

EUR excess liquidity

ECB to speed up liquidity tightening next year

- Euro area excess liquidity is coming into focus again, complementing the ECB's monetary policy tightening via rates. Earlier this week, Reuters reported that the ECB wants to start discussing how to lower excess liquidity, according to six people familiar with the matter. The Bundesbank's Nagel said earlier today that it may raise the minimum reserve requirement remuneration again next year.
- Specifically, the article also reported that the ECB could increase the minimum reserve requirements, which we estimate would bring excess liquidity lower by EUR350-500bn and impact the liquidity coverage ratios of the euro area banks by 13pp (median estimate).
- This piece serves as a primer on excess liquidity and the minimum reserve requirement, where we also highlight the current drivers for excess liquidity and we examine the outlook for euro excess liquidity.
- We construct four scenarios for the potential evolution of excess liquidity. In our baseline, most aggressive balance sheet tightening calibration, we could see upside risk to short-end fixings from late 2025, at the earliest, assuming that the structural demand for liquidity has moved the sensitivity 'kink' on the excess liquidity vs. front end fixings to around EUR1.5.

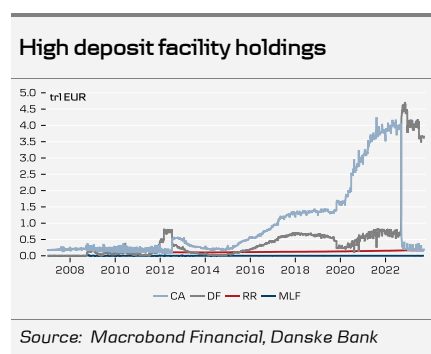
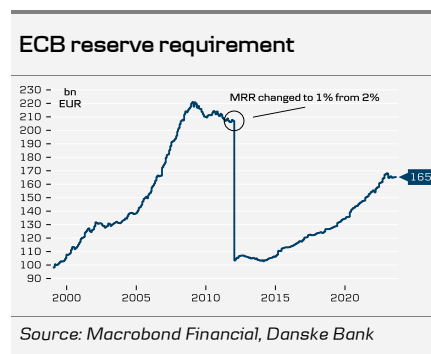
Setting the scene - The definition of excess liquidity

According to the ECB, excess liquidity is defined as the sum of recourse to the deposit facility (DF) minus marginal lending facility (MLF) plus current account holding (CA) minus the minimum reserve requirements (MRR), i.e.

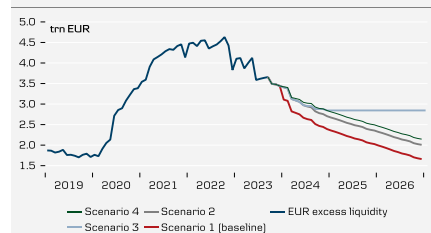
$$\text{excess liquidity} = (\text{DF} - \text{MLF}) + (\text{CA} - \text{MRR}).$$

In recent years, the key drivers of excess liquidity have been the deposit facility and current account, as the abundant excess liquidity has resulted in almost no recourse to the MLF. The MRR has been rising steadily, following the demand for deposits. With the comments from ECB sources this week, focus turns to what the ECB may do about the MRR to drain liquidity from the system. Note that euro area banks have placed EUR3.62bn at the deposit facility at a rate of 4% while banks are not using the MLF, which carries a rate of 4.75%.

The minimum reserve requirement is set as a fixed percentage of a specific set of each bank's liabilities, which are mainly customer deposits. Currently, each euro area bank needs to hold 1% of those liabilities on average over the maintenance period, which is a 6-8 week window that follows between each ECB rate decision meeting. 1% of those liabilities currently correspond to EUR165bn. The MRR was lowered from 2% to 1% in 2012. Note that the cut-off used for the September 2023 maintenance period, which started yesterday, was at the end of July 2023. The specific liabilities are defined as 'Overnight deposits, deposits with agreed maturity or period of notice up to 2 years, debt securities issued with maturity up to 2 years, money market paper'.



Excess liquidity scenarios until end of 2026



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Over the past 12 months, the ECB has made two adjustments to the remuneration rate of the MRR. In October last year, the ECB lowered the rate from the main refinancing rate (MRO) to the deposit rate and in July this year, this was further lowered (as of 20 September) so that euro area banks will no longer receive interest on their minimum requirement holdings. Current account holdings in excess of the reserve requirement are not remunerated, when rates are in positive territory. This led to a sharp shift of funds between the CA and DF last year when the deposit facility rate was hiked into positive territory. When the deposit rate was in negative territory, banks received the deposit rate on the CA holdings in excess of the MRR.

A brief look into the history books

ECB's liquidity management system has seen many changes since the global financial crisis (GFC), which have all played a critical role in the evolution of excess liquidity. Prior to the financial crisis in 2008, the ECB's liquidity operations were conducted as fixed liquidity allotment procedures where the ECB, based on its assessment of the liquidity needs in the system, required banks to bid for a given amount of liquidity. To get the liquidity from the ECB, banks usually bid a few basis points above the main refinancing rate (MRO), on a given liquidity amount. Consequently, as the ECB controlled the liquidity in the system, the excess liquidity was close to zero. Banks that didn't get the funds they requested went to the interbank market to source those funds at market rates (c.f. EONIA). Therefore, under the fixed allotment procedure regime, the most important rate in the ECB's corridor was the MRO transmitting the monetary policy rates through to EONIA, and subsequently into the real economy.

In response to liquidity drying up during the GFC, the ECB introduced the Fixed Rate Full Allotment (FRFA) procedure, first as a temporary measure in 2007 and then later as a 'permanent' measure following the collapse of Lehman in 2008. The FRFA is currently in place until further notice. Under the FRFA, the ECB allocated the banks' requests in full at the prevailing MRO rate. All operations at the ECB are conducted against collateral.

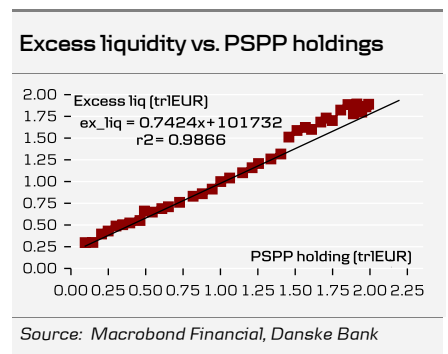
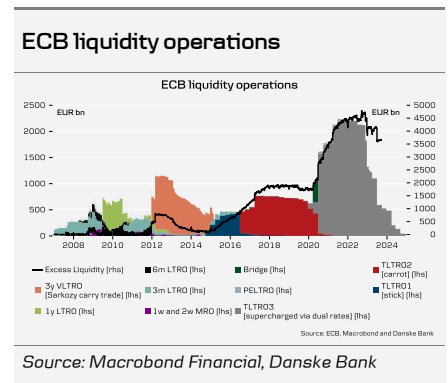
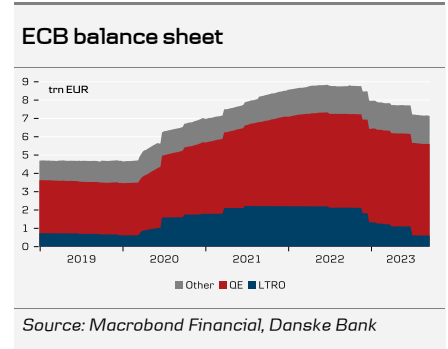
With the introduction of the three-year liquidity operations, the so-called VLTROs (very long-term refinancing operations), in 2011 and 2012 excess liquidity jumped markedly to around EUR750bn, which led to a gradual decline in EONIA to the lower rate in the corridor, the deposit facility rate.

Introducing the TLTRO – a revolutionary operation

In response to the very low inflation outlook and weak credit outlook in 2014, the ECB introduced the Targeted Longer-Term Refinancing Operations (TLTRO). Since then, the ECB has conducted three rounds of what we believe is the most complex instrument introduced by the bank to date, not least due to the multiple changes to the modalities (TLTRO1 in 2014-16, TLTRO2 in 2016-17 and TLTRO3 in 2019-22). The key difference between the conventional longer-term liquidity operations, (V)LTRO, and the TLTRO is that the rate at the TLTRO is subject to the evolution of the loan book of the bank. The most generous calibration of the TLTRO operations took place during the pandemic, when banks could take money at the average deposit rate minus 50bp. This led to a sharp increase in liquidity take-up, where outstanding liquidity operations peaked at around EUR2.2tr. As of the EUR101bn TLTRO settlement next week, the ECB still has EUR493bn of TLTRO outstanding, which all matures by the end of next year and will contribute to lowering excess liquidity.

Bond purchases

While liquidity injections via the (T)LTROs have led to sharp rises, and subsequently drops, in excess liquidity, the ECB's bond purchase behaviour has led to a steady rise in



excess liquidity. When the ECB buys bonds, either under the APP or the PEPP programme, it creates bank reserves, which in turn end up in the ECB’s current account or the deposit facility after it has bought the bonds in the market. According to earlier estimates from the pre-pandemic episode, we note that for each billion EUR the ECB bought under the PSPP programme, excess liquidity rose by EUR0.75bn. At the current excess liquidity level, we estimate that around EUR400bn is from the liquidity operations and the rest, EUR3.2tr, is from the bond buying programmes.

Excess liquidity over the past year has been driven by TLTRO repayments and not the end to APP reinvestment

Zooming in on the recent years’ evolution of excess liquidity, we see that excess liquidity is around EUR1tr lower at EUR3.68tr. Since November, the key driver of the lower level of excess liquidity has been the TLTRO repayments, which followed on the back of yet another change to the TLTRO modalities. The ECB’s reduction of the APP holdings, partly since March, is not materially visible, mainly due to the mitigating factor of a reduction in government deposit holdings; see also our discussion in *RiM EUR*. In fact, correcting for the TLTRO repayments, we observe there has been a gradual rise in excess liquidity. Most recently, since the TLTRO settlement in late June, excess liquidity has risen by c.EUR65bn despite the APP holdings declining by EUR43bn in July and August combined.

Therefore, the expected liquidity tightening in Europe has been largely driven by TLTRO over the past year, while the large foreign official deposits have weighed against the liquidity tightening effect stemming from the APP reductions.

Getting excess liquidity lower

To accelerate the process of lowering excess liquidity, the ECB could resort to either 1) outright selling of APP bonds, 2) advancing the end of PEPP reinvestments from end-2024 or 3) introducing a reserve tiering system. We do not expect the ECB to change the TLTRO modalities, with ‘only’ a cumulative EUR0.5tr maturing by the end, with the potential of early voluntary repayment. Recall that from a regulatory point of view, central bank liquidity with less than one year to maturity counts only 50% to the NSFR.

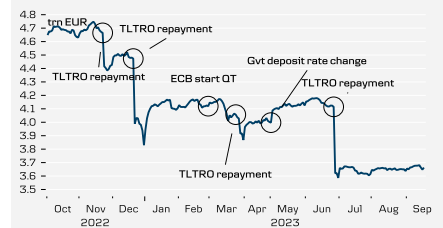
On Friday, GC member Kazimir said that he sees a debate about adjusting the pace of QT coming, where Vasle said that APP reductions could be accelerated. We attach a low probability to Vasle’s option to sell APP bonds, as it would open a Pandora’s box to many questions, such as NCB having to realise a loss on its bond portfolio. However, we attach a high likelihood to the ECB advancing the end to PEPP reinvestment, which is our base case, and potentially as early as effective from the start of next year. Ending PEPP reinvestments in full would lower the PEPP holdings by around EUR18bn/month on average. Therefore, to accelerate the tightening of liquidity conditions, the ECB could introduce a tiered reserve remuneration system.

(Re-)introducing a tiered deposit rate system

The *Reuters* story earlier this week suggesting that the ECB may look into bringing down the large balance sheet included the potential introduction of a tiered deposit rate system, again by means of increasing the MRR. We would not see such a change as an attempt by the ECB to bolster banks’ capital position, but rather as a way to lower the interest it pays on deposits to banks through a two-tiered reserve remuneration system.

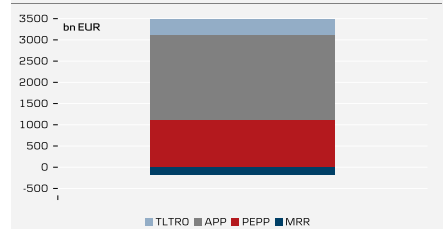
The ECB already has a tiering system for reserve remuneration in place. From October 2019 until September 2022, the ECB had a two-tiered deposit system where euro area banks deposits at the current account would exempt 6 times the MRR from the negative deposit

Excess liquidity during the past 1y



Source: ECB, Macrobond Financial, Danske Bank

Estimated contribution to excess liquidity



Source: Macrobond Financial, Danske Bank

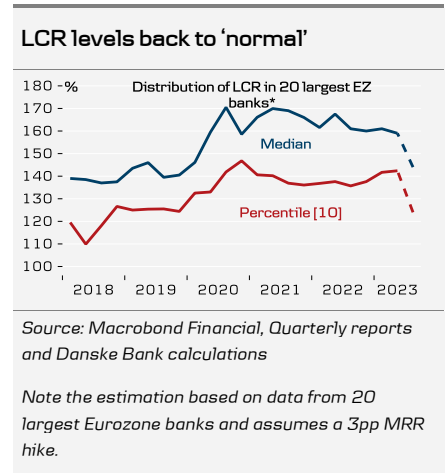
rate that was otherwise prevailing through that period. Formally, the ECB has not scrapped the two-tiered deposit system, but has set the tiering multiplier at zero. The Reuters story cited sources as saying that such raised MRR holdings could be ‘closer to 3% or 4%’. Using a top-down approach to increasing the MRR to 4%, we estimate excess liquidity would be lower by c.EUR500bn, while our bottom-up approach finds it to be around EUR350bn (next section). In our scenario analysis later in this report, we assume a EUR300bn initial drop in excess liquidity and a gradual increase of 5% in the reserve requirement per year. The gradual rise is a reflection of the demand for currency in the economy.

A MRR hike likely to be a blow to some banks’ liquidity

To examine the impact on a bottom-up approach we take a look at the 20 largest banks with representative data from Bloomberg. We find that it would likely also result in a reduction of banks’ liquidity coverage ratio since required reserves do not count as liquid assets, and hence that money is ‘locked’ at the ECB. Based on data from quarterly reports of 20 of the largest Eurozone banks, we estimate that a 3pp increase in the minimum reserve requirement would lead to a 13pp drop in the median liquidity coverage ratio. Banks would likely see their liquidity coverage ratios fall to around the level in 2019. Hence, a minimum reserve requirement hike would likely lead to a swift normalisation of liquidity coverage ratios, which have been elevated for the past couple of years.

Our estimation further shows that the hit to banks’ excess liquidity and liquidity coverage ratios would differ quite a lot. The drop in excess liquidity ranges from 7% to 19%, with the median drop at 11%. Hence, large banks would probably see a smaller effect on excess liquidity than the rest of the banking sector. The decline in the liquidity coverage ratio ranges from 4% to 22%. The effect on money market rates, at least initially, would likely depend on how the marginal bank is affected by this policy change and our estimation suggests that some banks could see their liquidity drop to an uncomfortably low level. We stress that our calculations above are crude estimates based on approximate data from quarterly reports and serves to show how the effect of an increase in the minimum reserve requirement could be distributed between banks.

The ECB could choose to change the treatment of central bank reserves in a Basel III context to mitigate potential impact on the LCR, as the Basel rules allow for the local regulator to set the treatment of the central bank deposits. Currently, central bank deposits are not part of the HQLA calculation, and hence not part of the LCR buffers.



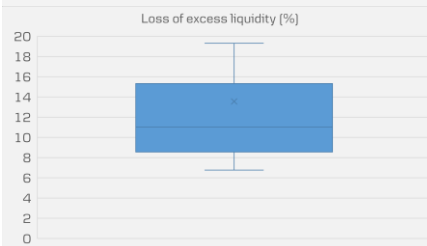
Big differences in hit to LCR



Source: Quarterly reports and Danske Bank calculations

Note the estimation based on data from 20 largest Eurozone banks and assumes a 3pp MRR hike. One big outlier was removed from the chart.

Some banks could see a bigger drop in excess liquidity



Source: Quarterly reports and Danske Bank calculations

Note the estimation based on data from 20 largest Eurozone banks and assumes a 3pp MRR hike. One big outlier was removed from the chart.

Market impact of an adjustment to the tiering system

Should the ECB decide to change the tiering multiplier, we would expect a relatively swift implementation with a lag of one maintenance period (6-8weeks). Upon announcement, we would expect Schatz ASW tightening, as the minimum reserve holdings are not LCR applicable, which means that euro area banks holding short-term paper would have to sell it to raise the cash needed to fulfil the required ratios. As we see a higher MRR impacting the cash leg more than the swap leg of the Schatz-ASW, hence our expectation of the Schatz-ASW tightening following such a decision. We also highlight a side effect of this in turn could lead to higher covered bond issuance.

The ECB would ‘save’ almost EUR20bn/year on a 4% deposit rate, should it decide to increase the MRR by 3pp from 1%.

The deposit rate continues to be the policy-relevant rate – well beyond the end of 2026

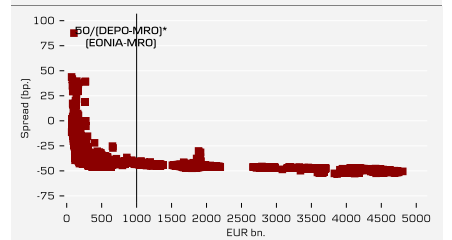
As discussed above, the policy-relevant ECB rate has been the deposit rate since the FRFA procedure was introduced and the surge in excess liquidity. Since then, the €STR position in the corridor (EONIA before 2019) has largely been stable. Most recently, the ECB has drained EUR1tr of excess liquidity without a noticeable impact on front-end fixing.

We construct four scenarios for the potential evolution of excess liquidity, recalling each driver’s contribution to the excess liquidity as discussed in previous sections. In our baseline, scenario one, we assume that PEPP reinvestments will end starting from January 2024, that the ECB will continue its end to APP reinvestments and introduce a tiering system with a multiple set at 2, on top of the 1xMRR, which is the lower end of the Reuters story range. In scenario two we assume PEPP reinvestments end from January 2024, with no change to APP reinvestments and no change to the MRR. This combined with scenario three, where we assume PEPP reinvestments end from January 2024, but would resume alongside APP reinvestments from July at the time of the first rate cut (see later discussion), and no tiering is our soft scenario. Scenario four assumes no change from the current guidance, i.e., PEPP to discontinue reinvestments from January 2025, continued no APP reinvestments and no tiering. Our baseline scenario is on the more aggressive side and the ECB increasing the multiplier to higher than 2x. We see the ECB preferring to increase the tiering multiplier rather than APP sales. **The chart below has extended the scenarios beyond 2024 with unchanged assumptions; however, we do see the potential for the ECB to restart its reinvestments before the end of this scenario exercise, which would pose an upside risk to the current scenarios.**

As regards the market impact, we see that structural demand for liquidity has permanently changed from the pre-GFC period and see the ‘kink’ on the excess liquidity vs. front end fixings to be around EUR1.5-2tr. This means that only in our most aggressive scenario, where excess liquidity is projected at around EUR1.5tr in 2026 – and that is assuming no change through the end of 2026 – could we see upside risk to short-end fixings from late 2025, at the earliest.

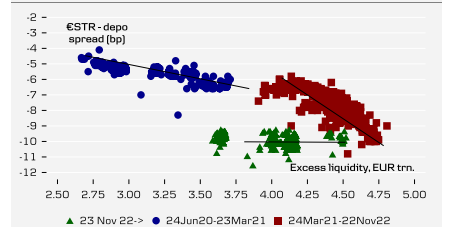
Therefore, our main conclusion is that excess liquidity is expected to be in the vicinity of EUR2.4tr by end-2024. Should the ECB not do tiering, it would be around EUR300bn by end-2024.

ECB’s policy relevant rate has been the deposit rate since excess liquidity rose above c.EUR1tr



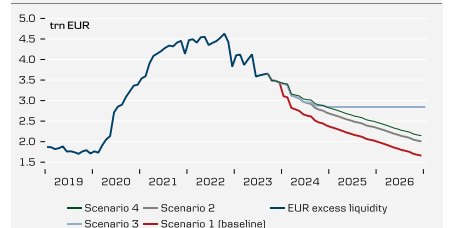
Note: Vertical Source: ECB, Macrobond Financial, Danske Bank

Excess liquidity vs. €STR-deposit spread



Source: ECB, Macrobond Financial, Danske Bank

Excess liquidity scenarios until end of 2026



Note:

1. PEPP reinvestments ends from Jan24, no change to APP, tiering from Jan24
2. PEPP reinvestments ends from Jan24, no change to APP, no tiering
3. PEPP reinvestments ends from Jan24. All QE reinvestments resume in July24. No tiering
4. PEPP reinvestments ends from Jan25, no change to APP, no tiering Source: Macrobond Financial, Danske Bank

Can the ECB cut rates and normalise the balance sheet at the same time?

In one of our scenarios, we assume the ECB would restart QE reinvestments when the first rate cut happens. The ECB has made it clear that the rate instrument remains the key driver of the monetary policy stance, and not balance sheet normalisation / lower excess liquidity. This was also repeated during last week's ECB press conference by Lagarde. While adjustments to the rate and balance sheet work through various channels, we do not rule out the ECB having to restart its reinvestments when it announces the first rate cut. We highlight that should the ECB cut rates and continue to wind down the APP portfolio at the same time, this would lead to a steepening of the curves, but also that the ECB would conduct tightening and expansionary monetary policy at the same time, albeit in different channels.

Operational framework – a demand- or supply-driven floor system, or a third system

The discussion of changing the MRR is partially linked to the operation framework review that is currently ongoing at the ECB. At the ECB's forum in Sintra, Lagarde said that it may take 6-9 months until the operation framework was concluded, which would bring the publication date into the new year. Schnabel gave a strong *speech* in March outlining the different pros and cons of various systems. In her speech she characterised the Fed's supply-driven floor system, which has been 'leaky' without the ON RRP, as a system that maintains a higher level of safe assets, which is operationally simple, even when it is hard to accurately forecast the demand for reserves. Further she characterised it as robust, i.e., allowing large changes in the supply of reserves without impacting the rate signal.

Schnabel characterised the BoE's demand-driven floor system, which offers reserves through short-term repo at the same rate as banks' deposits, and thereby ensuring money market rates trade close to the policy rate at each level of excess reserves. Schnabel highlighted that the BoE's system is simple and robust to large changes in reserves. but also that it needs banks to regularly tap their lending operations, and it is therefore important not to have any stigma over using the operations, which the UK has ensured via a 1) non-penal pricing, 2) communicating this as a business-as-usual operation and 3) no judgement from the regulators. However, such a system has a bigger reliance on the BoE's operations, which could be exposed in case of unexpected liquidity shocks in-between liquidity-providing operations.

We take away that Schnabel is in favour of a demand-driven floor system, as it may entail a) a better insurance against fragmentation shocks, b) a more even distribution of reserves c) a smaller balance sheet and a smaller need for collateral and that it allows for a gradual learning from banks' liquidity preferences.

In a speech earlier this month, Bank of Finland board member and current caretaker ECB GC member Tuomas Valimäki gave a thorough *speech* also advocating a case for structural liquidity operations as well as a structural securities portfolio.

While the Reuters piece mentioned a potential increase in the MRR, in our view the operation framework review is likely also to examine the total need for the MRR given the changes to the regulatory framework in the past 10 years, although this would have wider implications for how liquidity in the Eurosystem is controlled.

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Expected updates

None

Date of first publication

See the front page of this research report for the date of first publication.

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