis will determine if my assumption is correct (clearly, I assume a happy ending);
- **A year from now, reserve ratios in Italy, Germany, and the Netherlands will have returned to pre-pandemic levels.** The Spanish banking system has become much more liquid, the French banks less so.



# Keep an eye on those Belgians

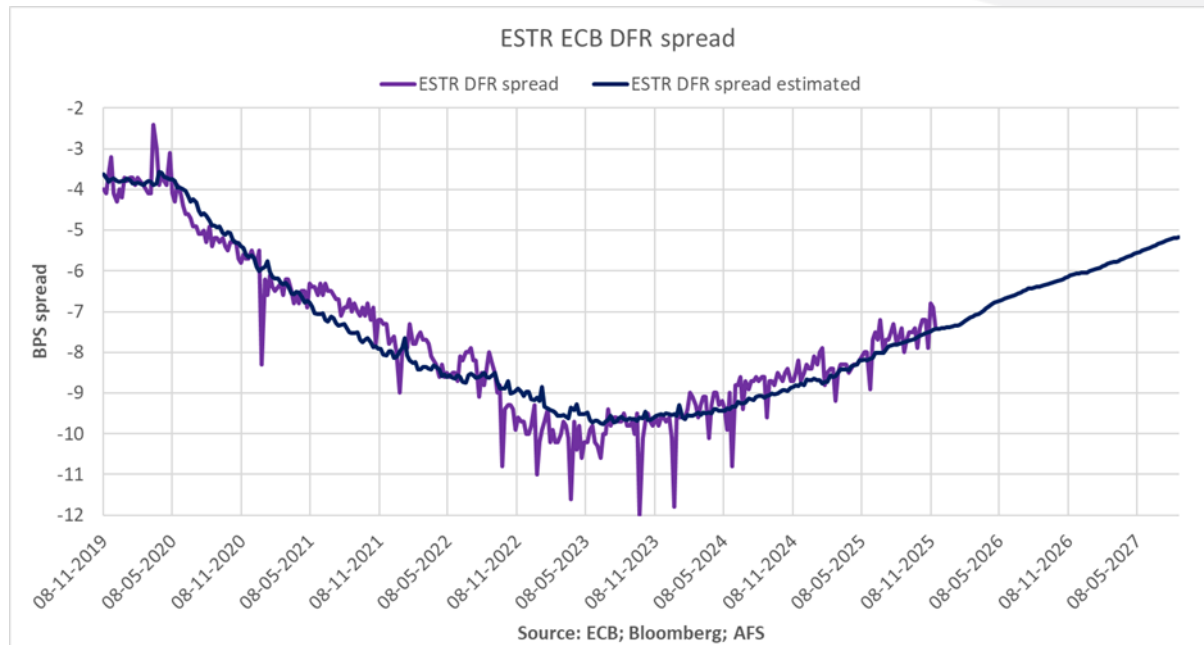
- **Next, I compare some smaller member states. I've included France for reference purposes.** Note the elevated reserve balances of the Belgian banking system because of Euroclear. No member state is in the danger zone, though I do take note of the relatively low level of reserves of Irish banks. Bottom line is that there is nothing that we should worry over – unduly lower reserve ratios;
- **Going forward,** the thing to watch will be the Italian banking system (level of reserves is traditionally low); French banks (because of past rapid declines in reserves); and the liquidity sink that is Euroclear in Belgium (the Russia situation).





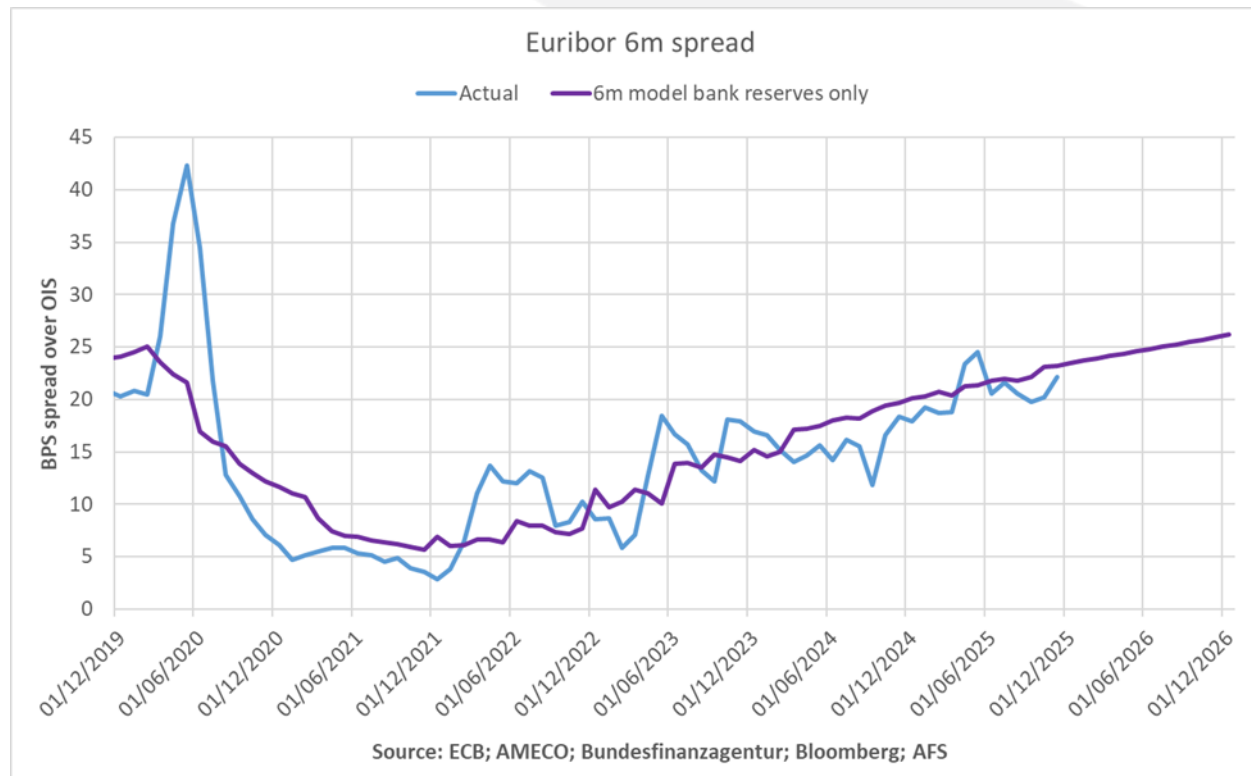
# Normalization 1/3

- **On to the money market spread forecasts, which have bank reserves at the Eurozone level as the key independent variable.** Let's start with ESTR. Independent variables are unborrowed bank reserves (i.e. reserves created with QE) and net liquidity draining autonomous factors. In case you're wondering, the R2 is 0.92, and the P-value of the variables are way below 0.05;
- **By the end of the forecast period, ESTR should settle 5bps below DFR.** I don't think that's a level that would force the ECB to end QT.
- **However, I do get a bit uneasy about the model predicting tranquility beyond 2026.** The model's fit is great, but I still have hard time rationalizing why the independent variables work so well (nothing else comes even close).



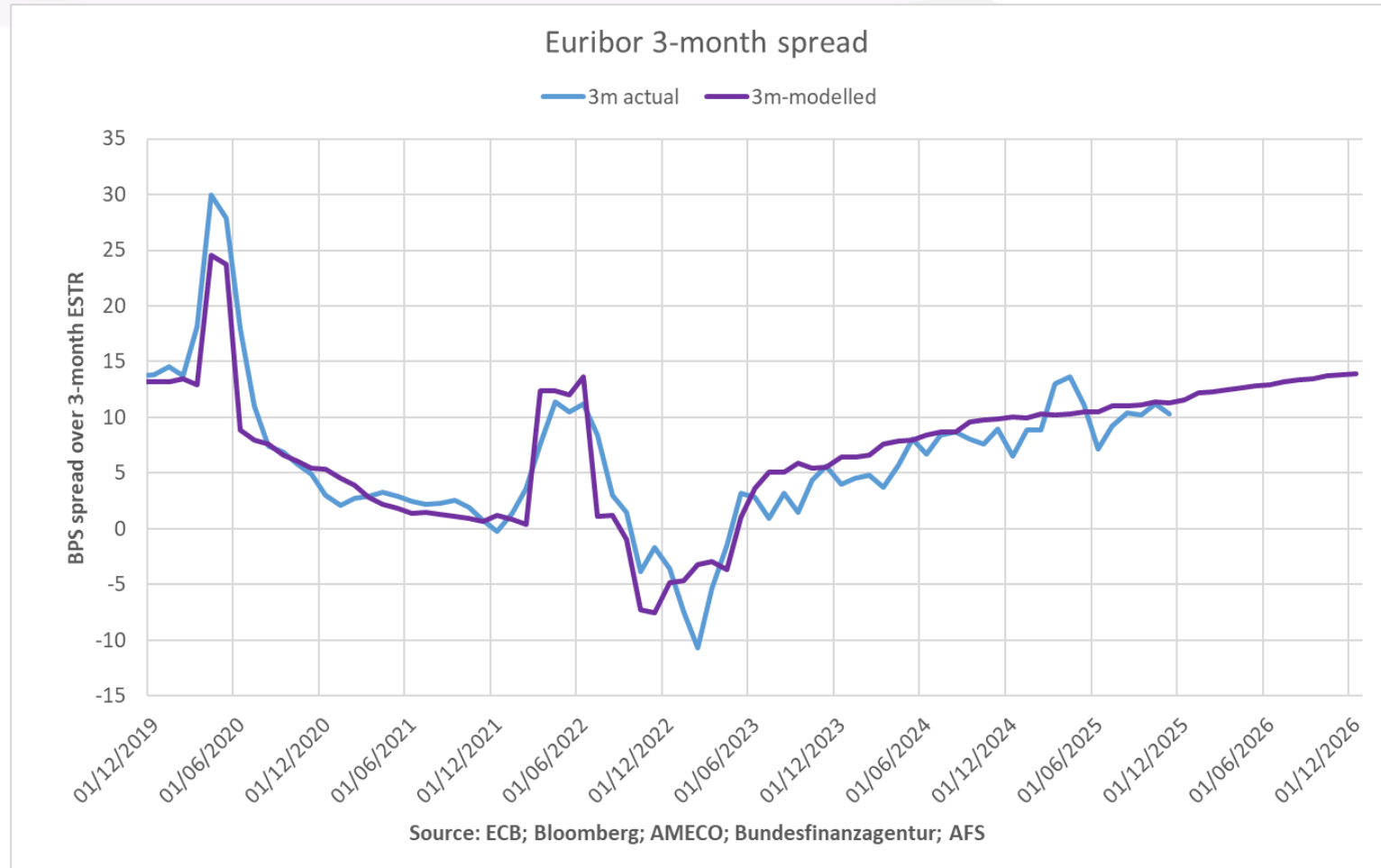
# Normalization 2/3

- **For forecasting the Euribor 6-month to 6-month ESTR OIS spread I simply use the Eurozone banking system reserve ratio, which gives a pretty good fit and ticks all the boxes for a simple linear regression.** A year from now, the spread will be back to its pre-pandemic level of about 25bps over OIS. Again, that's normalization, not a change to a tight money market. Word to the wise though, at some point, these linear models break down and spread increases accelerate. I don't think that that will happen next year, reaching the steep part of the demand curve for reserves.



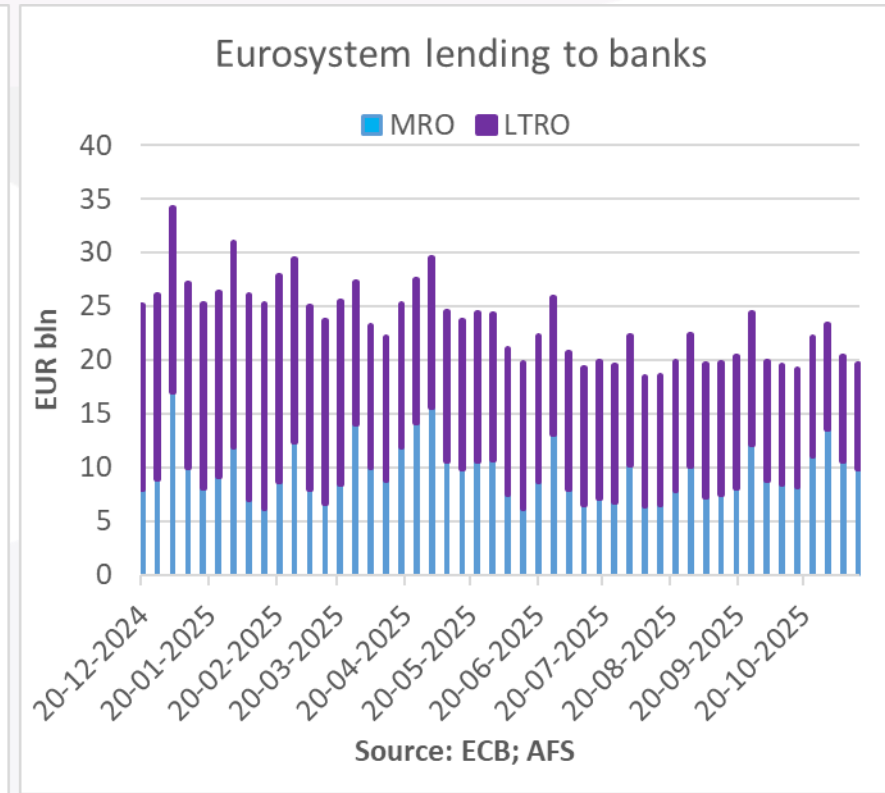
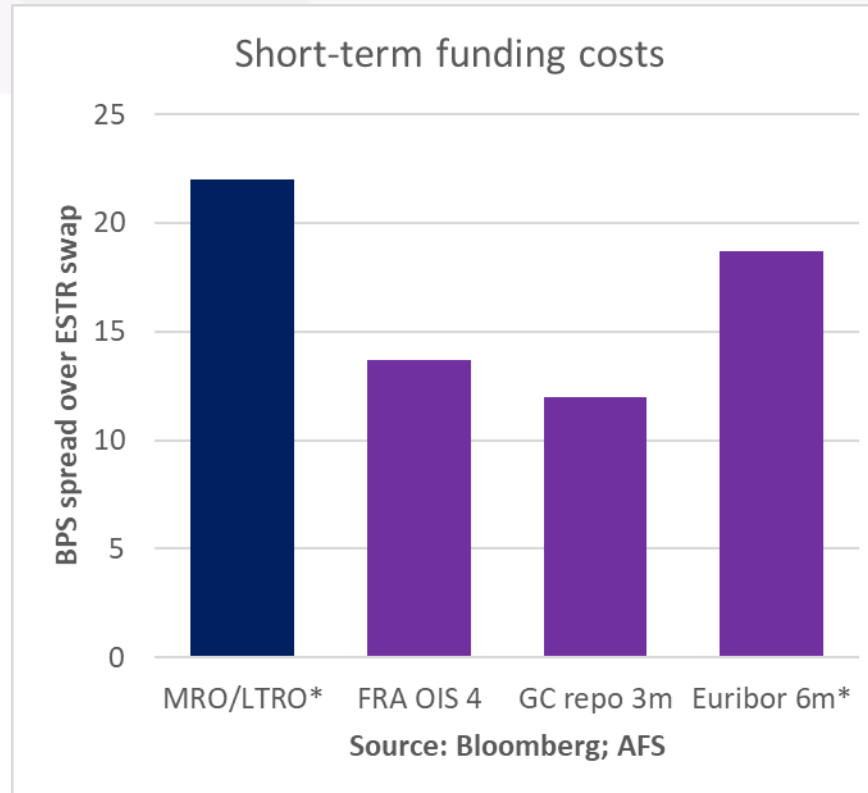
# Normalization 3/3

- For Euribor 3-month I added one more independent variable (ON GC pooling to DFR spread) and two dummies for the ECB rate hike period, when settlements went out of whack because of collateral scarcity and transmission lags with rate hikes. Again, we see a picture of normalization, not a tight market. Also note that the line is less upward sloping compared to Euribor 6-month. That's probably because, unlike 6-month borrowing, the regulatory value of 3-month borrowing is zero.



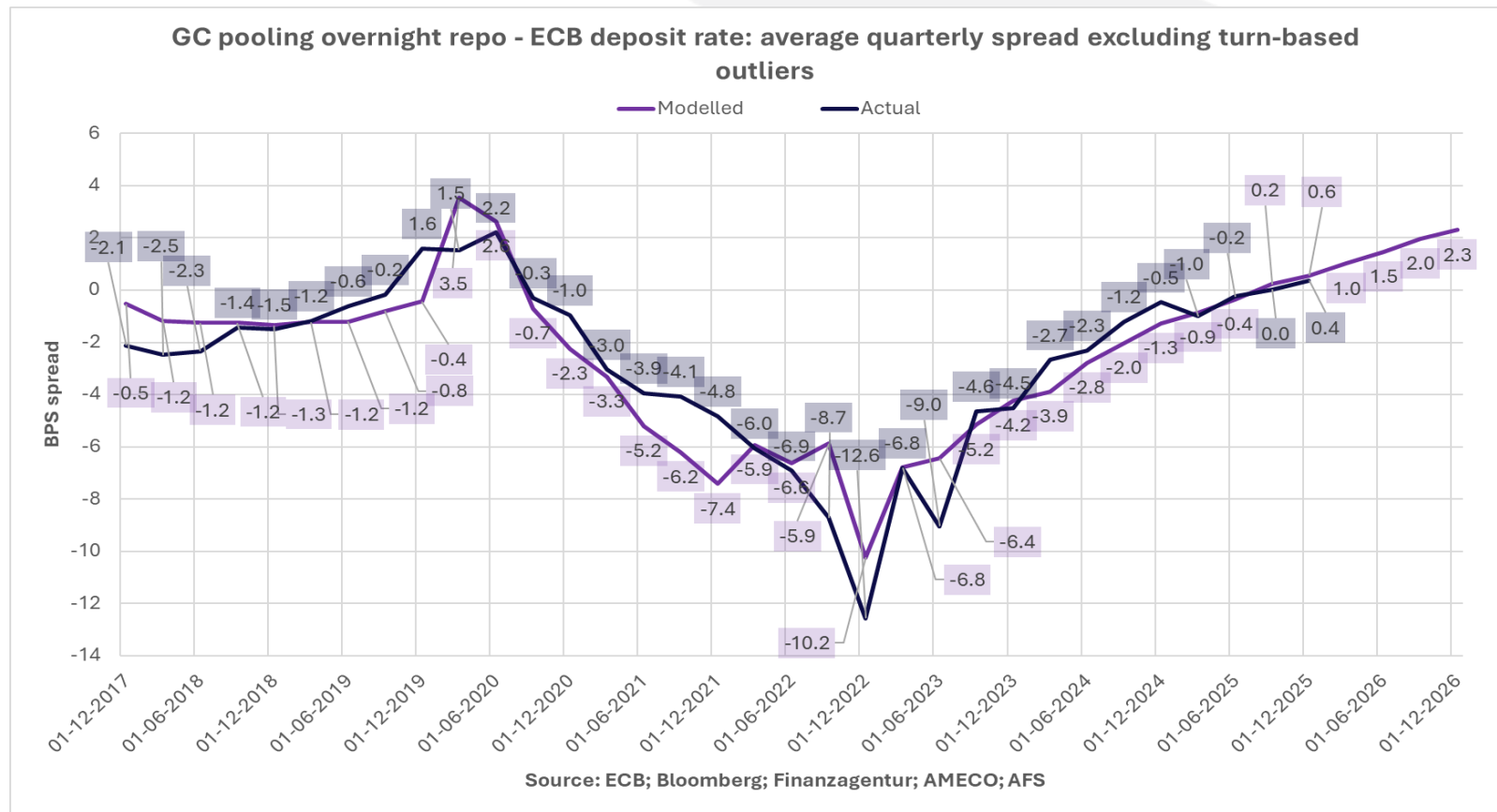
# The death of the LTRO & MRO

- You may have noticed that, contrary to expectations, recourse to MRO/LTRO borrowing is flatlining this year at around 20 billion euros notional outstanding. As a matter of fact, uptake was generally higher in H1 compared to H2. Market funding is still cheaper than tapping the Eurosystem.



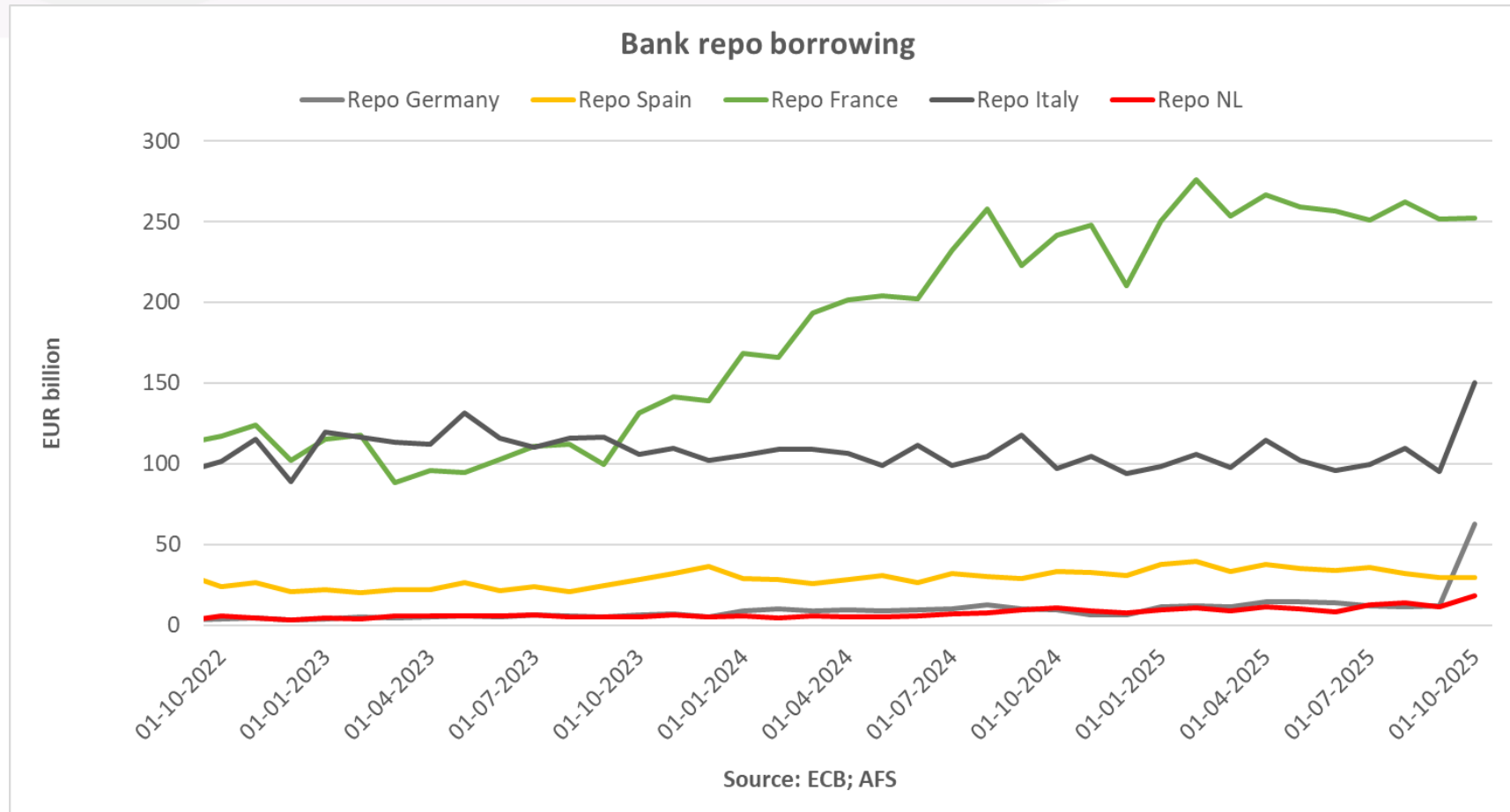
# No repo tantrums

- Turning to repo, my year-and-a-half old model still works pretty well (independent variable is the ratio between bank reserves and privately held core Euro Area collateral that's eligible for the Eurex ECB HQLA L1 basket). Average quarterly settlements excluding turn outliers of Eurex GC repo have been in line. The average Q4 settlement has been pushed up by 0.2bp by the November 28 settlement and the next two settlements, which were all elevated by 3bps above DFR on average. That ended the tranquility that started last summer, when settlements were marginally lower than expected.



# Forget about French banks

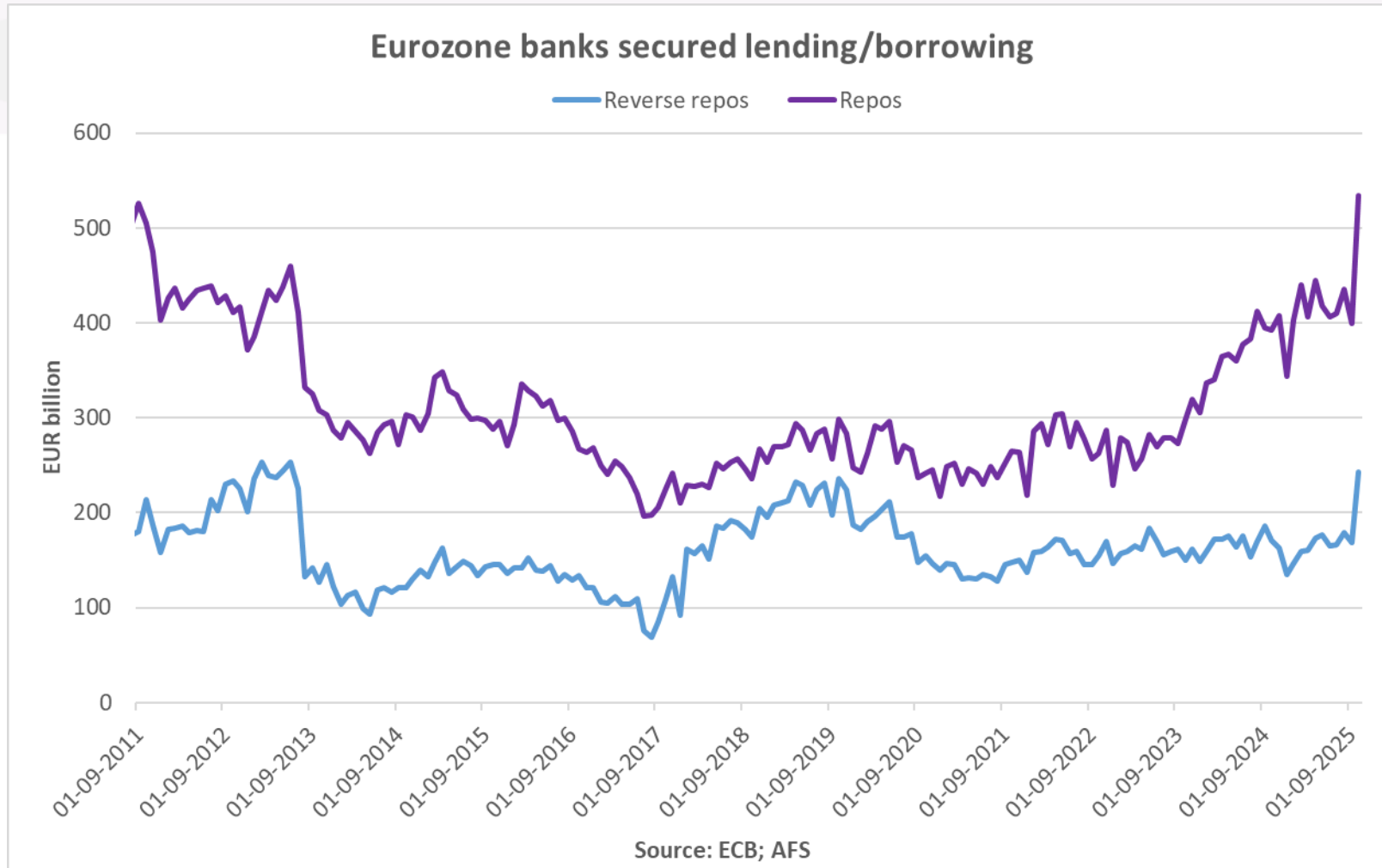
- From late 2023 through Q1 2025 I could point to increased repo borrowing by French banks pushing up secured rates. Alas, outstanding repo borrowing by French banks stabilized. In a surprise twist, borrowing by German and Italian banks spiked in October. Surprisingly, the average monthly settlement of GC repo that month was a bit lower than expected:





# Reserves are King

- In October, Eurozone banks' reverse repo outstanding also increased, though not as much as repo. So, on net, demand for reserves/cash increased more than demand for collateral.



# Reserves are King... in Italy

- **In the case of Italy, we can attribute increased repo borrowing to outright demand for reserves as reverse repo liabilities of the banking system were unchanged.** Importantly, the bank reserves likely came from abroad.\* In October, Target2 liabilities of the Bank of Italy fell by 35 billion euros. Which must be matched by a corresponding increase in bank reserves;
- **By the end of October, Italian banks' reserve balances with the Bank of Italy net of MROs/LTROs had increased by 21 billion euros compared to month-end September.** Furthermore, the balance of the Italian Treasury and other entities with the Bank of Italy had risen by 13 billion euros that month. That roughly matches the decrease in the Bank of Italy's Target2 liabilities. Of course, the Bank of Italy is destroying reserves with QT. However, QT redemptions were marginal in October;
- **So, long story short, it looks like foreigners have entered the Italian secured market to the benefit of Italian banks.** That, however, still doesn't explain the sudden jump in Italian bank repo borrowing in October. It could be the case that the level of bank reserves had become uncomfortably low. The reserve ratio (reserves to total assets/liabilities) of Italian banks had fallen to a six-year low of 2.6 percent in August and stayed at that level in September. The ratio increased to 3.2 percent in October, in line with the average level for the first half of the year.

*\*I say likely because only a full analysis of the Italian banking system's balance sheet will tell us what happened that month. I haven't analyzed changes in wholesale unsecured deposits. It could be the case that wholesale deposits fell, with the cash moving to the repo market.*

# LCR is King... in Germany

- **The situation with German banks' increased repo borrowing is an entirely different kettle of fish\*.** German banks lost 50 billion euros in reserves net of MROs/LTROs in October. At the same time, Target2 claims fell only marginally: by 13 billion euros, with an equal amount of bank reserves moving abroad. Monetary policy bond holdings of the Bundesbank fell by 14 billion euros in October, destroying a corresponding amount of reserves in the German banking system. Other depositors with the Bundesbank – such as the German debt management agency – gained 28 billion euros in reserves, which German banks lost;
- **According to the ECB's MFI data, German banks increased repo borrowing by about 50 billion euros in October.** Interestingly, reverse repo borrowing increased by almost the exact same amount. Given the still elevated reserve ratio, German banks were clearly not seeking to improve their liquidity position – the reserve ratio – outright. Instead, German banks losing reserves and increasing their repo and reverse repo positions at the same time has the hallmarks of a collateral trade. Given the fact that German banks lost High Quality Liquid Assets – bank reserves – the banks could have engaged in collateral upgrade trades as to boost their Liquidity Coverage Ratio (LCR). That entails swapping lower quality collateral for high quality collateral. Alas, that is just my informed – well-informed – suspicion.

*\*Caveats apply because this is not a full-scale balance sheet analysis.*

# Summary

- **ECB QT is proceeding according to plan.** I do not see the ECB ending QT anytime soon. As a matter of fact, I expect bond roll-offs to continue full stop next year. Bank reserve ratios in the Eurozone can drop to levels that would make the Federal Reserve blush;
- **The decline in excess bank reserves that I forecast, will lead to further gradual increases in money market spreads: ESTR-DFR; GC-repo DFR; and BOR-OIS.** At the aggregate level, reserves will stay ample. We will not reach the steep part of the demand curve for reserves yet;
- **Caveats apply, and I keep a sharp eye on developments in individual member states.** Because of Russia's frozen foreign assets, Belgium has become a liquidity sink. Euroclear has drained close to 150 billion euros in reserves from the Eurozone banking system, though that doesn't seem to affect money markets. More importantly, Belgium is no black hole (really!). At one point, all of Russia's foreign reserves will be converted to bank reserves held by Euroclear – Russia isn't adding to reserves for obvious reasons;
- **French banks are out of the picture – for now at least.** France could come back to haunt us if Parliament does not pass the austerity-lite budget for 2026. This goes without saying. Regardless, the Target2 position of the Bank of France remains precarious. French banks have lost large amounts of reserves, ultimately to the benefit of Italian and Spanish banks;
- **Italian banks have increased reserves substantially in October – most likely by secured borrowing from foreigners.** There is outright demand for reserves in Italy, clearly. However, the jump in repo borrowing in October probably exaggerates the demand for reserves;
- **German banks have substantially increased their footprint in the secured market.** However, unlike Italy, the driving force very likely is not outright demand for reserves;
- **As I have warned many times, liquidity accidents and problems in individual member states could force the ECB to end QT (much) earlier than expected.** The postal code problem won't go away.



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