

# European Banks Strategy

## Minimum reserves, maximum uncertainty

### Industry Overview

### The debate that shouldn't happen

An ECB debate on changing the minimum reserve ratio risks transforming a fragile outlook into a credit crunch-driven recession, in our view. The uncertainty we believe it will create could lead to banks turning more risk-averse and curtailing lending. This debate risks triggering more dangerous non-linear dynamics, we think, and could do so disproportionately for the periphery. We assume that balance will prevail, and the ECB will not do so, for now. Once the ECB agrees on the new framework, it could adjust the reserve ratio to that framework. We work on the assumption that at that point (Spring 2024), minimum reserve requirements are likely to go back to the level of 2011: 2%, if not slightly higher. For PEPP, we still expect partial reinvestments to start in June 2024 but ongoing developments could bring that forward by a quarter, if spreads remain well behaved.

### Linking the ECB P&L with monetary policy

The ECB linked its decision to 0% remuneration on mandatory reserves with "efficiency" (Box 1), i.e., paying out less. However, we believe the ECB has a scale problem: its c. €70bn annual carry cost is more than 10x the amount saved thus far (Exhibit 1). Any raise in mandatory reserves, even if only to 2% (Box 2) opens the door to debate on significantly greater next steps.

### Expensive on multiple fronts

The ECB incurred the carry cost through its QE programme; a natural response would be to reduce it through bond sales. These are not on the table (Box 3), so the ECB is discussing what some perceive as a cheaper alternative. We see mandatory reserve increases as the opposite: expensive from 5 perspectives: 1) the implied confusion of inflation targeting and the ECB's P&L, 2) each step opens the door to more, 3) the transformation of a bank's highest-quality asset, cash, into an encumbered non-yielding asset hits at the heart of the transmission mechanism, 4) a 17% Cost of Equity applied to banks, in part because of this debate, impairs credit provision, 5) as liquidity is not evenly distributed, the implications for cash poor banks could be greater.

### Risks of money market distortions

Higher reserve requirements mean lower excess liquidity and create an incentive for banks to reduce their required reserves. This has five implications for rates, in our view: 1) upward pressure on money market rates may be brought forward, 2) risks of unintended sudden tightening in money markets, 3) richer month-ends, 4) more terming of liabilities by banks, and 5) cheaper repo vs euro short-term rate (€str).

### A big theme already

This topic was a dominant theme at our 28<sup>th</sup> Annual Financials CEO Conference; see our [Conference wrap](#). The ECB's public musings are expensive but may at least help it appreciate the real costs of using this tool are potentially above the alternatives of a simple inflation focus or a reduction in bond holdings.

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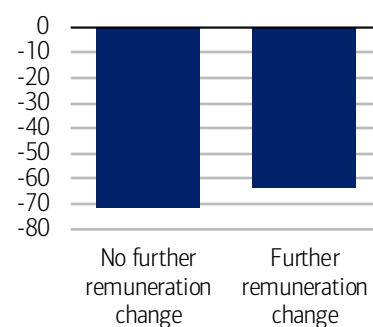
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### Exhibit 1: Eurosystem net income scenario analysis

Looking at a loss in 2024



■ Expected Eurosystem net income in 2024, €bn

Source: BofA Global Research

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APP: Asset purchase programmes

ECB: European Central Bank

HQLA: High quality liquid assets

LCR: Liquidity coverage ratios

MRO: Main Refinancing Operations

OIS: overnight indexed swap

P&L: Profit and loss

PEPP: Pandemic emergency purchase programme

TLTROs: Targeted longer-term refinancing operations

TPI: Transmission Protection Instrument

# The debate that shouldn't happen

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Over the last few weeks, we have noted an increase in headlines about the ECB's debate on how to unwind its balance sheet more quickly. This is not a surprising debate per se; we were expecting those conversations, which are part of our call that the ECB will stop full PEPP reinvestments already by June 2024, if not slightly earlier. But we believe some parts of the debate have the potential to risk transforming a fragile, if somewhat resilient, outlook into a credit crunch-driven recession.

Yes, we are talking about the debate on changing the level of mandatory reserves as a way of mopping up liquidity as the review of the operational framework reaches a conclusion. ECB sources have suggested the possibility of moving mandatory reserves to 3-4%. The Governor of the Austrian Central Bank, Holzmann, went a step further on 27 September and talked about potentially moving to 5-10%. We view this as an incautious statement, as we argue below. But before we do so, we would like to start by quoting others on this matter:

"it would be undesirable to use the proceeds from taxes levied against credit institutions for general budgetary purposes if and to the extent that doing so would make credit institutions less resilient to economic shocks and, as a result, limit their ability to provide credit, pushing them to offer less favourable terms to customers when providing loans and other services and reducing certain activities. This would create uncertainty and adversely affect real economic growth".

"As key ECB interest rates will be set at sufficiently restrictive levels for as long as is necessary to achieve a timely return of inflation to the 2 % medium-term target, it is important to keep in mind that monetary policy operations always have some distributional implications...

Evidence shows that net interest income typically tends to expand on impact as policy rates increase... However, as the tightening cycle proceeds, this positive income effect can be offset by lower lending volumes, a higher cost of funding, losses recorded in the securities portfolio and an increase in provisions resulting from potential deterioration of the quality of the credit portfolio. The realisation of downside risks in the current environment may significantly reduce the repayment capacity of debtors and translate into lower bank profitability. The net effect of tighter monetary policy on bank profitability when measured across the policy cycle may therefore be less positive, or even negative, over an extended horizon...

“More generally, caution must be taken to ensure that the extraordinary tax does not impact the ability of individual credit institutions to build strong capital bases and adequately provision for increased impairments and a deterioration in credit quality. Curtailing the ability of credit institutions to maintain adequate capital positions or to prudently build provisions against the backdrop of a possible downturn in credit quality could endanger a smooth bank-based transmission of monetary policy measures to the wider economy”.

Readers may be wondering the source of these quotes. Well, it’s not us, though we make similar arguments below. These are in fact the ECB’s opinions on the Spanish and Italian levies on banks.

### **Uncertainty, uncertainty, uncertainty**

Changing mandatory reserves without a proper anchor in place would be seen as a somewhat reckless step, in our view. It would be hard to argue this was being done to fine-tune the monetary policy stance or the transmission of policy rates when the ECB president Lagarde recently stated that the transmission is more or less where the ECB wants it to be. With that in mind, we think opening that door creates several issues.

First, the market might question whether this was driven by fiscal motives. In other words, “fiscal dominance” fears would come clearly to the fore and, ironically, the source of that dominance would not necessarily come from the usual suspects, commentators like to highlight.

Second, and related, the market may wonder whether the motivating factor is to avoid the negative headlines that large losses at some central banks could generate, and their impact on public opinion in certain countries. Yes, we talk about perception because central bank losses are not necessarily something we should be worried about, in the context of an institution that has a monopoly over the creation of money. The Fed has clearly shown how this can be dealt with.

Third, as we elaborate above, a small increase in mandatory reserves to 2% would make little difference to the ECB’s accounting losses. In and of itself, it should not have a strong impact on banks’ willingness to lend. But we believe uncertainty could. Given the size of potential losses on the ECB balance sheet, the market would quickly (indeed it already is to an extent) wonder about the next steps. Banks, facing that environment, could turn more risk-averse and curtail lending more aggressively than they have done so far in this hiking cycle. Yes, the transmission of monetary policy has been strong but, to a large extent, it has also been quite smooth. This debate, even if it doesn’t materialize in actions, risks triggering much more dangerous non-linear dynamics.

Finally, on the topic of non-linear dynamics, it is worth flagging the distributional impact of an increase in mandatory reserves. Liquidity is unevenly allocated across countries. Regulatory constraints could force some banks in the periphery to unwind part of their government bond portfolios to meet those regulatory demands. Ironically, we could see the unintended consequence of either PEPP reinvestments or TPI needing to come to the rescue.

### **Hope for the best, prepare for the worst**

We work on the assumption that balance will prevail, and the ECB will stay away from raising mandatory reserves in this context. Back at the July meeting this was already discussed:

“Other members, by contrast, saw the minimum reserve requirement as a monetary policy tool that could be used to support or complement the intended restrictive monetary policy stance.”

And

“overall, caution was expressed against using the minimum reserve ratio as an active instrument for adjusting the monetary policy stance.”

In other words, a majority in the Governing Council probably doesn't disagree with us. But this is a key distinction – it is using the minimum reserve ratio as an active instrument for adjusting the stance that we find problematic. It would be much different if any change was perceived in a structural way.

The outcome of the operational framework review is the right place to frame that debate, we believe. Once the ECB agrees on the framework for the future (which includes some idea on the endpoint for the balance sheet and how policy will be steered) it can adjust the minimum reserve ratio to whatever fits that framework. In that context, we would work on the assumption that at that point (Spring 2024 according to the last we heard from Lagarde), minimum reserve requirements are likely to go back to the level of 2011: 2%, if not slightly higher.

#### **Another reason for PEPP reinvestments to end earlier**

With the outcome of the operational framework review not due until spring 2024 and, if we are right, any changes to minimum reserves not likely until then, the incentive to act on other fronts will increase, we think. As we have argued before, active sales of APP holdings are likely to be ruled out given they would crystallise those feared losses. That leaves passive quantitative tightening of PEPP as the only available tool. Our call is for partial reinvestments to start in June 2024, with a potential announcement by the March meeting. But ongoing developments could bring that forward by a quarter, as long as spreads remain well behaved.

# Replacing visible with unpredictable

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We provide an in-depth follow up to our [European Rates Viewpoint: The ECB's cost minimisation problem 01 August 2023](#) by looking at the ECB's debate on raising mandatory reserves, from the perspective of European banks.

## Box 1

European Central Bank policymakers want to soon start discussing how to tackle the multi-trillion-euro pool of excess liquidity sloshing around banks, with raising reserve requirements a possible first move, six sources told Reuters...

Several policymakers are in favour of raising the amount of reserves that banks must park at the central bank – on which they do not earn interest – from 1% of customer deposits to a figure that could be closer to 3% or 4%, the sources said.

The sources said this would have the dual benefit of mopping up cash from the banking system and reducing how much the ECB and the euro zone's 20 national central banks pay out in interest on deposits, which has led to large losses for some.

*Reuters, September 2023*

The background is the ECB's move in July to cancel remuneration on banks' mandatory reserves, shown in Exhibit 2.

### Exhibit 2: ECB "saved" €6.6bn with its move in July

Banks currently face €165bn mandatory reserves

<https://www.ecb.europa.eu/mopo/implement/mr/html/index.en.html>

Mandatory reserves	165,143
Deposit rate	4%
ECB "efficiency"	6,606

Source: BofA Global Research estimates, ECB

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The explanation was provided in the monetary policy statement, shown in Box 2.

## Box 2

The Governing Council decided to set the remuneration of minimum reserves at 0%. This decision... will improve the efficiency of monetary policy by reducing the overall amount of interest that needs to be paid on reserves

*ECB monetary policy statement, July 2023*

The discussion around this was further detailed in the minutes, summarised in Box 3.

## Box 3

The efficiency aspect had gained in relevance, in line with the higher level of the key ECB interest rates...

It was cautioned that changes in the remuneration of minimum reserves could raise questions about the objectives in the Eurosystem's reaction function related to central bank profits and losses...

Other members... preferred to increase the minimum reserve ratio to 2%... reversing the previous reduction to 1%, decided in December 2011 as part of a package of measures to support the bank lending channel and free up liquidity and collateral...

However, it was also recalled that, before 2011, minimum reserves were remunerated at the MRO rate. Moreover, it was mentioned that the very rationale for minimum reserve requirements was now less clear, in view of the prudential liquidity regulations for banks that had been introduced in response to the global financial crisis. Overall, caution was expressed against using the minimum reserve ratio as an active instrument for adjusting the monetary policy stance.

*ECB minutes, July 2023*

In the following meeting, the ECB stated that it was not discussing bond sales (Box 4), providing a platform for the Reuters story which followed shortly afterwards.

## Box 4

we have not discussed the PEPP programme, the reinvestment and the forward guidance... We have not discussed any kind of APP outright sales.

*ECB president Lagarde, September 2023*

We find the debate challenging for both the ECB itself and the banks it supervises. Key considerations are:

1. The debate expands ECB goals from inflation targeting to ECB profitability. These are two potentially conflicting goals. In our view, they will almost certainly confuse the ECB's message on inflation.
2. A small increase in mandatory reserves to 2% would make little difference to the ECB's accounting losses. We update our scenario analysis and expect the Eurosystem to make a loss of between €64bn and €71bn in 2024, depending on whether further remuneration changes are made<sup>1</sup> (Exhibit 1 and Exhibit 3). An increase in mandatory reserves to 2% will chip away only a further €6bn in 2024 given our economist's policy rate profile. Such a step would necessarily invite discussion about more steps. If the ECB is focusing attention on its accounting

<sup>1</sup> **Further remuneration change:** The remuneration rate on government and non-euro area resident deposits assumed to fall from c. €str minus 20bp to 0% from 1 January 2024 for all NCBs.

**No further remuneration change:** The remuneration rate on government and non-euro area resident deposits stays at c. €str minus 20bp.

In August 2023, the Bundesbank announced it remunerate domestic government deposits at 0% from 1 October 2023.

losses is the thing, steps that address a small part of the accounting loss will make the market assume further steps.

### Exhibit 3: Eurosystem net income scenario analysis details

Losses expected in both scenarios

	No further remuneration change	Further remuneration change
Income from assets (A)	81	81
Refi	0	0
TLTRO	6	6
QE portfolio	75	75
Cost of liabilities (B)	120	113
Current account (min reserves)	0	0
Deposit facility	106	113
Other euro area resident deposits	0	0
Government deposits	7	0
Non-euro area resident deposits	6	0
Net income (C) = (A) – (B)	-39	-32
Amortisation adjustment (D)	-33	-33
Net income accounting for amortisation adjustment: (C) + (D)	-71	-64

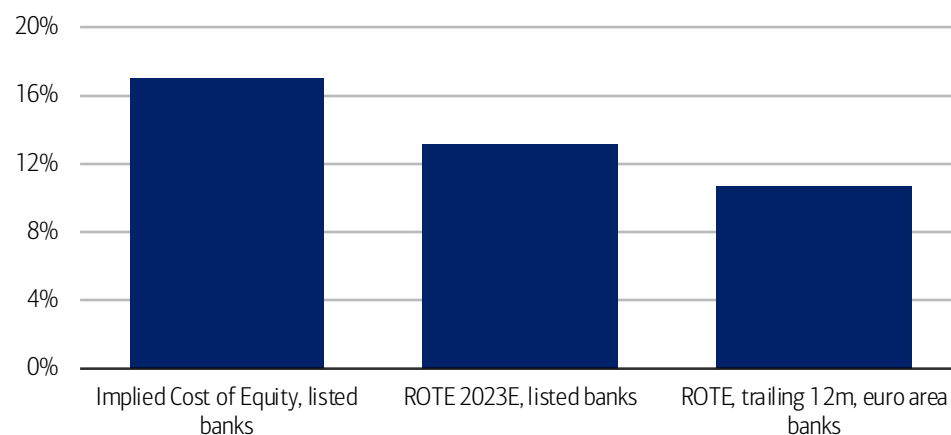
Source: BofA Global Research

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- In Exhibit 4, we show that euro area banks make a return on equity well below the cost of equity. It is implicit in the ECB debate, we think, that yields on ECB deposits are somehow unjustified. Market prices do not support this.

### Exhibit 4: euro area banks cover only 60% of their Cost of Equity

Return on equity and Implied Cost of Equity, euro area banks (%) 2023



Source: BofA Global Research estimates, ECB

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- Zero remuneration would naturally reduce the value of deposits to banks. We expect that deposit rates paid to clients would fall as a result. This is a loosening of monetary policy.
- Pushing in the opposite direction, potentially at the same time, is that while the banking system is highly liquid, that liquidity is not evenly distributed and removing key assets from circulation would risk money market dislocations from those banks that needed cash
- Making bank deposit funding uniquely disadvantaged, compared with other forms of market funding, would drive the business out of the regulated euro banking system to non-banks and other currencies

## Two towers, in conflict

Regulation is a complex area, with the Liquidity Coverage Ratio having increased banks global demand for liquidity by US\$7 trillion since the financial crisis, according to the Basel Committee. Mandatory reserve inflation takes a bank's highest-quality liquid asset, cash, and turns it into an encumbered, non-yielding asset. This challenge to the business model of banks would potentially put monetary policy in conflict with supervisors across the city in Frankfurt.

We start the discussion with a look at mandatory reserves and their use by central banks.

## An emerging market, FX tool

High mandatory reserves are used in a number of emerging markets and where are used by western central banks as policy tools in the past. Commonly, however, the use is associated with capital controls, a fixed exchange rate or a central bank micromanaging demand on behalf of the government.

### Exhibit 5: central banks with high reserve requirements

Often these less-independent central banks are dealing with FX challenges

Türkey	5-22%
China	7%
Nigeria	27%
Argentina	17-42%

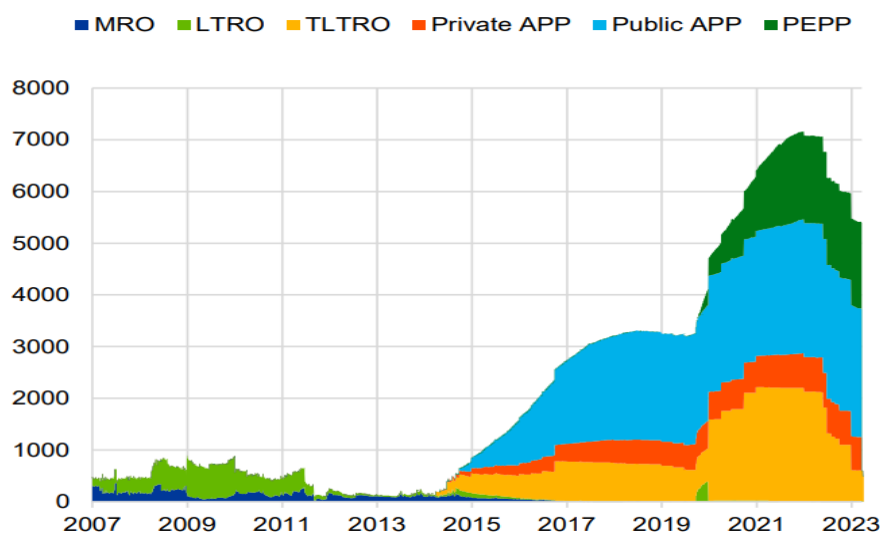
Source: BofA Global Research

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A reduction of the ECB balance sheet through a run-off of its bond portfolios would be symmetrical with the purchase of those bonds. This is exactly what the ECB did with its Targeted Longer Term Refinancing Operations, of which it has now exited €1.6 trillion – see Exhibit 6.

### Exhibit 6: ECB cut €1.6t from its TLTRO, now the bonds dominate its assets

ECB monetary policy assets (€ bn) 2007-2023



Source: ECB/ Schnabel

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From recent comments, the ECB clearly has some concern about the impact on the bond market functioning pricing from large sales. However, seeking to achieve a reduction in system and liquidity through mandatory reserves, would only be moving a visible cost to a less-predictable, and misunderstood one.

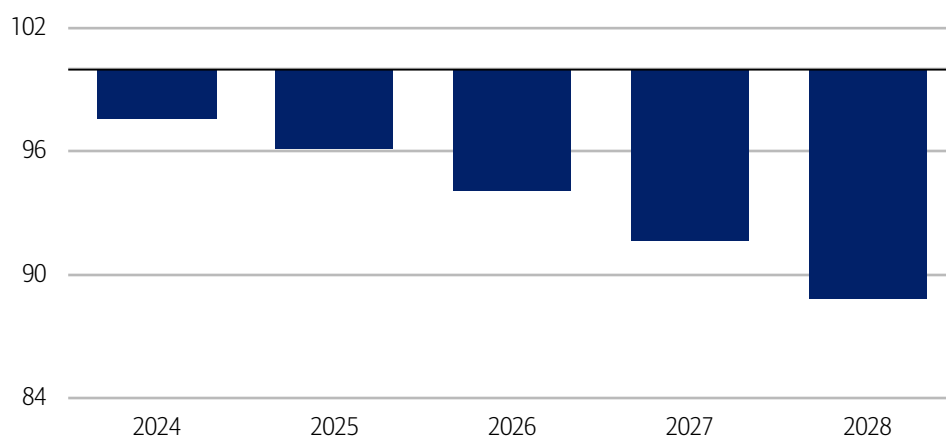
For banks, Quantitative Tightening represents substituting one high-quality liquid asset – cash – with another, government bonds. As we wrote previously, government bonds



are not a perfect substitute, other than short dated bills – see the discounted price of certain Bunds in Exhibit 7. Potential price declines require a bank to hold stress capital. But in actual liquidity terms, they are close to one another.

#### Exhibit 7: Low-coupon Bund prices fall to below €0.90

Bunds by maturity – current price



Source: BofA Global Research, Bloomberg

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An increase in mandatory reserves simply disappears the cash. It becomes an encumbered asset, ineligible for the liquidity coverage ratio. Banks would lose their highest quality liquid asset, which – if in significant size – would shock their liquidity management. It could also have rating agency implications, as the agencies look at both encumbrance and liquidity. In Exhibit 8, we illustrate the impact of a large move in mandatory reserves, such as would be necessary if the ECB were seeking to directly address its carry cost of bonds through this route. As much as 30% of banks' HQLA would simply vanish.

#### Exhibit 8: a move to 10% mandatory reserves would remove 29% of banking system HQLA (€mn)

This would not be evenly distributed

HQLA	4,943
Mandatory reserve	165
Increase reserve from 1% to 10%	1,485
Impact on HQLA	-30%

Source: BofA Global Research estimates, ECB

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Banks face many constraints in their operations. They need to meet regulatory requirements for capital, liquidity and funding of course, but may also look at other liquidity metrics – as discussed in [European Banks Strategy: Peak nothing 01 September 2023](#) (report link), the LCR in particular has proven to be just one liquidity measure among many. And banks face a specific set of liquidity, funding and capital metrics at each of their rating agencies. Large and abrupt changes to ECB rules could challenge each bank differently, but the impacts would likely be significant. We sketch just two in Exhibit 9, for one of the largest euro area banks, Unicredit, for illustrative purposes only.

#### Exhibit 9: Illustrative purposes: Unicredit example – impacting both asset encumbrance and LCR (€mn)

LCR could fall 33 points, asset encumbrance almost double

Jun-23

Encumbered assets	41,762
Cash	76,000
HQLA	184,987
Net cash outflows	115,775
LCR	160%
Illustration	
Deposits, euro area	429,100

**Exhibit 9: Illustrative purposes: Unicredit example – impacting both asset encumbrance and LCR (€mn)**

LCR could fall 33 points, asset encumbrance almost double

Jun-23

Additional mandatory reserve	9%
Additional mandatory reserve	38,619
Encumbrance increase	92%
LCR	126%
LCR decrease (points)	-33%

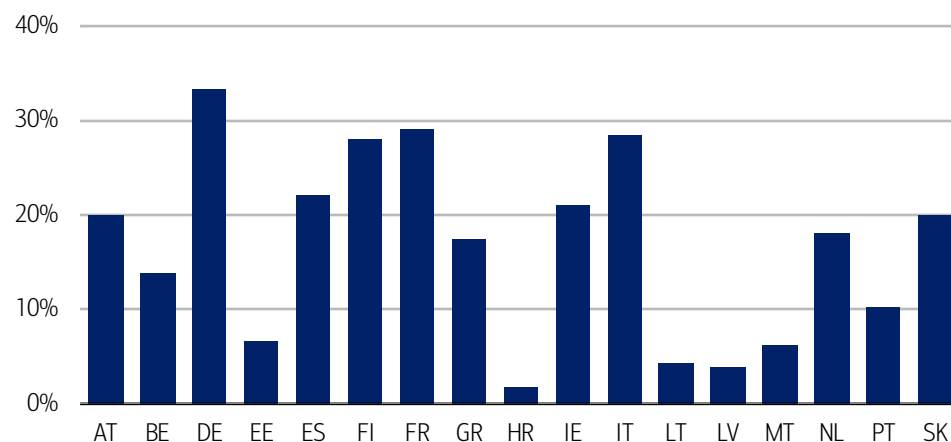
Source: BofA Global Research estimates, company report

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By changing the rules of banking, the impact on some banks would be greater than others, in ways that would be hard to define its *ex ante*. Generally, banks with lower credit ratings, that is smaller banks in general, have less access to alternative forms of liquidity – which may be directly because deposits are more valuable to them for this reason. And by increasing asset encumbrance, some banks have optimised this, while others have not (Exhibit 10). This is one part of the euro area where averages may well prove unreliable for predicting outcomes.

**Exhibit 10: such a wide variety of encumbrance ratios, an average will not be useful**

Euro area banks, asset encumbrance ratios, 1Q 23



Source: EBA

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**Push me – pull you**

The implications for monetary policy would be complex. One would expect a tightening of credit availability, as banks will in part need to shrink the loan book or expand loan margins to absorb the revenue hit. Equally, banks may seek to reduce deposit prices to restore their deposit spread, representing an easing of policy.

As an intervention into one sort of funding, that would not impact others, one would also expect a further drive of assets out of the banking system.

**A depressed multiple impacts behaviour**

The inconvenient truth is that we do not believe that the market is pricing banks as approaching the cost of capital cover, even after the doubling of their profits since 2019. In part because of debates such as this, the market has increased its implied cost of equity, such that banks still trade at a 30% discount to tangible book. For policymakers, this has significant implications. Banks with low multiples struggle to justify fresh. Evidence that the central bank is actively depressing Earnings, without considering whether banks have a surplus is a strong negative signal.

Interesting in this context to highlight the language in the recent ECB letter to the Italian government on its proposed tax – see Box 5

## Box 5: ECB legal opinion

As key ECB interest rates will be set at sufficiently restrictive levels for as long as is necessary to achieve a timely return of inflation to the 2 % medium-term target, it is important to keep in mind that monetary policy operations always have some distributional implications...

Evidence shows that net interest income typically tends to expand on impact as policy rates increase... However, as the tightening cycle proceeds, this positive income effect can be offset by lower lending volumes, a higher cost of funding, losses recorded in the securities portfolio and an increase in provisions resulting from potential deterioration of the quality of the credit portfolio. The realisation of downside risks in the current environment may significantly reduce the repayment capacity of debtors and translate into lower bank profitability. The net effect of tighter monetary policy on bank profitability when measured across the policy cycle may therefore be less positive, or even negative, over an extended horizon...

More generally, caution must be taken to ensure that the extraordinary tax does not impact the ability of individual credit institutions to build strong capital bases and adequately provision for increased impairments and a deterioration in credit quality. Curtailing the ability of credit institutions to maintain adequate capital positions or to prudently build provisions against the backdrop of a possible downturn in credit quality could endanger a smooth bank-based transmission of monetary policy measures to the wider economy

*OPINION OF THE EUROPEAN CENTRAL BANK of 12 September 2023*

# Rates market implications

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The impact of a potential increase in the reserve requirement on the front-end rates market is likely to be driven by the associated decline in excess liquidity and a general desire among banks to reduce their required reserves. We believe this generally means more funding needs, uncertainty, and intramonth volatility in the front-end rates market.

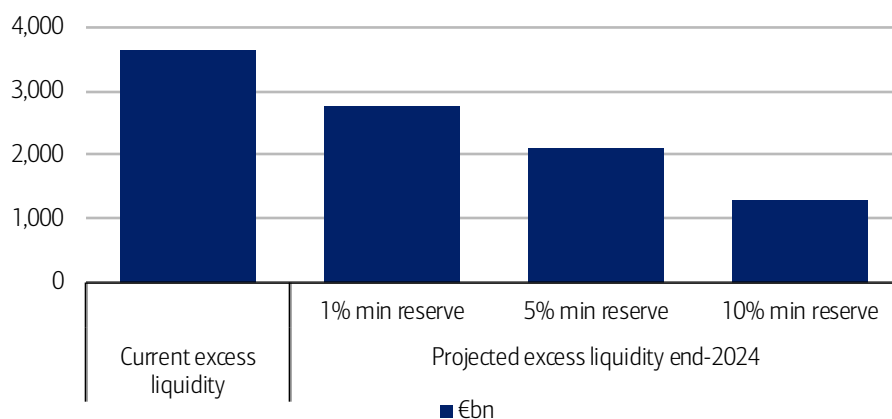
## 1. Upward pressure on money market rates may be brought forward

Increases to the minimum reserve requirement would impact banks in some countries more than others. Exhibit 12 shows the country-level decomposition of excess liquidity net of TLTROs, accounting for quantitative tightening, if the minimum reserve requirement is at 5% and 10% by the end of 2024. In the case of 10% minimum reserve requirement, there would be negative excess liquidity net of TLTRO by the end of 2024 in Italy, Greece, Spain, and Portugal. Currency growth has not been accounted in our country decomposition, which means there are downside risks to the figures presented.

For cash poor banks, we believe a higher minimum reserve requirement would have greater impact on their funding demand than a comparable punitive tiering framework that applies 0% on the first X amount of a bank's excess reserves. This is because a higher minimum reserve requirement that pushes banks' excess liquidity into negative territory would force them to raise funds, which would not be the case in punitive tiering. The need for cash poor banks to raise funds to meet the higher reserve requirement would bring forward upward pressure on front-end rates and widening pressure on money market spreads.

### Exhibit 11: Excess liquidity projections based on different minimum reserve requirements

Raising the minimum reserve requirement would lower excess liquidity in the euro area



Source: BofA Global Research, ECB

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## 2. Risks of unintended sudden tightening

Prior to the Covid shock, the euro overnight indexed swap (OIS) rate was notably less sensitive to changes in excess liquidity levels when excess liquidity was above €1tn. The implication was that €1tn of excess liquidity is sufficient to keep OIS rates close to the floor of the policy rate corridor.

But banks' inherent demand for excess liquidity has likely increased in recent years and that quantum is currently unknown (see [European Rates Viewpoint, 19 May 2023](#)). An increase in the minimum reserve requirement would accelerate the decline in excess

liquidity. By the end of 2024 when 1) all TLTROs have fully rolled off, 2) accounting for quantitative tightening, 3) accounting for currency growth, we estimate excess liquidity will fall to €2.1tn if the minimum reserve requirement is set at 5% and fall to €1.3tn if it is set at 10% (Exhibit 11). This means an increase in the minimum reserves could lead to sooner-than-intended reserve scarcity in the banking system and sudden upward pressure on front-end rates.

### 3. Richer month-ends

The minimum reserve requirement is calculated using the month-end data from two months before the maintenance period starts. Institutions subject to the minimum reserve requirement may have an incentive to reduce liabilities used to calculate their reserve requirement over month-end. Issuance of very short-dated paper (one- to two-week paper) by such institutions over month-end may be reduced and concentrated intramonth. The reduction of very short-dated paper supply may increase scarcity and, in turn temporary richening pressure, of short-dated assets over month-ends that are used for minimum reserve calculation.

### 4. More terming of liabilities

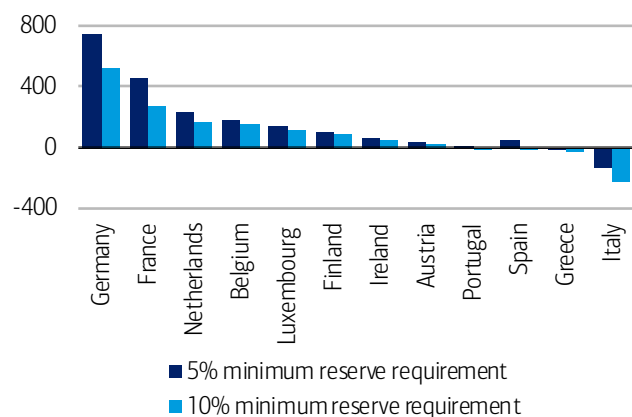
Deposits with maturity greater than two years and debt securities issued with an original maturity over two years are excluded from the minimum reserve calculations. An increase in the minimum reserve requirement would create an incentive for banks to continue terming out their liabilities: in deposits this has so far been achieved by widening the spread between term and overnight deposit rates (Exhibit 13). Such behaviour may risk further widening in money market spreads.

### 5. Cheaper repo vs €str

Deposits from repo transactions are also excluded from the minimum reserve calculations. This may give institutions subject to the minimum reserve requirement an incentive to rely more on repo markets, both overnight and term, to raise cash. As deposits received from the €str market would be included in the minimum reserve calculations, the incentive to raise cash from repo could provide room for the one-day general collateral (GC) repo rates to be cheaper than €str on a sustained basis.

#### Exhibit 12: End-2024 excess liquidity projections by country

A 10% min reserve requirement may leave many banks very cash scarce

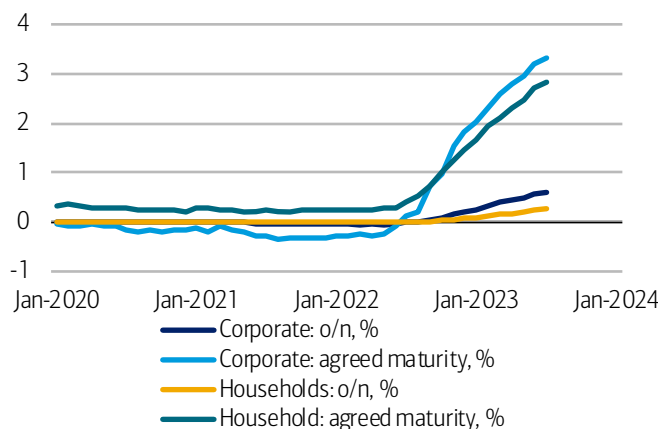


Source: BofA Global Research, ECB

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#### Exhibit 13: Bank rates on new deposits

Banks have passed on more of the rate hikes via term deposits



Source: ECB

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# Disclosures

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