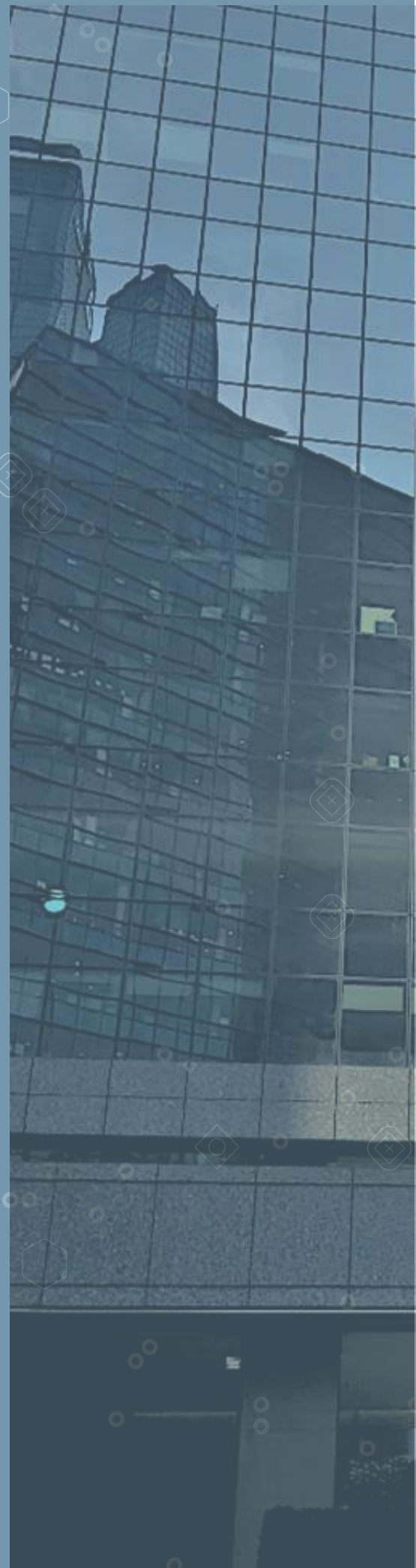![eba | European Banking Authority]

REPORT ON LIQUIDITY MEASURES UNDER ARTICLE 509(1) OF THE CRR

EBA/REP/2024/26   DECEMBER 2024

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Abbreviations

CCP	central counterparty
CET1	Common Equity Tier 1
CHF	Swiss franc
COREP	Common Reporting
CRR	Capital Requirements Regulation
DR	Delegated Regulation
EBA	European Banking Authority
ECB	European Central Bank
EHQCB	extremely high-quality covered bond
ESRB	European Systemic Risk Board
EU	European Union
EUR	euro(s)
FINREP	Financial Reporting
FX	foreign exchange
GBP	pound sterling
GDP	gross domestic product
GSIIs	global systemically important institution
HQCB	high-quality covered bond
HQLA	high-quality liquid asset
LCR	liquidity coverage ratio
MRR	minimum reserve requirement
NFC	non-financial company
NP	net profit
OLS	ordinary least squares
O-SII	other systemically important institution
p.p.	percentage points
Pr	Probability
QE	quantitative easing
SMEs	small and medium-sized enterprises
TLTRO	targeted longer-term refinancing operation
USD	United States dollar

Executive summary

The objective of the report is to monitor banks' short-term liquidity risk profiles.

This report provides an update of the European Union (EU) banks' compliance with the liquidity coverage ratio (LCR), defined as the stock of high-quality liquid assets (HQLAs) divided by the net liquidity outflows that arise during a 30-calendar-day stress period. The analysis is based on Common Reporting (COREP).[1]

In the period under review from June 2023 to June 2024, the EU banks' LCR ratio were broadly affected by two key developments which were both related to the ongoing changes in monetary policy stance. First, the higher interest rates triggered moves by depositors from demand to term deposits. Since certain term deposits may be excluded from the calculation of the LCR outflow rates[2], the average LCRs improved as a result of these shifts. As the interest rates have since peaked, it could be expected that the deposit flows and the LCR impact could start to reverse in the coming years. Second, the gradual normalisation by EU central banks of their balance sheet positions have caused shifts in the composition of the banks' HQLA portfolios, as central bank reserves have been replaced by other Level 1 assets among the HQLAs. While the net impact of these two effects on the LCR varies over time, it is important to closely monitor both the outflows (liabilities) and the HQLA composition (assets) in the period ahead.

LCR values reached 167% in June 2024, up from a level of 164% as of June 2023. Liquid assets increased while net outflows remained stable. All group of banks increased liquid assets throughout the period under review.

At the end of June 2024, the weighted average LCR for a sample of 345 EU/EEA banks stood at 167%.

Throughout the period under review, the average LCR increased by 4 p.p.. This result was due to an increase in the amount of HQLAs while net outflows were essentially unchanged as a result of offsetting movements in the underlying deposit components.

The increase in liquid assets as a share of total assets observed from June 2023 to June 2024 was due to an increase in Level 1 securities, mainly sovereign bonds, which exceeded the decline in Level 1 cash and central bank reserves. Cash and reserves declined both because of the

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[1] The report is provided under Article 509(1) of the Capital Requirements Regulation (CRR). The objective of the report is to monitor and evaluate the liquidity coverage requirements under Commission Delegated Regulation (DR) (EU) 2015/61.

[2] Some term deposits are included in the liquidity outflows. According to article 22 (2) (b) of the LCR Delegated Regulation, term deposits are included in the liquidity outflows if those that become due, can be called for pay-out by the issuer or by the provider of the funding or entail an expectation by the provider of the funding that the credit institution would repay the liability during the next 30 calendar days determined in accordance with Articles 27 and 28. With respect to the retail term deposits, only those term deposits that fulfil one of the requirements from article 25 (4) of the LCR Delegated Regulation may be excluded from the calculation of outflows.

gradual removal of the excess liquidity by EU central banks and the large TLTRO re-payments made by the euro area banks. Indeed, banks with outstanding TLTRO balances showed larger declines in reserves and in the LCR. At the same time, the banks' holdings of Level 1 sovereign securities increased which is mostly explained by the release of collateral after the TLTRO repayments.

Considering the outflows, net outflows increased by 0.04% of total assets from June 2023 to June 2024, driven by an increase in outflows from non-operational deposits, other outflows and secured funding. At the same time, outflows from retail deposits declined as the share of retail deposits that are exempted from the outflows calculation increased.

By size category, large banks saw their LCR increase from 153% as of June 2023 to 155% as of June 2024. The LCR of medium-sized banks increased from 205% to 216%, while that of small banks increased from 225% to 244%. Within the large banks category, LCR for G-SIIs declined from 146% to 145%, while increased for O-SIIs from 165% to 168% in the same period. For the other banks, the LCR increased from 217% to 224%.

LCR increased for retail-oriented banks, other specialised banks and other banks but decreased for corporate-oriented lenders.

Looking at the banks by business model, retail-oriented banks (which include consumer, cooperative and savings banks, mortgage banks and private banks) reported an increase in LCRs and they also present the highest levels of LCRs. In contrast, corporate-oriented banks experienced the largest drops in LCR in the period under review, followed by universal banks.

Although the average LCR levels remain higher than prior to the COVID-19 pandemic, the TLTRO repayments by euro area banks, the gradual unwinding of past asset purchases by EU central banks and the decision by the European Central Bank (ECB) to adjust the remuneration of minimum reserves [3] had an impact on the composition of banks' liquidity buffers. EU banks' increased Level 1 securities, which allow banks to gain interest income and provide them with the possibility to obtain extra liquidity in repo markets by placing the securities as collateral. In line with this finding, EU banks increased their activity in the repo market during the period under review[4].

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[3] https://www.ecb.europa.eu/press/pr/date/2023/html/ecb.pr230727~7206e9aa48.en.html

[4] How banks deal with declining excess liquidity (europa.eu)

As of June 2024, average LCR level in USD and in GBP had increased to above the 100% requirement but remained lower than the LCR in EUR. LCR in EUR increased in the first half of 2024, while it declined in USD and in GBP.

Regulation requires banks to ensure that the currency distribution of their liquid assets is consistent with the currency distribution of their net liquidity outflows. After several years of non-compliance, in June 2024 the average LCR of the 90 banks reporting USD as a significant foreign currency stood at 112%, thus exceeding the minimum requirement of 100%. With regards to the liquidity position in GBP, the LCR for the 26 banks reporting GBP as a significant foreign currency declined on an annual basis and stood at 127%. For banks which report EUR as significant foreign currency the LCR increased on an annual basis from June 2023. To avoid a scenario where banks may not be able to fill their USD liquidity gaps, competent authorities may make use of the discretion in Article 8 of the LCR DR to limit significant excesses of net outflows denominated in a significant reporting currency (Article 8(6) of the LCR DR). Specific limits or quantitative restrictions may be implemented to correct mismatches in material cases.

There is some evidence that banks with low LCR levels are more likely to reduce bank lending to non-financial sectors.

In line with the findings in the previous years, the analysis of the potential impact of the LCR regulation on bank lending shows that a statistically significant relationship can be identified between the level of the LCR and the probability of banks increasing their lending activity.

Based on current data, the effect of the unwind mechanism seems limited.

The LCR unwind mechanism has an impact on the determination of the adjusted amount of Level 1 assets. The analysis in the report shows that while this effect can be either positive or negative, the effect on the LCR is always close to nil. This finding seems to be due to the banks' use of Level 1 assets excluding EHQCB far more than the regulatory minimum of 30% of the overall liquidity buffer. This makes it unlikely that other HQLA categories would show surpluses over the respective requirements.

Introduction

As part of the mandate in Regulation (EU) No 575/2013 (CRR), the European Banking Authority (EBA) monitors and evaluates the liquidity coverage requirements on an annual basis (pursuant to Article 415(1)). The EBA takes into account the potential impact of these requirements on the business and risk profiles of banks, on the stability of financial markets, on the economy and on the stability of the supply of bank lending (Article 509(1) of the CRR). The current report is the tenth publication of the EBA report under Article 509(1) and the eighth publication since the introduction of the minimum liquidity coverage standards in 2015.

This report presents a detailed analysis of the short-term resilience of banks' liquidity risk profiles. It also reports on the liquidity risks that banks face in various significant foreign currencies.[5] As in the previous reports, the analysis is based on COREP data. The sample covers 345 banks (380 banks including subsidiaries) in 27 EU Member States and three European Economic Area / European Free Trade Association states that report COREP data to the EBA on a regular basis. Banks included in the sample report LCR COREP data and Financial Reporting (FINREP) data (amount of total assets). The subsidiaries included in the analysis are those that report consolidated LCR COREP data.

The report includes a detailed assessment of the LCR key components (HQLA and net liquidity outflows), the impact of the TLTRO repayment of June 2024 on the main liquidity metrics (for the euro area banks) as well as the impact of some implementation features such as the unwinding mechanism. It also provides breakdowns by different business models across the EU. The analysis of currency mismatches investigates whether the banks' liquidity coverage in foreign (and significant) currencies differs from their overall LCR. Additionally, the report analyses what is the impact on bank lending that could derive from the existence of the LCR regulation.

The bank sample covers both globally active and other significant institutions (G-SIIs and O-SIIs), as well as 'other banks'. In this year's report, some metrics are also shown by bank size as measured by total assets as of June 2024. In terms of total assets, the sample covers approximately EUR 28.1 trillion (EUR 28.8 trillion including subsidiaries) or, on average, 88.2% of the total assets of the EU banking sector.[6] Aggregated figures in this report are based on COREP data reported at the highest level of consolidation, with the exception of the analyses concerning banks' business models and country breakdowns,[7] which also include subsidiaries of EU parent institutions.[8] Unless stated otherwise, all average figures are weighted.

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[5] See definition of significant and foreign currency in Section "LCR — analysis of currency mismatch".

[6] The information on total assets of the EU has been obtained from the Statistical Data Warehouse of the European Central Bank (ECB).

[7] To ensure confidentiality, figures by country breakdown are shown only if there are at least three banks that reported data in each specific country.

[8] The number of banks by country breakdown included in the different analyses is provided in the Annex.

Analysis of the LCR and its components

Trends in the LCR

Liquidity coverage requirements are intended to ensure banks' short-term resilience to potential liquidity disruptions. Banks should hold liquid assets to cover net liquidity outflows over a stress period of 30 calendar days and should maintain an LCR of at least 100%.[9] The LCR minimum requirement was set at 60% on 1 October 2015 and it reached 100% at the end of the implementation period on 1 January 2018.

An analysis of the evolution of the LCR over time[10] shows that banks experienced a strong increase in the last three quarters of 2020 (from 146% as of March 2020 to 175% as of December 2020) as a result of central banks' extraordinary liquidity-enhancing measures following the COVID-19 crisis. During 2021, the LCR remained stable, closing the year almost at the same level observed as of December 2020. During 2022, the LCR for EU/EEA banks started a downward trend, triggered by the monetary policy tightening in all EU jurisdictions. Overall, the LCR closed at a level of 168% as of December 2022, more than 9 p.p. below the level observed a year earlier.

In the first quarter of 2023, the market volatility that followed the turmoil in the US and Swiss banking sectors pushed the average LCR downward to a level of 165% in March 2023 compared to the level observed in December 2022 (168%), as the increase of outflows exceeded the increase in liquid assets. In the second quarter of 2023, the repayment of the ECB targeted long-term refinancing operations (TLTRO) by euro area banks and additional interest rates hikes by several EU central banks led to another decline in liquidity coverage ratios. In the first half of 2023, although net outflows declined, the decline of liquid assets exceeded the decline in outflows, which brought down liquidity coverage ratios to a level of 164%. None of the banks of the sample reported LCR levels below 100% as of June 2023 (Figure 14).

In the second half of 2023, an additional TLTRO repayment and the decision by the ECB to adjust the remuneration of reserves at zero[11] led to a decline in Level 1 cash and central bank reserves.

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[9] In accordance with Article 412 of the CRR and Article 4(3) of the Commission Delegated Regulation (EU) 2015/61, credit institutions can make use of their liquid assets to cover their net liquidity outflows under stressed circumstances, even if such a use of liquid assets may result in their liquidity coverage ratio falling below 100% during such periods. However, as further specified in Article 414 of the CRR and Article 4(4) of the Commission Delegated Regulation (EU) 2015/61, where credit institutions do not meet or expect not to meet the requirement, including during times of stress, they shall immediately notify the competent authorities and shall submit, without undue delay, to the competent authorities a plan for the timely restoration of compliance.

[10] The time series uses a consistent sample of 91 banks (excluding subsidiaries; results are shown for total EU, GSIIs and O-SIIs). Analysis showing two reference dates (December 2019 and June 2020) is based on a consistent sample of 297 banks. The results are reported in terms of volumes or in changes from previous period reference dates. In all other analyses, the sample is the same as was used in the cross-sectional analyses, which includes all banks that submitted data by the latest reporting date.

[11] ECB adjusts remuneration of minimum reserves (europa.eu).

However, this decline was offset with an increase in Level 1 securities and a similar decline in outflows which led to an increase in the LCR as of December 2023 to a level of 172%. The decline in outflows is partially explained by the increase in deposits exempted from the calculation of the outflows, which increased by 21% in the second half of 2023 (Box 1: The role of deposits exempted from the calculation of the outflows in the evolution of EU banks' LCR).

In the first half of 2024, an additional TLTRO repayment in March 2024 by euro area banks and the gradual quantitative tightening by several EU central banks led to a sharp decline in cash and central bank reserves. This decline was compensated by a similar increase in banks' holdings of Level 1 securities (both sovereigns and covered bonds), which allowed to slightly increase the level of HQLA compared to the level observed in December 2023. However, at the same time, net outflows accelerated and the LCR declined to 167% (from 172% as of December 2023). The increase in net outflows in the first half of 2024 is partially explained by the fact that the growth rate of deposits exempted from the calculation of the outflows decelerated, see Box 1.

All in all, while the average LCR declined compared to the levels observed in December 2023, it closed at a higher level than what was observed within the period under consideration (i.e. the average LCR as of June 2023 closed at a level of 164%). This fluctuation in the LCR levels was the result of two different phenomena. First, there were changes in depositor behaviour as a response to the higher deposit rates offered by banks on term deposits as opposed to demand deposits, which created shifts in the deposit base used for the outflows calculation. Second, banks were actively managing their HQLA portfolios, compensating the steady decline in central bank reserves with Level 1 sovereigns and Level 1 covered bonds. It cannot be excluded that such changes in the asset and liability items that are relevant for the banks' LCR calculation will continue in the period ahead, as expected shifts in monetary policy stance will manifest themselves in changes in both interest rates and the amounts of central bank reserves in the system.

Figure 1: LCR evolution (weighted average)
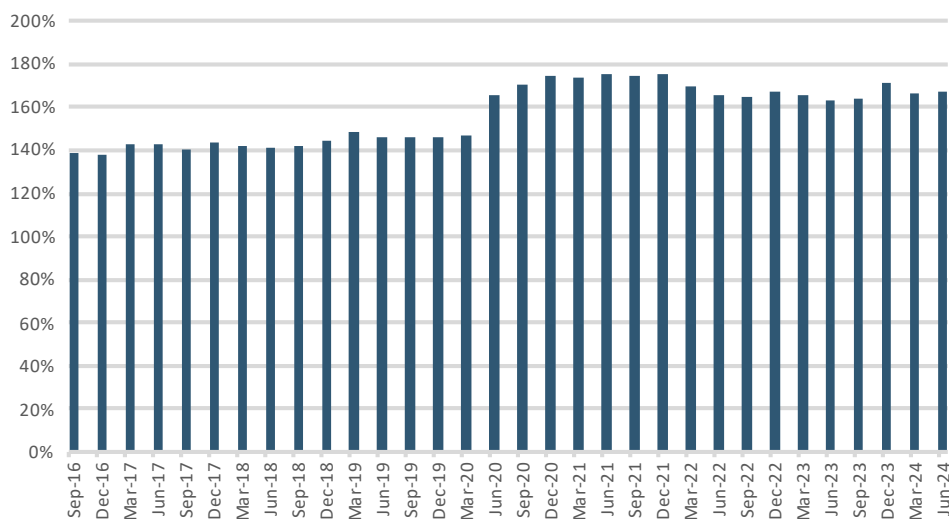
Source: Supervisory reporting and EBA calculations.

Classifying the banks by systemic importance, during the first half of 2024 LCR values dropped from 150% to 145% for G-SIIs, 176% to 170% for O-SIIs while other banks increased their LCR from 222% to 224%. By size, in the first half of 2024 LCR levels declined from 159% to 155% for large banks, 222% to 216% for medium-sized banks while they increased from 239% to 244% for or small banks. Finally, the LCR dispersion across 'other banks' remained greater than across G-SIIs and O-SIIs (Figure 14), reflecting the heterogeneity of banks in the group classified as 'other' in terms of size and business model.

Figure 2: Weighted average LCR across bank groups (G-SIIs, O-SIIs and others)
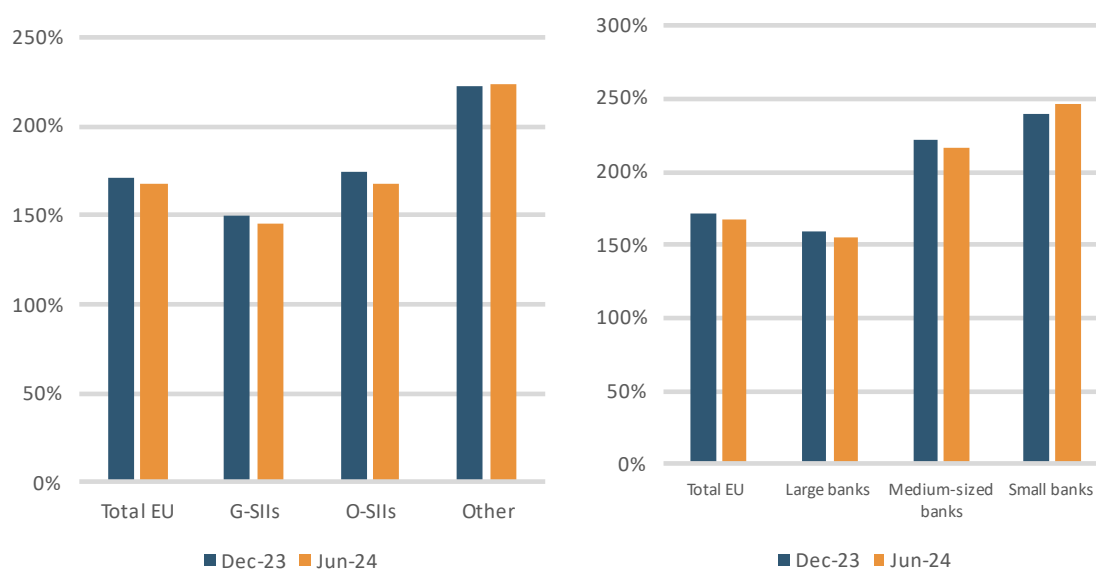
Source: Supervisory reporting and EBA calculations. Large banks are those with consolidated assets above EUR 100bn, while the group of medium-sized banks present consolidated assets between EUR 50 and 100bn and small banks present consolidated assets below EUR 50bn.

The evolution of the LCR levels across size categories can be better understood by looking at the evolution of its components during the first half of 2024. The LCR ratio decreased between December 2023 and June 2024 because net outflows increased at a higher rate than liquid assets (HQLA). Liquid assets showed an increase of 0.07% of total assets in the first half of 2024 while net outflows showed an increase of 0.93% of total assets. By systemic importance, both systemic and non-systemic entities showed an upward trend in their liquid assets, but this was particularly relevant in the group of other banks. By banks' size, all three categories increased their liquid assets, with medium-sized banks increasing most, followed by large banks and small banks.

The same tendency of increase of net outflows above the increase in liquid assets (HQLA) was observed for G-SIIs and O-SIIs (Figure 3), therefore both G-SIIs and O-SIIs showed a decline in LCR. G-SIIs declined their LCR from 150% as of December 2023 to 145% as of June 2024. O-SIIs declined from 174% to 168% as of the same reference dates. However, other banks increased their LCR ratio because their liquid assets increased more than net outflows. The LCR of other banks evolved from a level of 222% as of December 2023 to a level of 224% as of June 2024.

By banks' size, large banks declined their LCR from 159% as of December 2023 to 155% as of June 2024. Medium-sized banks declined their LCR from 222% to 216% while small banks increased it from 239% to 247%.

Box 1: The role of deposits exempted from the calculation of the outflows in the evolution of EU banks' LCR

In the period from September 2022 to December 2023, the drop of net outflows exceeded the drop in HQLA. This drop of net outflows is partially explained by the increase of deposits exempted from the calculation of the outflows, which represented 3.5% of total assets (2.7% for G-SIIs, 3.6% for O-SIIs and 5.6% for other banks). The amount of deposits exempted from the calculation of the outflows (pre-weight) has increased by 45% in the period from June 2023 to June 2024 and by 83% in the period from December 2022 to June 2024. However, the growth rate observed in the first half of 2024 is the lowest observed of the last three semesters, as the deposits exempted increased by 26.6% in the first half of 2023, by 27.1% in the second half of 2023 and by 13.9% in the first half of 2024. For this, LCR increased in the period from September 2022 to December 2023, because the decline in HQLA was compensated by a similar decline in net outflows. In the first half of 2024, net outflows increased while HQLA remained stable. Therefore, the LCR declined in the first half of 2024 but remained above the level showed as of June 2023 and as of September 2022.

Figure: Evolution of deposits exempted from the calculation of outflows (% of total assets)
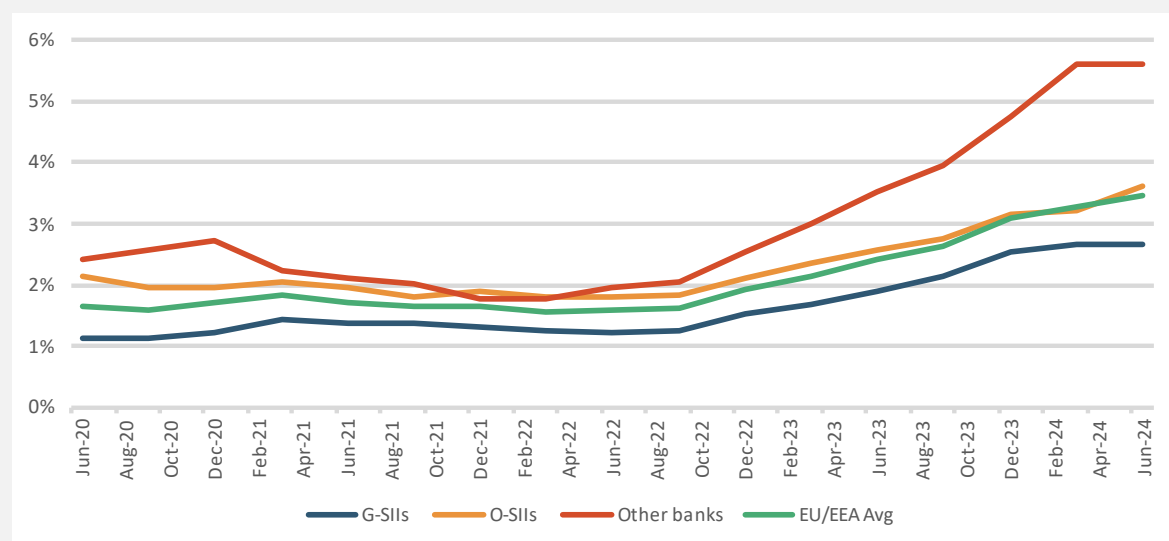
Source: Supervisory reporting and EBA calculations.

Looking at the evolution by country, 24 out of 28 countries have increased the deposits exempted from the calculation of the outflows in the period from September 2022 to June 2024, with only four countries decreasing the metric (HU, SI, MT, IS).

In terms of the level of deposits exempted from the calculation of the outflows, there is a high heterogeneity in the EU/EEA. The level ranges from 0.1% of total assets (IS), to 19% of total assets (CY) as of June 2024. For five countries, the exempted deposits represent more than 10% of total assets (CY, EE, LV, PT, CZ) and all of them show LCR above the EU/EEA average as of June 2024 (Figure 13).

Figure: Deposits exempted from the calculation of outflows (% of total assets), breakdown by country
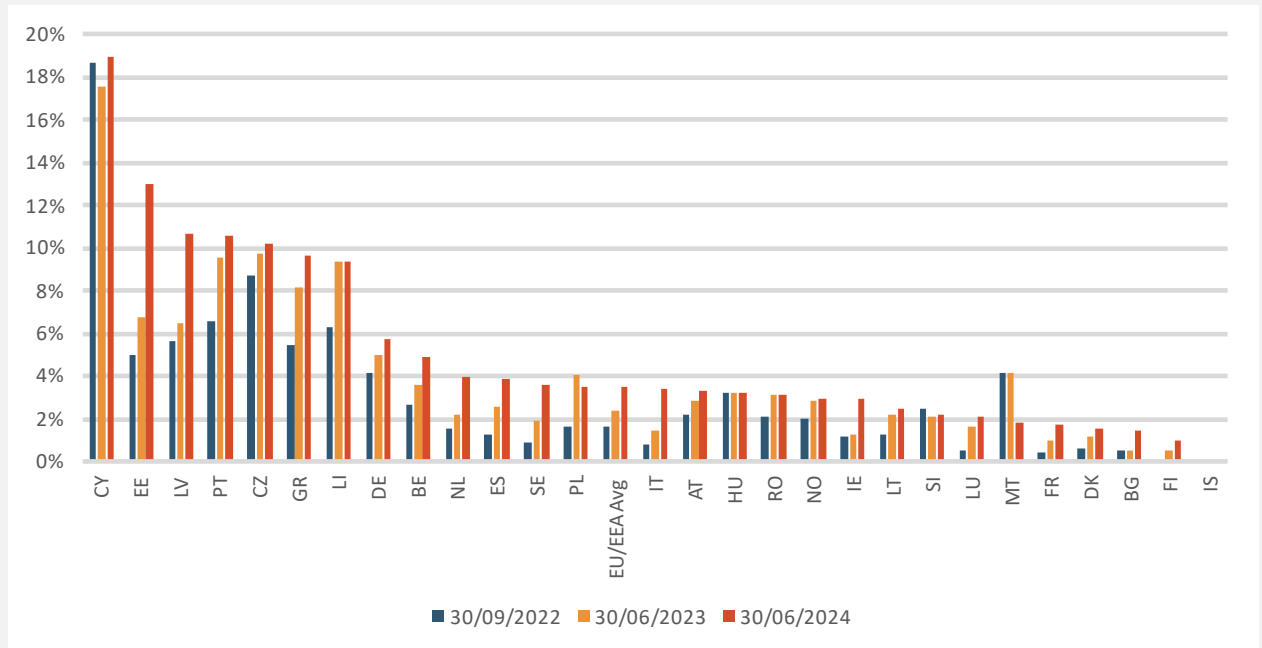
Source: Supervisory reporting and EBA calculations.

Figure 3: Evolution of the numerator and the denominator of the LCR, September 2016 = 100% — balanced sample

Source: Supervisory reporting and EBA calculations.

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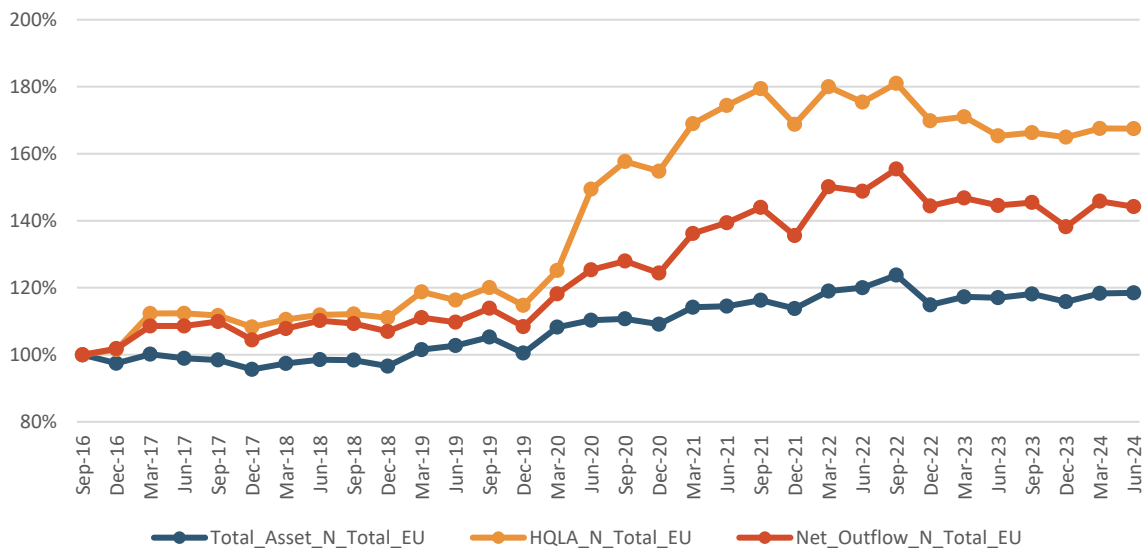
Figure 4: Evolution of the numerator and denominator of the LCR by bank group, September 2016 = 100% — balanced sample
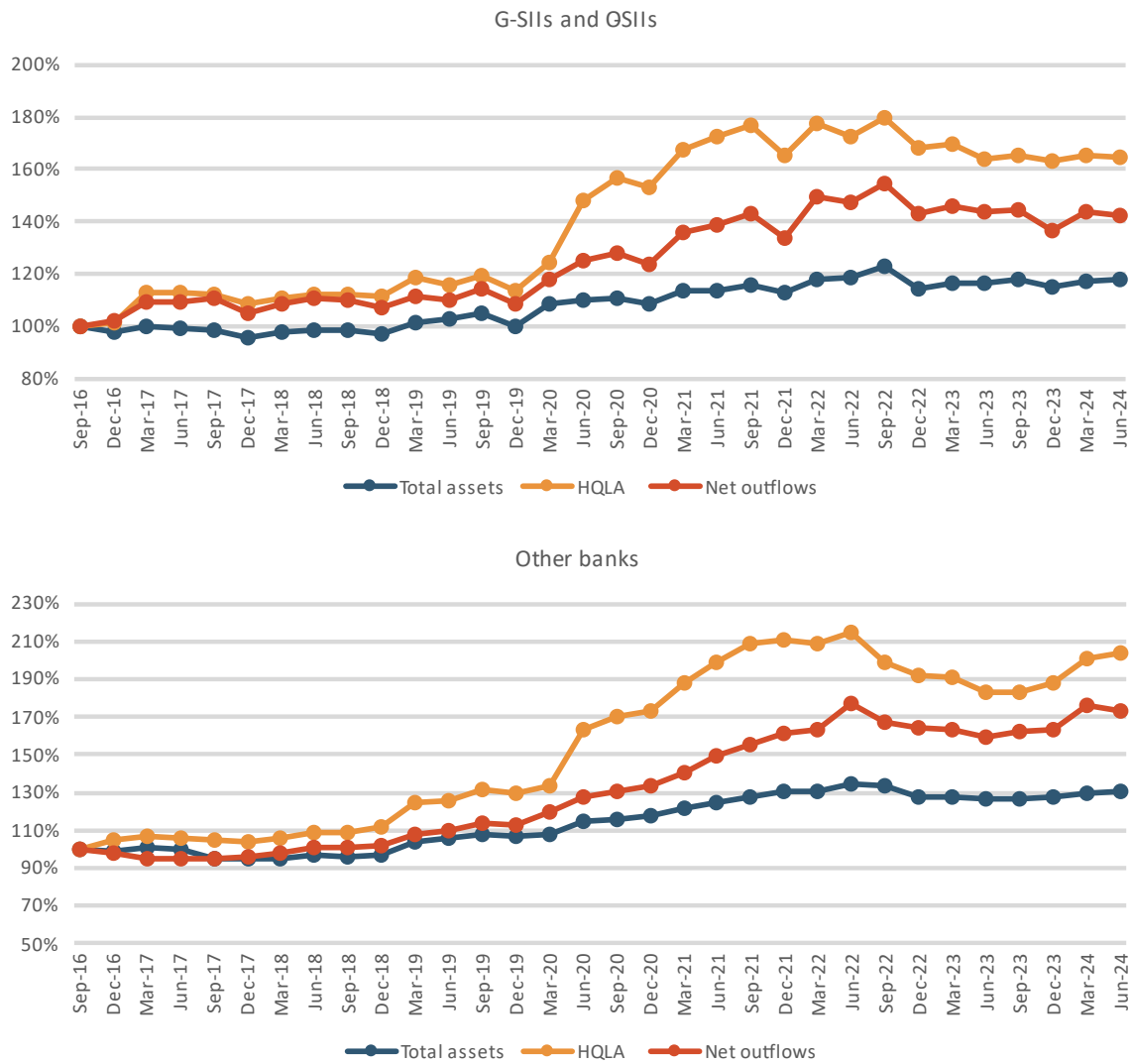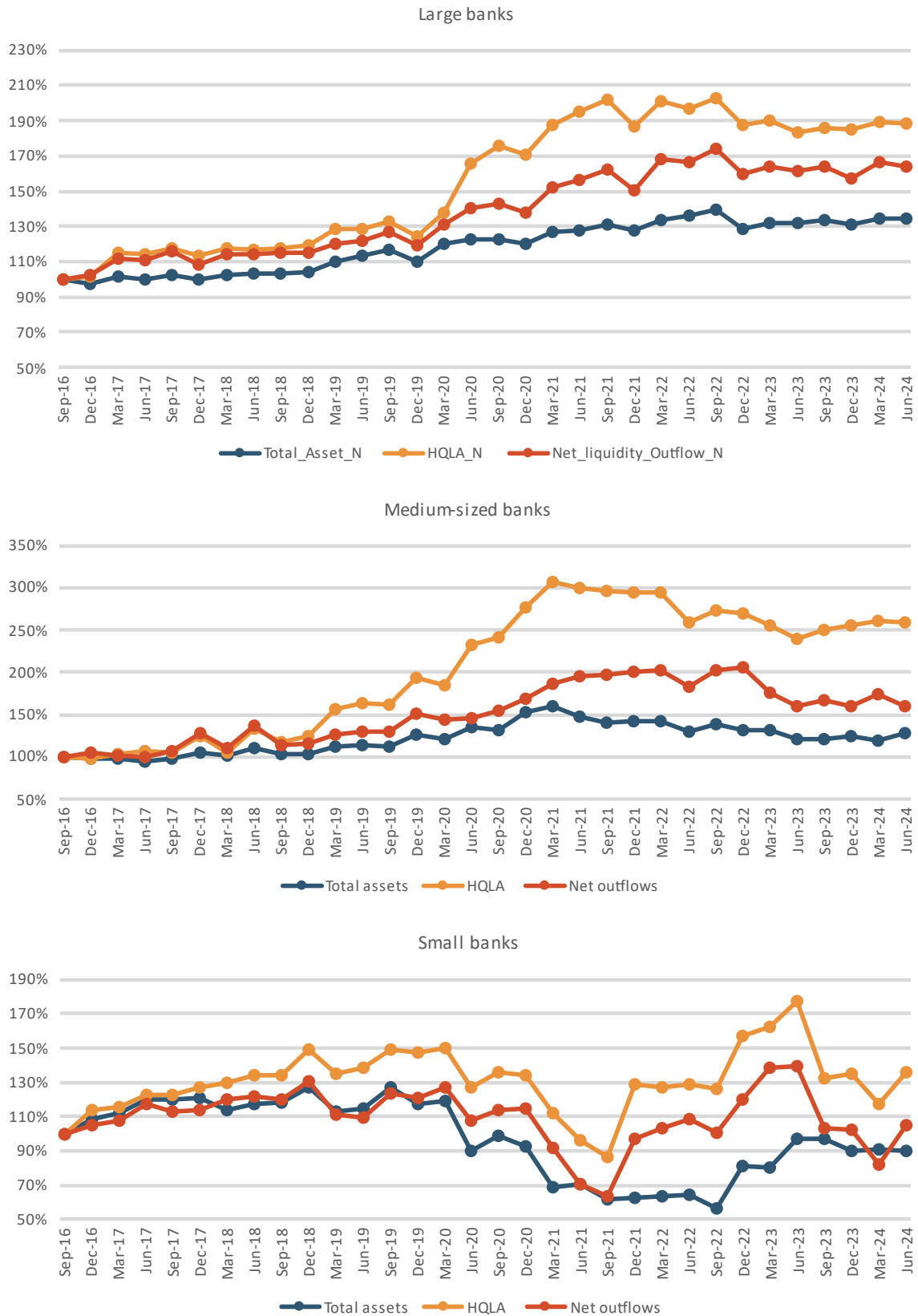
G-SIIs and OSIIs

Total assets — HQLA — Net outflows

Other banks

Total assets — HQLA — Net outflows

Source: Supervisory reporting and EBA calculations.

Large banks

Medium-sized banks

Small banks

Source: Supervisory reporting and EBA calculations. Large banks are those with consolidated assets above EUR 100bn, while the group of medium-sized banks present consolidated assets between EUR 50 and 100bn and small banks present consolidated assets below EUR 50bn.

A deeper analysis of the composition of HQLA and net outflows provides more insights into the drivers of the changes in HQLAs and net outflows. Figure 5, Figure 6 and Figure 7 show the evolution of such composition between December 2023 and June 2024.

The slight increase in net cash outflows in p.p. of assets was driven by an increase in gross outflows from 16.50% to 17.44% which was higher than the increase in gross inflows from 4.57% to 5.18% between December 2023 and June 2024 (Figure 6). Therefore, net outflows increased from 11.93% to 12.25% between December 2023 and June 2024. This increase in gross outflows in p.p. of assets between December 2023 and June 2024 was mainly driven by non-operational deposits, other outflows and secured funding (Figure 5). The pre-weight amount of excess operational deposits declined by 14% in the first half of 2024, while pre-weight amount for operational deposits and retail deposits declined by 10% and 2%, respectively.

Such a decline in outflows from deposits is explained by the increase in retail deposits that are exempted from the calculation of outflows, which increased by 17% in the first half of 2024. The pre-weight amount of outflows from non-operational deposits and other outflows increased during the period. The market volatility of April 2024 that came after the publication of the weaker-than-expected U.S. first-quarter GDP data resulted in a fall in asset prices and an increase in volatility. Under that environment, the increase in outflows from derivatives (included in 'other outflows') reflects a decline in market values due to elevated volatility.

Figure 5: Evolution of the composition of cash outflows (post-weight) relative to total assets — balanced sample
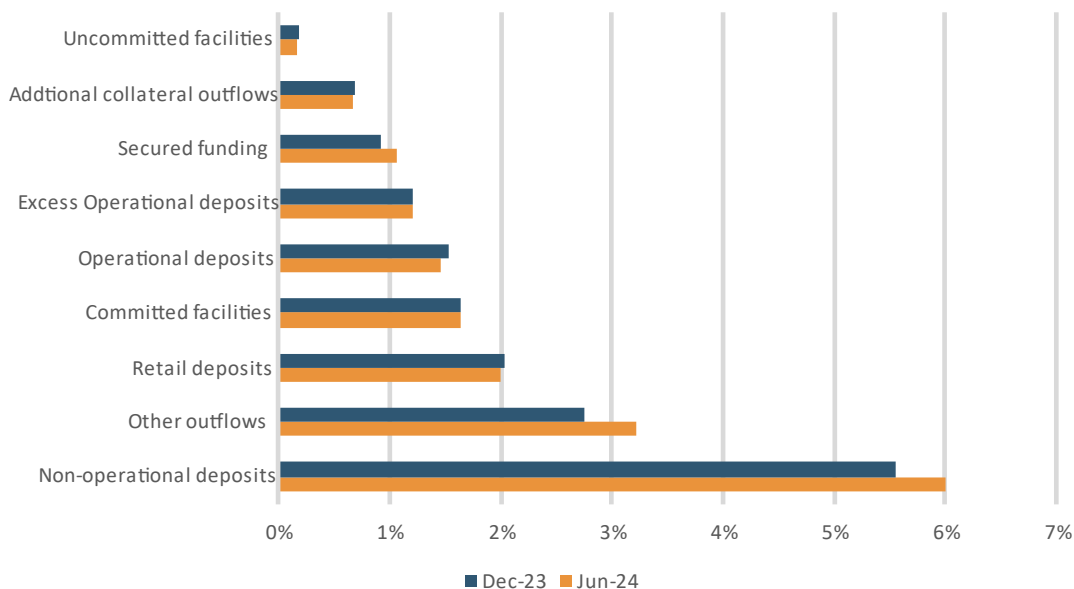
Source: Supervisory reporting and EBA calculations.

Figure 6: Evolution of the composition of cash inflows (post-weight and before cap) relative to total assets — balanced sample
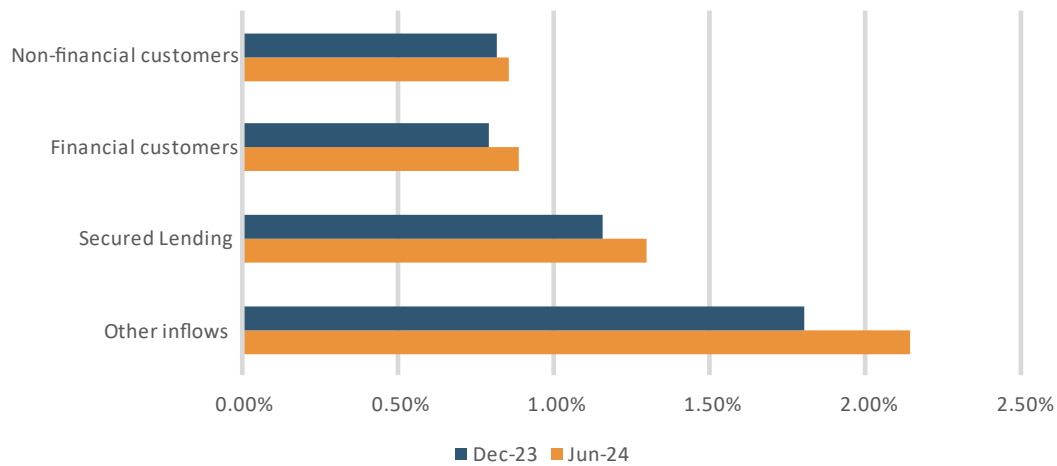
Source: Supervisory reporting and EBA calculations.

Figure 7: Evolution of the composition of liquid assets (post-weight and before the cap) relative to total assets — balanced sample
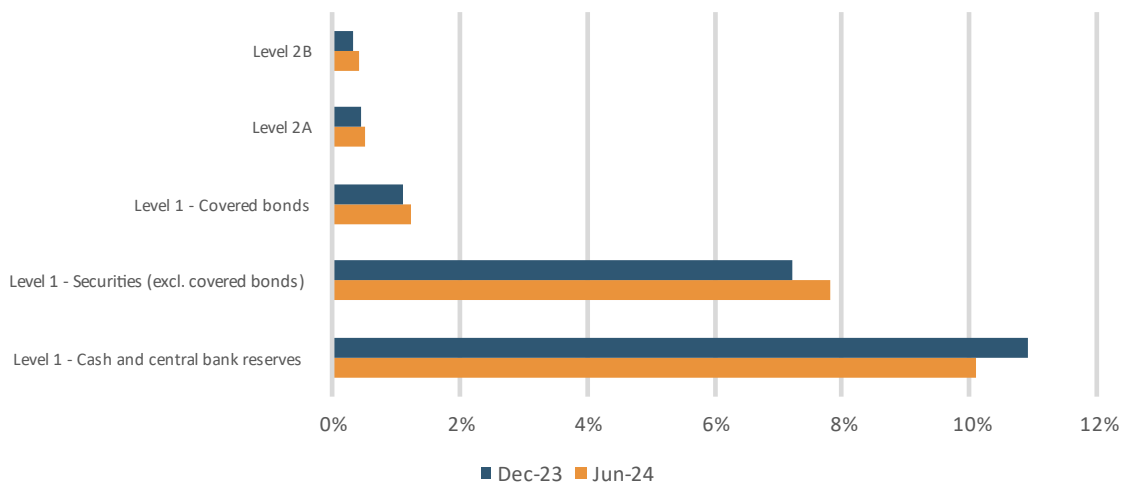
Source: Supervisory reporting and EBA calculations.

Liquid assets increased between December 2023 and June 2024 (liquid assets represented 20% of total assets as of December 2023 and 20.06% as of June 2024). The increase arises mainly from the securities component, followed by Level 1 covered bonds and Level 2 assets. Cash and central bank reserves declined mainly due to the gradual decline of central bank reserves.

Banks in the euro area are replacing the TLTRO funding with market-based funding such as covered bonds which is also corroborated by the fact that in 2023 the issuance activity of covered bonds

reached the highest level in more than a decade (Figure **8**). Banks are also the largest investors in covered bonds which count as L2 HQLA assets.

Figure 8: Covered bond issuance volumes, 2011-2023
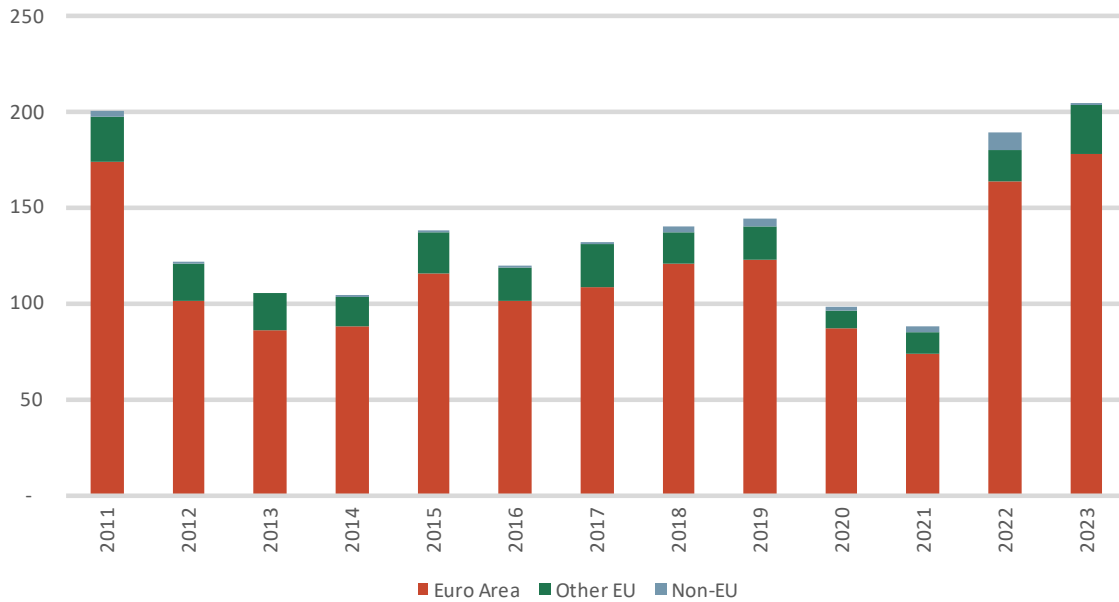
Source: Dealogic and EBA calculations.

The increase in the securities component is attributed to the sovereign portfolio which increased three times more than the covered bonds portfolio (Figure 9). For euro area banks, the repayments of TLTROs released large amounts of sovereign collateral into the HQLA portfolios.

Figure 9: Evolution of the composition of liquid assets (post-weight and before the cap) relative to total assets
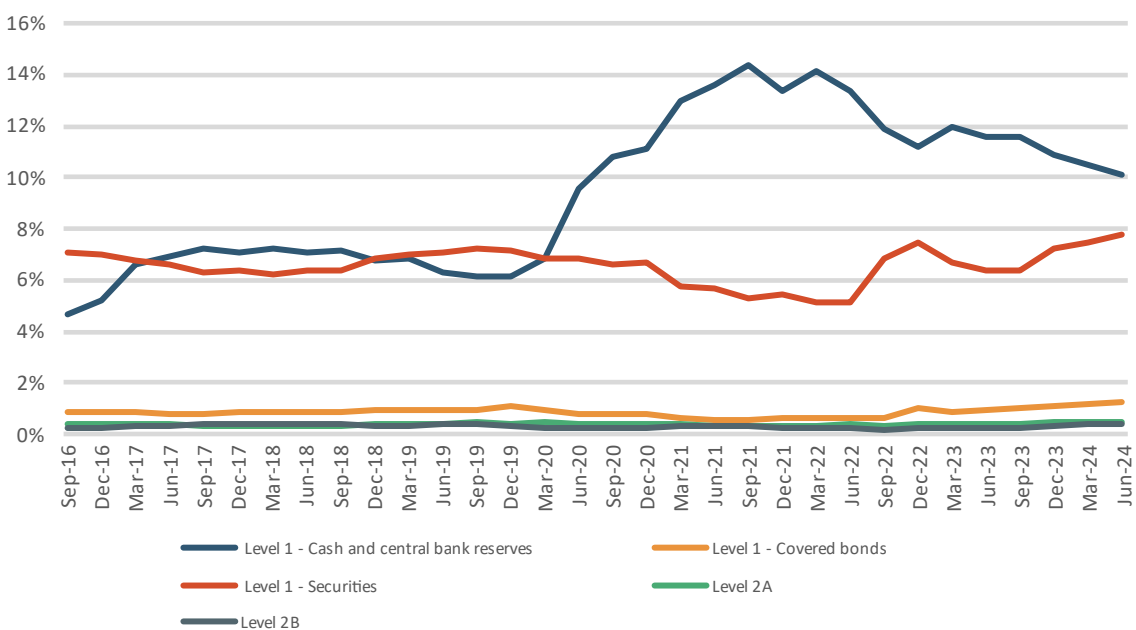
Source: Supervisory reporting and EBA calculations.

Cash and reserves declined by 0.81% on average in the first half of 2024. This was mainly explained by the drop in central bank reserves, which has been progressively declining since the maximum level observed in September 2021. The TLTRO repayments and the removal of excess liquidity by central banks have pushed down banks' central bank reserves. The specific impact of TLTRO repayments done in the second half of 2023 and in the first half of 2024 in the main liquidity metrics of Euro area banks is addressed in Box 2 below.

Box 2: The impact of the TLTRO repayments made between June 2023 and June 2024 on the liquidity profile of Euro area banks

Based on consolidated data as of June 2024, euro area banks reported EUR 197bn of remaining balances of TLTRO funding, down from EUR 622bn as of June 2023. The decline in the banks' holdings of EUR 424bn is explained by the repayment of TLTRO loans by 126 banks out of the 138 which reported positive TLTRO holdings as of June 2023. According to the consolidated balance sheet of the Eurosystem, Euro area banks repaid around EUR 200bn during the second half of 2023 and EUR 249bn during the first half of 2024. This box monitors the main liquidity metrics of the banks with outstanding TLTRO balances as of June 2024 and discusses the distribution of the remaining TLTRO balances across the banks after the latest repayment round.

While the outstanding amount of TLTRO loans declined significantly between June 2023 and June 2024, the number of banks with outstanding balances declined only moderately (100 banks as of June 2024 versus 140 banks as of June 2023). For the banks with remaining TLTRO balances, this type of funding represents on average 0.87% of total assets as of end-2024Q2 (down from 2.48% as of 2023Q2), however 14 banks show TLTRO balances in excess of 5% of their total assets.

In absolute amounts, the bulk of the TLTRO repayments in June 2024 were made by large euro area banks. However, in p.p. of assets, medium-sized banks and small banks showed the biggest reductions in their TLTRO balances compared to large banks. In absolute amounts, large banks are the major holders of TLTRO loans but in percentage of assets medium-sized banks have the biggest holdings: at the end of 2024Q2, the outstanding TLTRO amount represented 0.75% of total assets on average (0.68% of total assets for large banks, 1.82% for medium-sized banks and 0.65% for small banks).

As regards the LCR, the June 2024 repayment of TLTRO funds resulted in a negative impact of -4 p.p. for the affected banks, while non-TLTRO banks increased their LCR by 0.64 p.p. Over the same period, for the full sample of euro area banks the LCR declined by -3.71 p.p., which is explained by the high share of banks with positive TLTRO balances in the sample. Despite this decline, the LCR remains high for euro area banks at 164.58% (156.71% for banks with TLTRO funds and 229.77% for non-TLTRO banks).

Figure 10: LCR ratios for the total sample of euro area banks, for TLTRO banks and for non-TLTRO banks (left panel), as well as outstanding TLTRO amounts in percentage of total assets by size category (right panel).
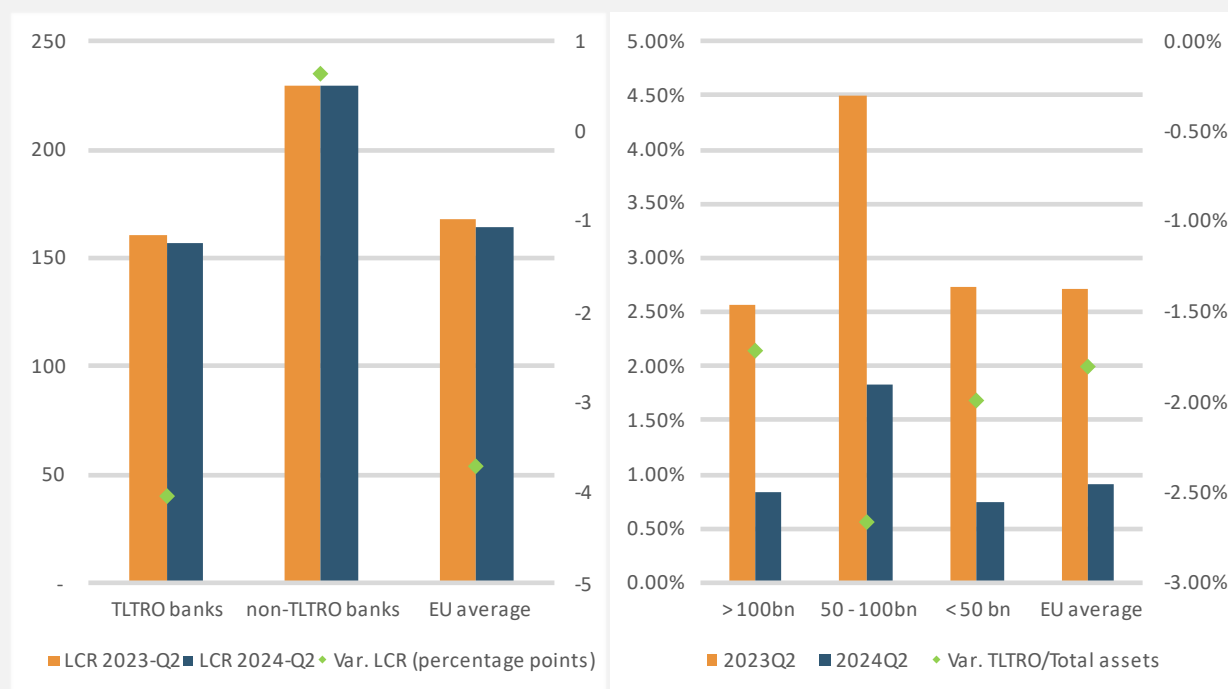
Sources: COREP and EBA calculations. Non-TLTRO banks are those without TLTRO balances as of 2024Q2.

As of June 2024, the share of liquid assets of total assets amounts to 19.2% for TLTRO banks and to 21.6% for non-TLTRO banks. The share of liquid assets increased for the two groups of banks, but non-TLTRO banks showed a higher increase because their lower decline in cash and central bank reserves. TLTRO banks increased their liquidity because the decline in cash and central bank reserves was compensated by an increase in Level 1 sovereigns. The increase in Level 1 sovereigns for TLTRO banks is three times the increase observed for non-TLTRO banks, explained by the freed-up collateral after the TLTRO repayments.

As mentioned above, the increase in liquid assets for TLTRO banks was lower than the increase observed for non-TLTRO banks. In the period 2023Q2-2024Q2, TLTRO banks increased liquid assets by 1.4%, while non-TLTRO banks increased by 1.6%. However, TLTRO banks increased net outflows by 4% in the same period, well above the increase observed for non-TLTRO banks (1.3%). For this reason, the LCR for TLTRO banks showed a decline of 4 p.p. while the LCR for non-TLTRO increased 0.61 p.p.

Figure 11: Composition of liquid assets for TLTRO banks (left) and non-TLTRO banks (right), percentage of total assets, June 2024.
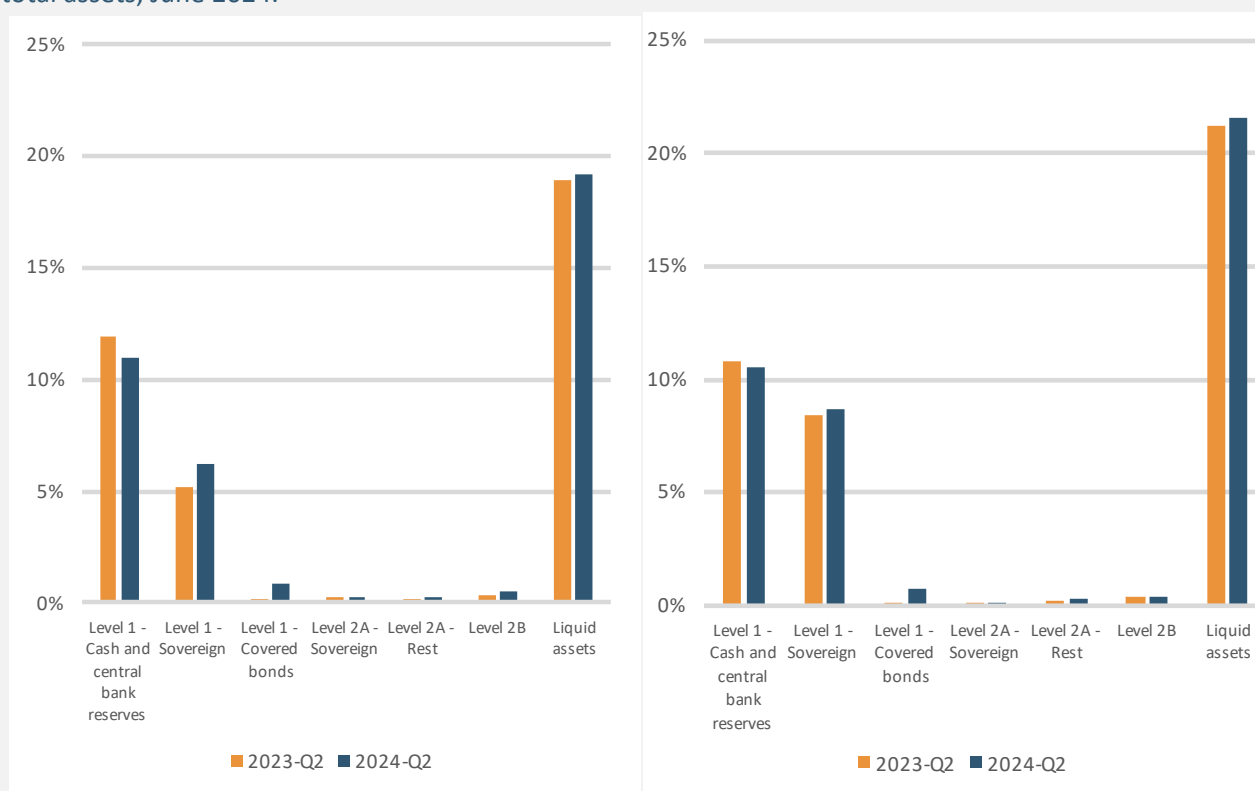
Sources: COREP and EBA calculations.

The current strong liquidity position of euro area banks has allowed them to repay their TLTRO loans thus far without recourse to market-based funding. Although part of the TLTRO repayment has been done with cash and central bank reserves, banks did recourse to other assets because cash and central banks declined 0.97% of total assets while TLTRO balances declined 1.8% of total assets. As outlined by the ECB Financial Stability report of May 2024,[12] banks also reduced loans on demand and did not solely rely on excess reserves to meet their TLTRO repayments.

In conclusion, given the still high levels of Level 1 cash and central bank reserves, for the remaining repayments most banks can continue to draw down their reserves without any risk of jeopardising their liquidity coverage.

Although EU/EEA banks continued to show strong LCR levels in the first half of 2024, an extension of the current trend of declining high quality liquid assets such as cash and central bank reserves, together with a possible increasing trend of outflows, would exert further downward pressure on LCR levels. In particular, as mentioned in the box above, some individual banks with large remaining TLTRO balances also show lower LCRs than the rest of the sample.

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[12] ECB Financial Stability Report May 2024

Figure 12 shows the interaction between HQLA and net liquidity outflows at the individual bank level. The measures are expressed as shares of total assets. The 45° line indicates equality between HQLA and net liquidity outflows, i.e. the situation where the LCR is at 100%.

Similarly to previous findings,[13] as of June 2024, most banks in the sample are located above the line, suggesting that they still have LCR levels that are adequately above the minimum requirement despite the decreasing trend. As observed in Figure 2, the LCR of other banks is well above the LCR of G-SIIs and O-SIIs. On the other hand, also the number of banks that may face difficulties in the future to comply with the minimum requirement is higher in the group of other banks than in the group of systemic banks (Figure 12). While 98% of G-SIIs and O-SIIs have HQLA above 10% of assets, that proportion is lower for the other banks category (89%). Regarding net liquidity outflows, the proportion of banks with net liquidity outflows above 20% of total assets is similar for G-SIIs and O-SIIs (11%) compared to other banks (11%).

Figure 12: HQLA and net liquidity outflows (as a share of total assets) by group of banks (as of June 2024), G-SIIs and O-SIIs (left) and other banks (right), June 2024
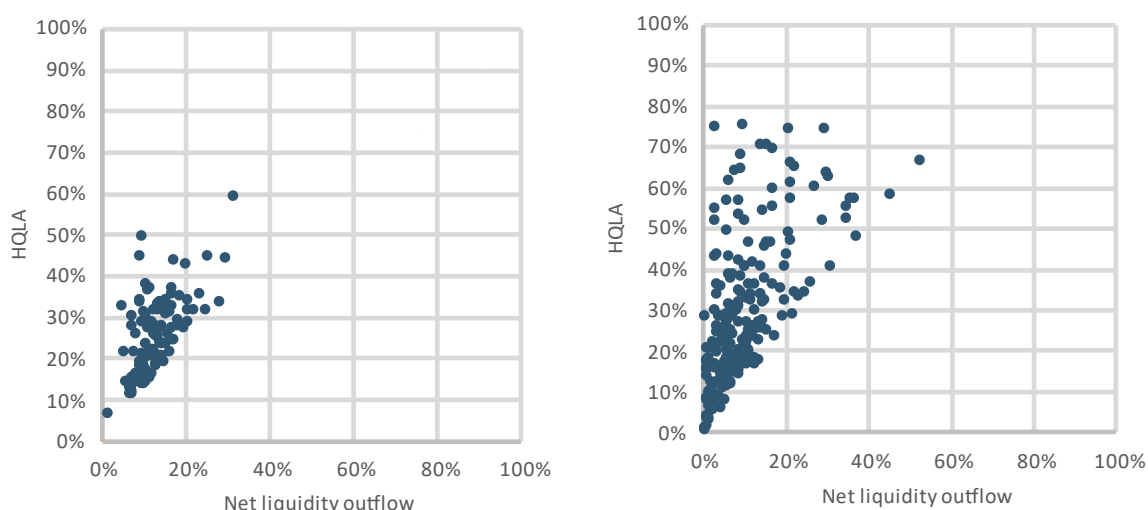
Sources: Supervisory reporting and EBA calculations.

With data as of June 2024, EU/EEA banks do not record any liquidity shortfall.[14] Based on the fully loaded LCR minimum requirement (100%), the shortfall has declined from over EUR 27 billion in September 2016 to no shortfall since June 2020 for a balanced sample of banks. Consequently, the number of banks with an LCR below 100% also declined, from eight in September 2016 to no bank with a shortfall since June 2020.

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[13] See EBA Report on liquidity measures under Art. 509(1) of the CRR (4A2022/2Q2023 Reference date) and EBA Report on liquidity measures (4Q2020/2Q2021 Reference date).

[14] The shortfall calculated in this report is the sum of differences between the net liquidity outflows and the stock of HQLAs for all banks with an LCR below the minimum requirement. The calculation of shortfall does not account for the offsetting effect of the aggregate surplus arising from those banks that already meet or exceed the minimum requirement. Therefore, no reallocation of liquidity between individual banks or within the banking system is assumed.

The analysis of the weighted average LCR levels across countries highlights some differences across member states (Figure 13). Half of the countries showed average LCR levels between 100% and 200% as of June 2023, while the rest were above. Some countries present extremely high average LCR levels – including Lithuania, [15] Cyprus, Czech Republic, Bulgaria, Malta and Portugal; with weighted average ratios at or above 300%. Countries with LCR above 300% are those with the presence of big outliers in their sample, evidenced by the distance between the 95th percentile and the median, which is above 100% for five of these countries and close to 100% for the remaining one. Slovenia, Poland, Estonia, Denmark, Lichtenstein and Greece, all have average ratios higher than 200%. No country presents average LCR levels lower than 100%.

Figure 13: LCR across countries — balanced sample
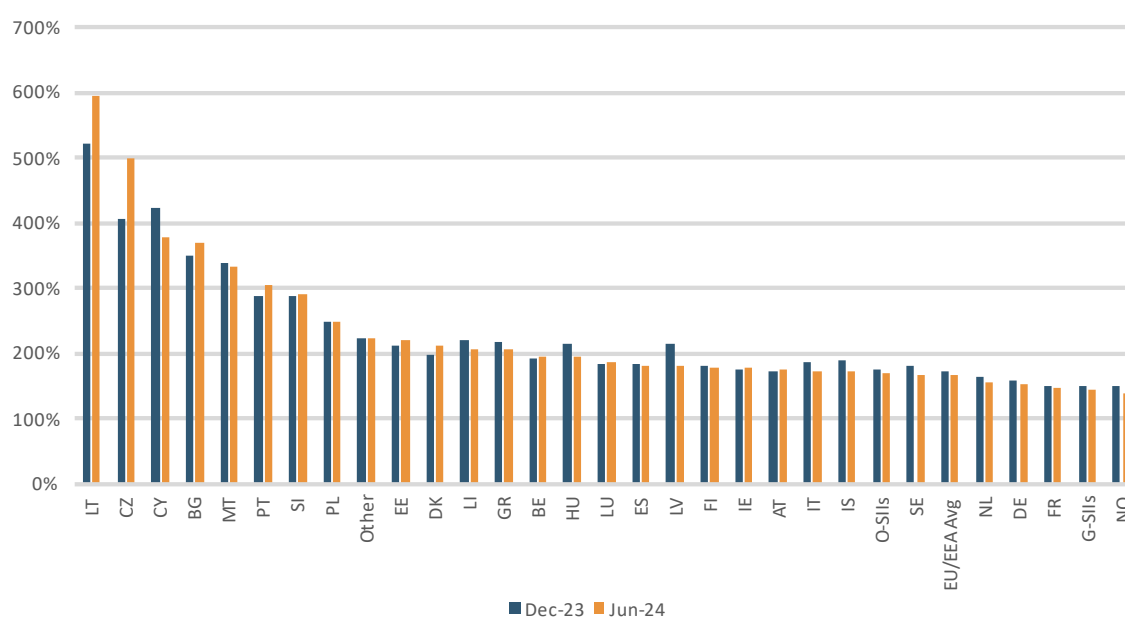
Source: Supervisory reporting and EBA calculations.

Differences can also be found when looking at the LCR evolution by country between December 2023 and June 2024. Out of 29[16] countries, 17 showed a decrease in their average LCR ratios, following the tendency also seen at the aggregate level. The most significant decreases are observed in CY, LV, HU, IS, SE, LI, IT, NO and GR, whose LCR showed declines by more than 10%. These declines are well-above the EU/EEA average, for which the average LCR declined by 4% in the reference period. In the opposite side, the most significant increases are observed in CZ, LT, BG, PT, DK, SK, where the average LCRs increased by more than 10%.

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[15] The high LCR observed for Lithuania as of June 2023 is caused by an outlier bank. Excluding the outlier bank from the sample of LT banks, the average LCR for LT would be below 300%.

[16] 27 EU Member States and 2 European Economic Area / European Free Trade Association states were included in the analysis. No country results are shown for Iceland, Croatia and Slovakia, as fewer than 3 banks reported data for the two reference dates shown in the analysis.

Figure 14: LCR dispersion across countries — balanced sample, percentage
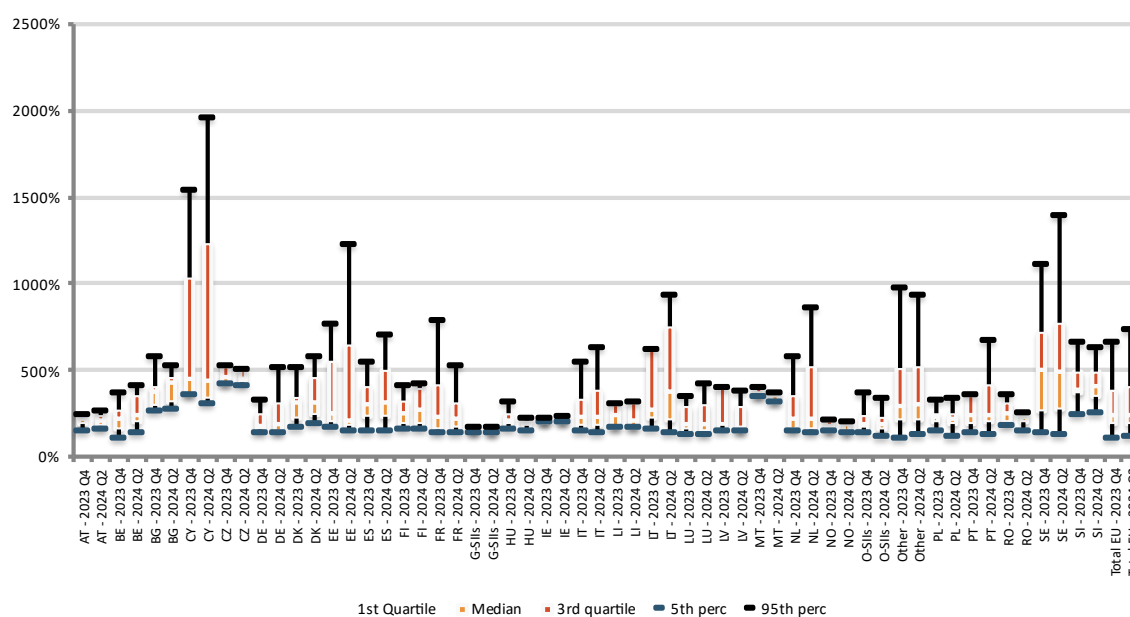
Source: Supervisory reporting and EBA calculations.

Figure 14 shows the dispersion of the LCR across countries.[17] The figure shows that there can be significant dispersion in the banks' LCR levels even within countries. As of June 2024, Lithuania and Czech Republic are the countries with the highest difference between the weighted average of the LCR and the first quartile, driven by two banks with LCR above 500% in the case of Czech Republic and by two banks with LCR above 900% in the case of Lithuania. However, the highest dispersion (difference between the 95th percentile and the first quartile) is observed for Cyprus and Sweden, driven by a bank with a LCR of almost 2000% in the case of Cyprus and four banks with LCR above 900% in the case of Sweden. In 9 out of 27 countries, the weighted average is close to or below the 25th percentile, meaning that larger banks within these jurisdictions have lower-than-average LCRs.

Composition of liquid assets

Regulation differentiates between assets of extremely high liquidity and credit quality (Level 1 assets) and assets of high liquidity and credit quality (Level 2 assets). Level 1 assets may comprise, *inter alia*, cash and central bank reserves, as well as securities in the form of assets representing claims on or guaranteed by central or regional governments, local authorities or public sector entities. The EU regulation, unlike the Basel III framework, also considers promotional banks' assets as being in the Level 1 liquidity buffer. In addition, it provides for greater recognition of extremely high-quality covered bonds (EHQCBs), which may be included in Level 1 assets (unlike the Basel III framework).

Level 2 assets are divided into Level 2A and Level 2B assets. Level 2A assets are considered to be more liquid than Level 2B assets and, therefore, are subject to lower haircuts. The EU framework

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[17] A percentile is the value of a variable below which a certain percentage of observations fall. For example, the 25th percentile is the value below which 25% of the observations are found.

allows Level 2 assets to include exposures in the form of high-quality covered bonds (HQCBs), certain non-residential mortgage-backed securities, as well as units or shares in collective investment undertakings.

Figure 15 shows the composition of liquid assets as a share of total assets by country as of June 2024. The bulk of liquidity buffers consists of Level 1 assets in the form of cash and central bank reserves, which still represents more than half of the liquid assets, but with a decreasing trend. In the first half of 2024, Level 1 cash and central bank reserves showed a decline of 0.81%.

Overall, the average liquidity buffer (before the application of the cap on liquid assets) is approximately 20.1% of total assets for all banks (19% for G-SIIs and O-SIIs and 26.5% for other banks). In the first half of 2024, the liquidity buffer increased because the decline in cash and central bank reserves was compensated by a strong increase in Level 1 sovereigns. The two groups of banks (G-SIIs and O-SIIs and other banks) followed that pattern, but in the case of other banks the increase in Level 1 sovereigns was higher than the decline in Level 1 cash and central bank reserves. Therefore, the increase in the liquidity buffer in the EU mainly comes from other banks.

Article 17 of the LCR DR sets the minimum requirements for the composition of the liquidity buffer by asset category. A minimum of 30% of the liquidity buffer is to be composed of Level 1 assets, excluding EHQCBs. Aggregate Level 2 assets should not account for more than 40%, and Level 2B assets should not account for more than 15% of a bank's total stock of HQLAs.

The composition of the liquid assets depends largely on the business models of the institutions and also reflects differences across EU countries. While liquidity buffers comprise mainly Level 1 assets in all countries, banks in 12 countries have a share of cash and central bank reserves above 50% of liquid assets; while banks in 14 countries rely on Level 1 securities (excluding covered bonds).

On average, Lithuania, Estonia and Ireland are the countries with a larger share of cash and central bank reserves in their total liquidity buffer (86%, 79% and 73% of the total liquidity buffer, respectively), whereas Poland and Czech Republic have the highest share of Level 1 securities (96% and 93%, respectively of the total liquidity buffer). Covered bonds contribute significantly to the liquidity buffer in Denmark (45% of the total liquidity buffer), Finland (26%), Sweden (16%) and Norway (14%).

Figure 15: Composition of liquid assets (post-weight and before the cap) relative to total assets (as of June 2024)
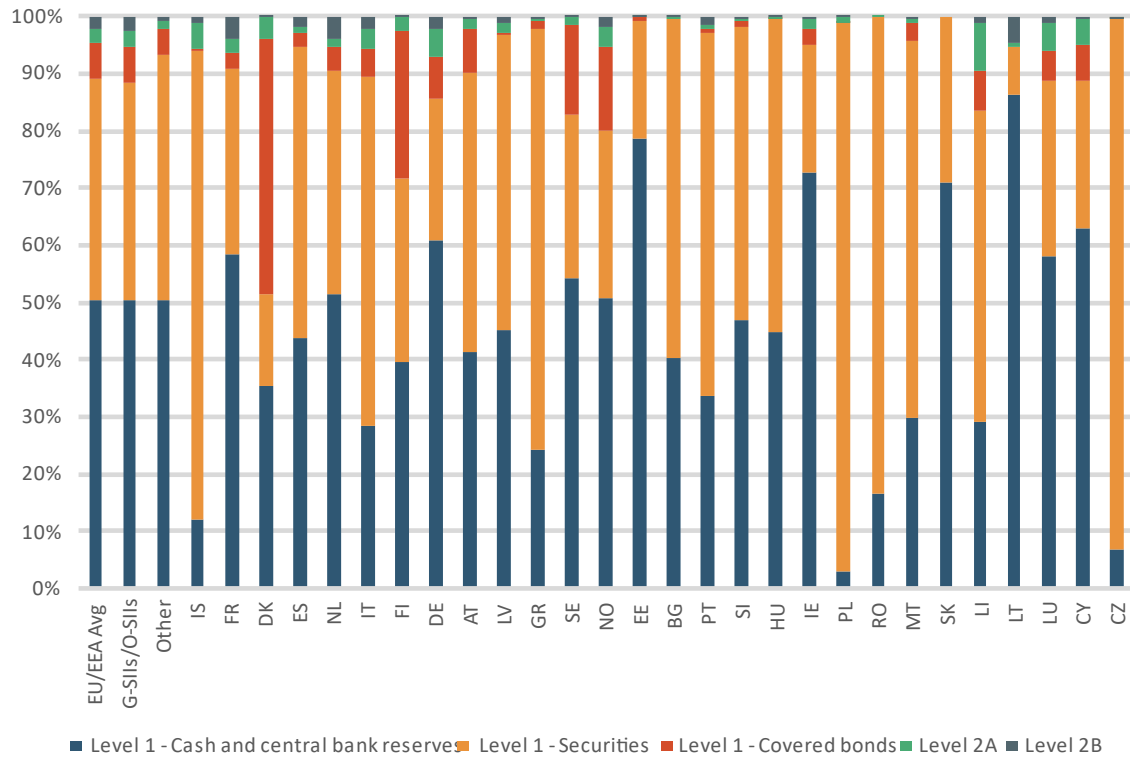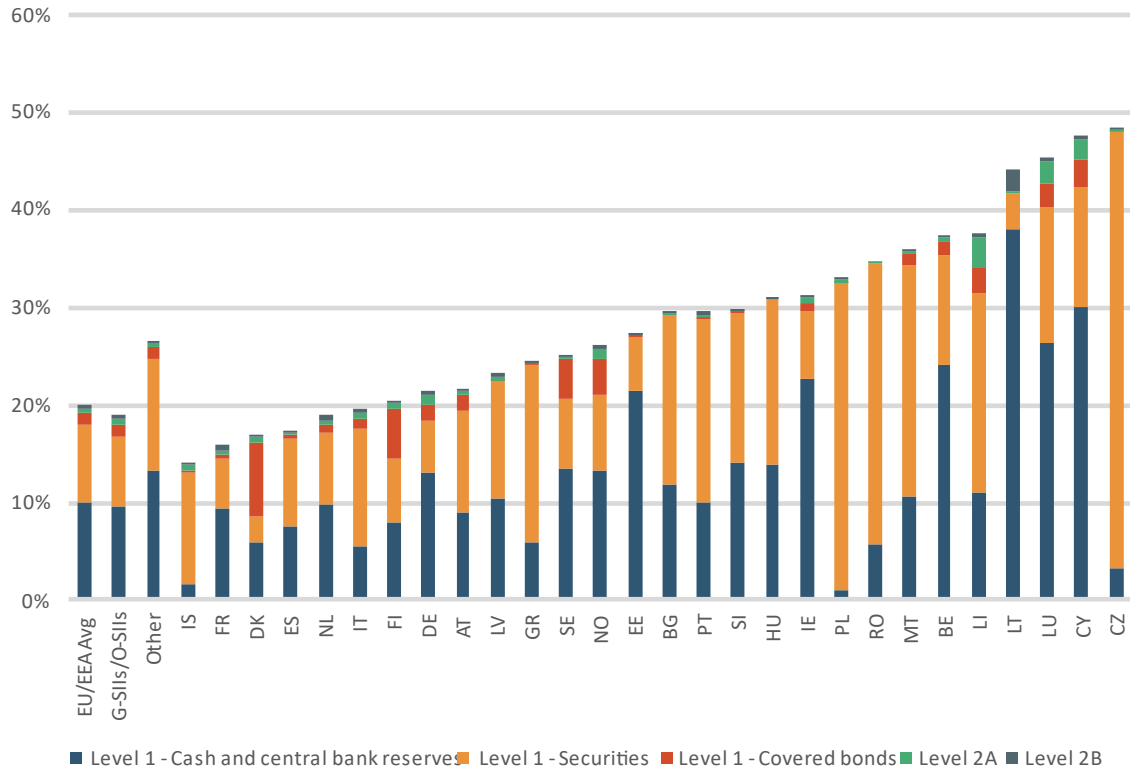
Source: Supervisory reporting and EBA calculations.

Box 3: Interactions between non-standard monetary policy measures and the LCR liquidity buffer

Monetary policy decisions have direct impact on banks' liquidity buffers. This is because liquidity provided by central banks is commonly held in the form of exposures to central banks (withdrawable central bank reserves or other assets representing claims on or guaranteed by central banks), which are currently one of the key components of banks' liquidity buffers.

The evolution of liquidity buffers since 2015 has been influenced by the ECB's targeted longer-term refinancing operations (TLTROs, for euro area banks) and the asset purchase programmes carried out by several EU central banks.[18][19]

More recently, banks' liquidity buffers have increased but the composition between central bank assets and other liquid assets has changed.

After the pandemic-era purchase programmes, central bank assets started to decline in the second half of 2023 progressively until June 2024. This decline in central bank assets is explained by the TLTRO repayments by euro area banks in the second half of 2023 and the first half of 2024, as well as the quantitative tightening of the EU central banks. In particular, banks reduced significantly their holdings of central bank reserves and increased Level 1 sovereigns, Level 1 covered bonds and Level 2 assets, in particular in the form of Level 1 sovereigns (Figure **16**).

Figure 16: Evolution EU/EEA banks' liquidity buffer
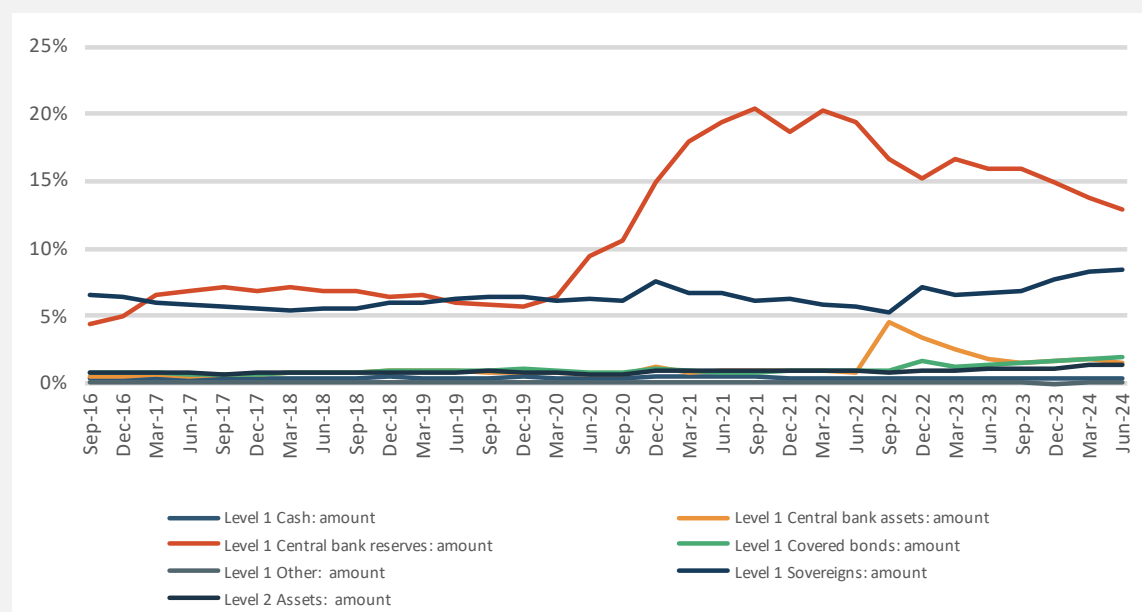
Source: Supervisory reporting and EBA calculations.

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[18] The proceeds of the central bank asset purchases add to the banks' liquidity buffers insofar as the central bank acquires the assets from the banks. However, in QE operations the central banks are not restricted to the use of banks as counterparties but can purchase assets from a broader set of counterparties. However, even these counterparties tend to deposit the proceeds from the central bank QE purchases in the banks, thus adding to the banks' liquidity position.
[19] https://www.ecb.europa.eu/press/pr/date/2023/html/ecb.mp230615~d34cddb4c6.en.html.

Banks' central banks assets were boosted with the ECB's pandemic emergency purchase programme (PEPP) launched in March 2020 that were targeted to assets issued by both the public and the private sector. Also, the ECB enhanced the conditions of the TLTRO-3[20] programme and in operations between September 2019 until December 2021, euro area banks took up a total of EUR 2,339 bn of TLTRO-3 funds. This additional central bank funding explains the increase in the contribution to the LCRs of central bank assets and exposures from December 2019 to December 2021. In September 2022, the ECB lifted the deposit facility rate to 0.75%. This tightening pushed down euro area central bank reserves since September 2022 until the end of the year.

In the first half of 2023, central bank assets and exposures dropped by 3% for the total sample (3% for G-SIIs and O-SIIs and 9% for other banks), while other liquid assets dropped by 1% (2% for G-SIIs and O-SIIs and 0.3% for other banks).

In the second half of 2023, with the quantitative tightening already in train and an additional TLTRO repayments taking place, central bank assets and exposures dropped by 8% for the total sample (8% for G-SIIs and O-SIIs while increased 2% for other banks), while other liquid assets increased by 13% (14% for G-SIIs and O-SIIs and 4% for other banks). It should be recalled that TLTRO funds are secured borrowing and repayment of these funds releases collateral that can be used by banks to replace central banks reserves in the HQLA portfolios.

Finally, in the first half of 2024, central bank assets and exposures dropped by 8% for the total sample (9% for G-SIIs and O-SIIs while increased 3% for other banks), while other liquid assets increased by 15% (15% for G-SIIs and O-SIIs and 13% for other banks).

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[20] The Governing Council's decisions of 12 March and 30 April 2020 have secured the transmission of monetary policy via banks at times of elevated uncertainty and high liquidity needs by expanding banks' borrowing allowance under TLTRO III from 30% to 50% of the eligible loan book (providing an additional leeway of approximately €1.2 trillion) and reducing the interest rate applied on these operations to a rate as low as -1% until June 2021 for banks fulfilling the lending requirements.

Figure 17: Evolution of central bank assets and exposures over time (EUR billion) — total sample (above) and G-SIIs and O-SIIs (below).
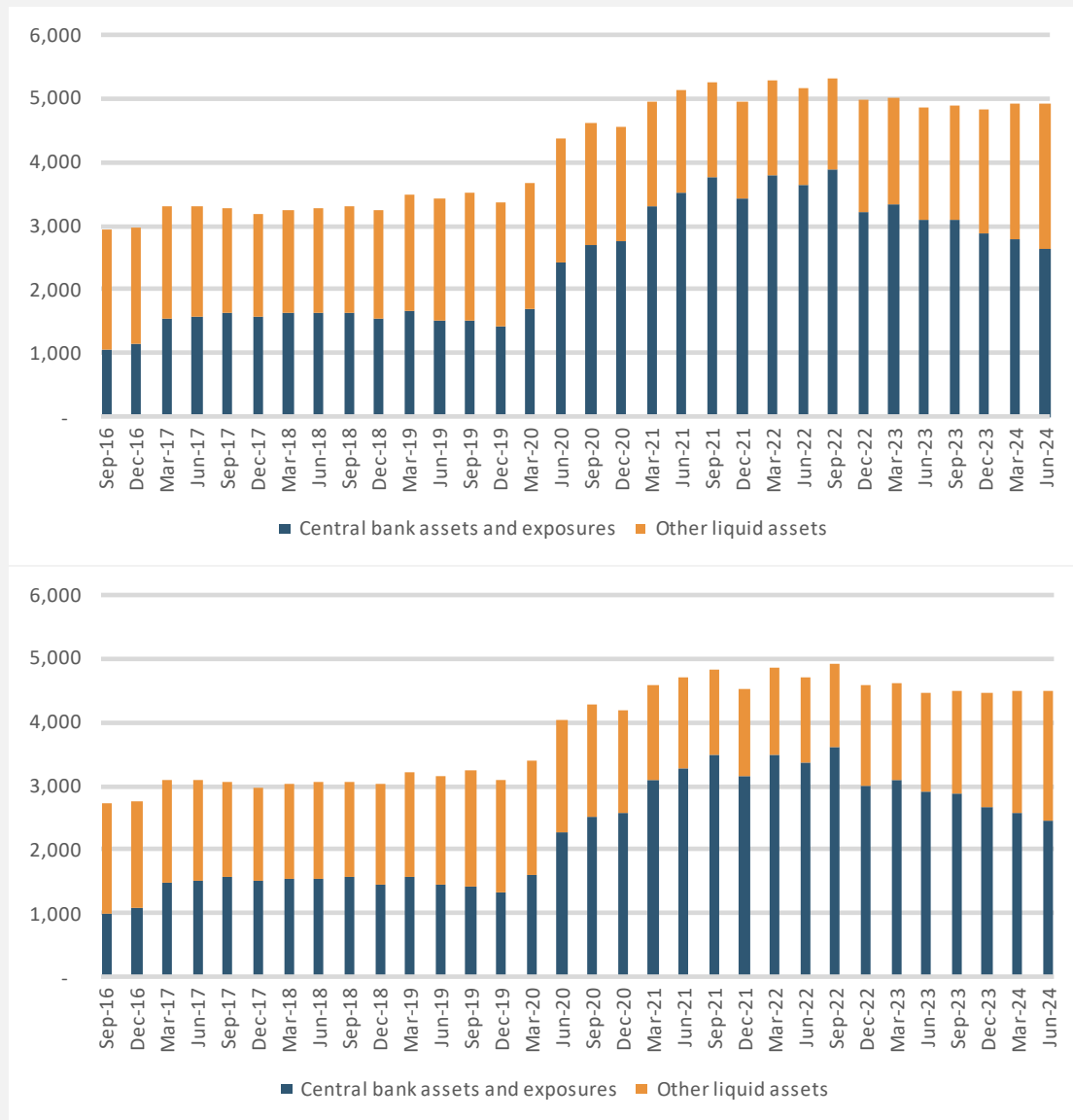
Source: Supervisory reporting and EBA calculations.

Figure 18: Evolution of central bank assets and exposures over time (EUR billion) — other banks
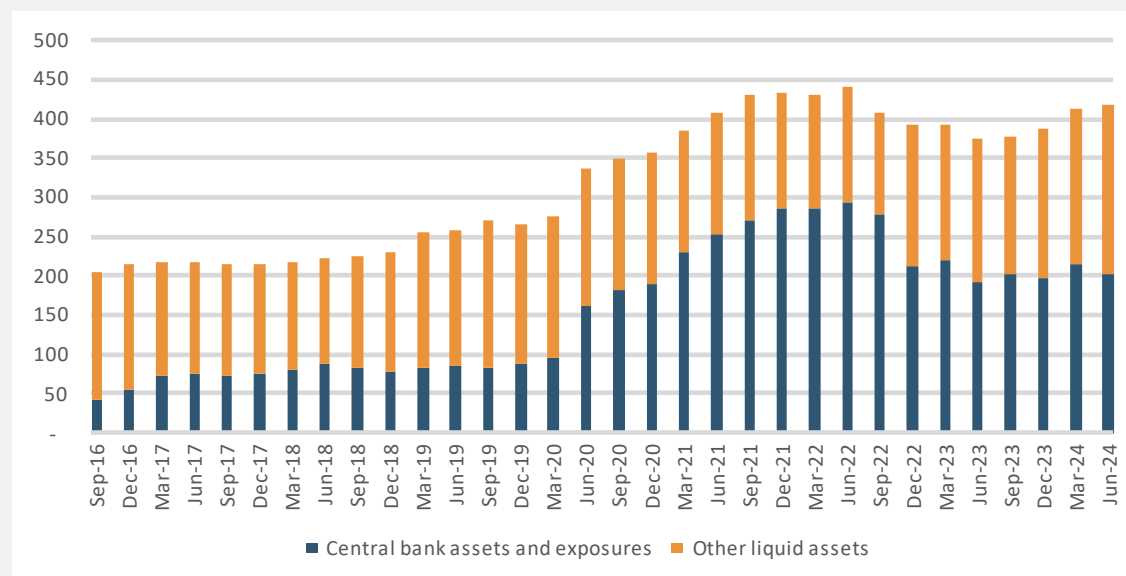
Source: Supervisory reporting and EBA calculations.

Repayments in central bank credit operations, in particular from TLTRO III in the euro area, reduced the amount of central bank reserves in the system and had a negative effect on banks' LCR. The biggest share of TLTRO-3 matured in 2023. As discussed in detail in the box analysing the repayments of the second half of 2023 and in the first half of 2024, when paying back the TLTRO-3 loans most banks drew on their LCR eligible deposits, including deposits at central banks, without fully replacing the TLTRO-3 loans by market-based funding. This was already forecast in banks' funding plans, as they only envisaged a partial substitution for market-based and deposit funding. Also, banks' funding plans envisaged a declining LCR, which actually occurred particularly for banks with outstanding amounts of TLTRO as of 2023Q4.

Apart from the TLTRO repayment, central bank assets declined because of the quantitative tightening undertaken by the EU central banks. In December 2022, the ECB announced the start of the unwinding of its portfolio of assets purchased since 2015. Thus, the ECB reduced its holdings by EUR 15 billion per month between March and June 2023. In addition, the Swedish Riksbank has continued the outright sales of securities out of its QE portfolio. Under this scenario, banks would have to modify their funding strategies and, where necessary, the composition of their HQLAs in order to retain their liquidity buffers and to comply with the required composition of HQLA assets.

Composition of outflows and inflows

Net liquidity outflows are defined as the difference between gross liquidity outflows and gross liquidity inflows and are required to be positive.[21] Liquidity outflows are calculated by multiplying the outstanding balances of various categories or types of liabilities and off-balance-sheet commitments by the rates at which they are expected to run off or be drawn down.[22] Liquidity inflows are assessed over a period of 30 calendar days. They comprise only contractual inflows from exposures that are not past due and for which banks have no reason to expect non-performance within 30 calendar days. To prevent banks from relying solely on anticipated liquidity inflows to meet their LCR, and to ensure a minimum level of liquid assets holdings, the amounts of inflows that can offset outflows is generally capped at 75% of total liquidity outflows.[23] However, unlike the Basel LCR standard, the EU LCR regulation provides certain exemptions to this cap, either full or partial, although these are subject to a prior approval by competent authorities[24] and require compliance with certain conditions established in the regulation. These include a potential exemption for intragroup and intra-institutional protection scheme flows as well as exemptions for banks that specialise in pass-through mortgage lending or in leasing and factoring businesses. In addition, banks that specialise in financing the acquisition of motor vehicles or in consumer credit loans may apply a higher cap of 90%.

With data as of June 2024, the ratio of total liquidity outflows over total assets increased from June 2023. As of June 2024, on average, cash outflows (post-weight) represent approximately 17.25% (+0.21 p.p. since June 2023) of total assets of the banks in the sample. G-SIIs and O-SIIs present higher shares (17.52% as of June 2024, -0.21% since June 2023) than 'other banks' (15.69% as of June 2024, +3.05 p.p. since June 2022).

The increase in outflows is concentrated in non-operational deposits and other outflows. The share of outflows from retail deposits of total assets is similar for both groups of banks (around 2% of total assets). As expected, for both groups of banks (G-SIIs and O-SIIs and 'other banks'), the main component of the cash outflows is non-operational deposits (e.g. short-term deposits from financial and non-financial customers), which tend to have higher run-off rates compared to retail deposits and account for 7.5% of total assets for ´other banks´ and 5.8% of total assets for G-SIIs and O-SIIs. Excess operational deposits account for 1.1% for ´other banks´ and 1.2% for G-SIIs and O-SIIs. A similar composition of outflows is found when analysing results by country.

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[21] Article 20 of the LCR DR.

[22] Article 22(1) of the LCR DR.

[23] Article 33 of the LCR DR (with the approval of the competent authority, specialised credit banks may be subject to a cap of 90% on inflows, and these banks may be fully exempt from the cap on inflows if their main activity is leasing and factoring business).

[24] Article 33 of the LCR DR.

Figure 19 Composition of cash outflows (post-weight) relative to total assets (as of June 2024)
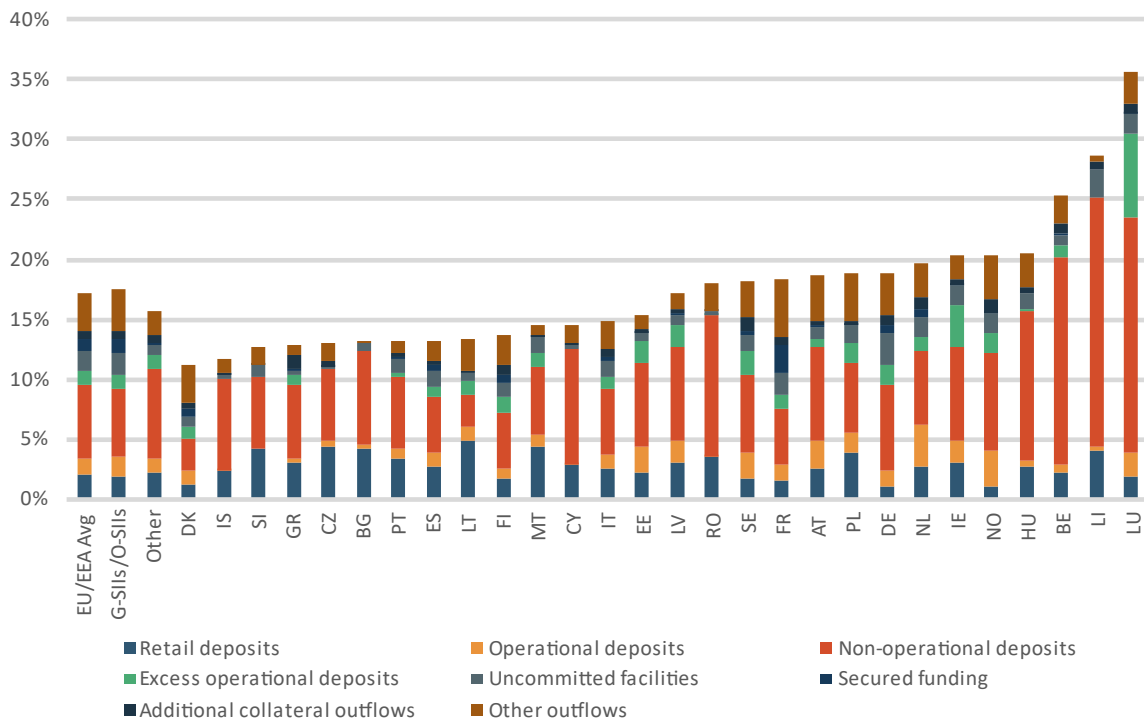
Furthermore, banks should take into account additional outflows that correspond to the collateral needs resulting from the impact of an adverse market scenario on banks' derivative transactions and other contracts, in case these are considered to be material.[25] The share of outflows from collateral swaps into total assets is around 0.7% for G-SIIs/O-SIIs and 0.6% for other banks.

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[25] Article 423(3) of the CRR and Article 30(3) of the LCR DR.

Figure 20: Composition of cash outflows (pre-weight) relative to total assets (as of June 2024)
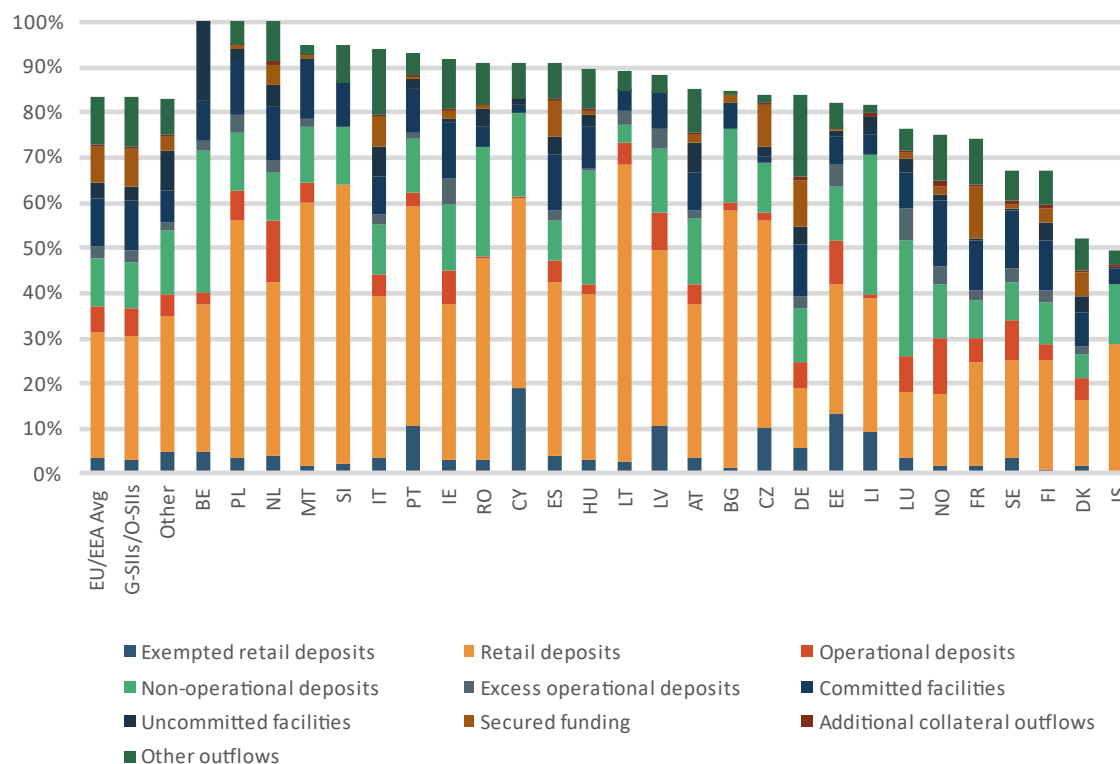
Source: Supervisory reporting and EBA calculations.

Figure 20Figure 20 shows the share of cash outflows (pre-weight) over total assets. As expected and due to the high haircuts applicable to this category of outflows, outflows from retail deposits become the category with the highest share over total assets before the application of weights (28% of the total assets as of June 2024). Deposits exempted from the calculation of LCR outflows represent 12.4% of the pre-weight amount of retail deposits (11.8% for G-SIIs/O-SIIs and 15.7% for other banks). The share of retail deposits exempted from the calculation of LCR outflows becomes

important in some countries like Cyprus (19% of total assets), Estonia (13% of total assets), Latvia (10.7% of total assets) and Portugal (10.6% of total assets).

Cash inflows relative to total assets are 5.2% (5.4% for G-SIIs and O-SIIs and 3.9% for other banks; Figure 21). The results by country show heterogeneity in the composition of inflows, with 13 countries showing a higher share of financial customer cash inflows, 4 countries showing a higher share of inflows from non-financial customers, 3 countries showing a higher share of inflows from secured lending and 9 countries showing a higher share of other inflows.

Figure 21: Composition of cash inflows (post-weight and before the cap) relative to total assets (as of June 2024)
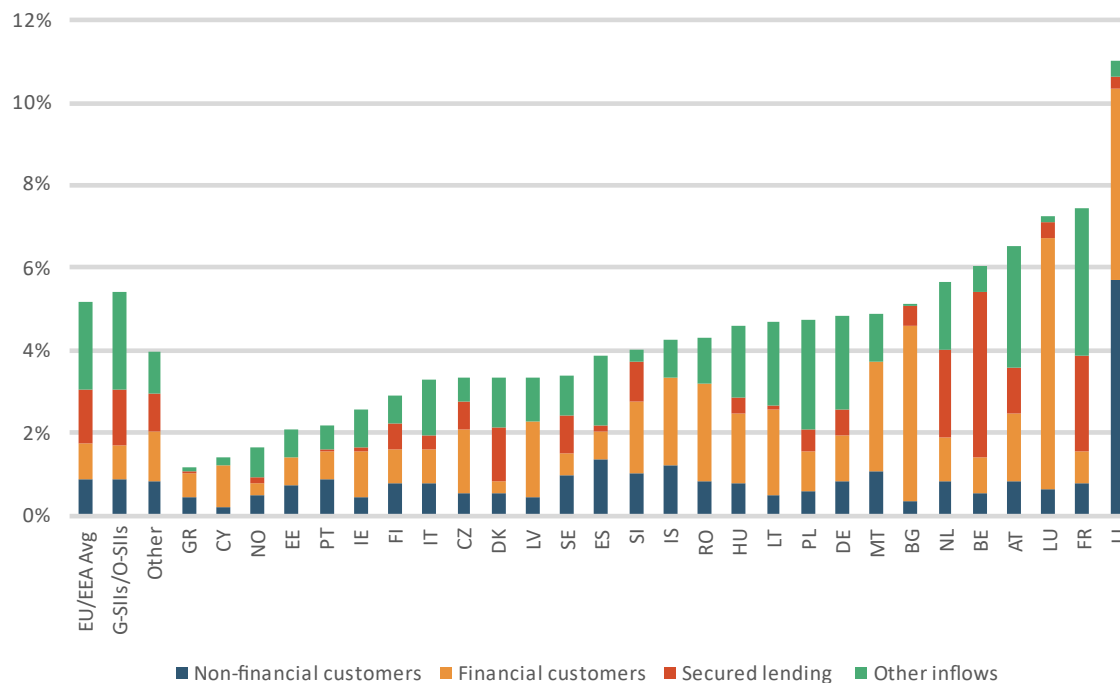
Source: Supervisory reporting and EBA calculations.

Figure 22 summarises the parameters of the LCR and shows the offsetting effect between outflows (indicated in blue) and inflows (indicated in orange) and then illustrates the extent to which the liquidity buffer exceeds the level of net liquidity outflows (portion above the dotted line).

The largest component reducing the LCR is outflows stemming from unsecured lending. This is in line with expectations, for two reasons. First, unsecured funding, especially non-operational deposits, constitutes a large part of banks' outflows. Second, the applicable outflow rates for these financial products are high. More specifically, outflows stemming from unsecured lending amount to around 11% of total assets. Within this category, non-operational deposits are the most important category (6% of total assets). Operational and retail deposits (which have lower run-off rates) account for only 3.47% of total assets (2% for retail deposits and 1.47% for operational deposits).

Figure 22: Dynamics of the liquidity buffer, outflows and inflows (as a share of total assets), June 2024
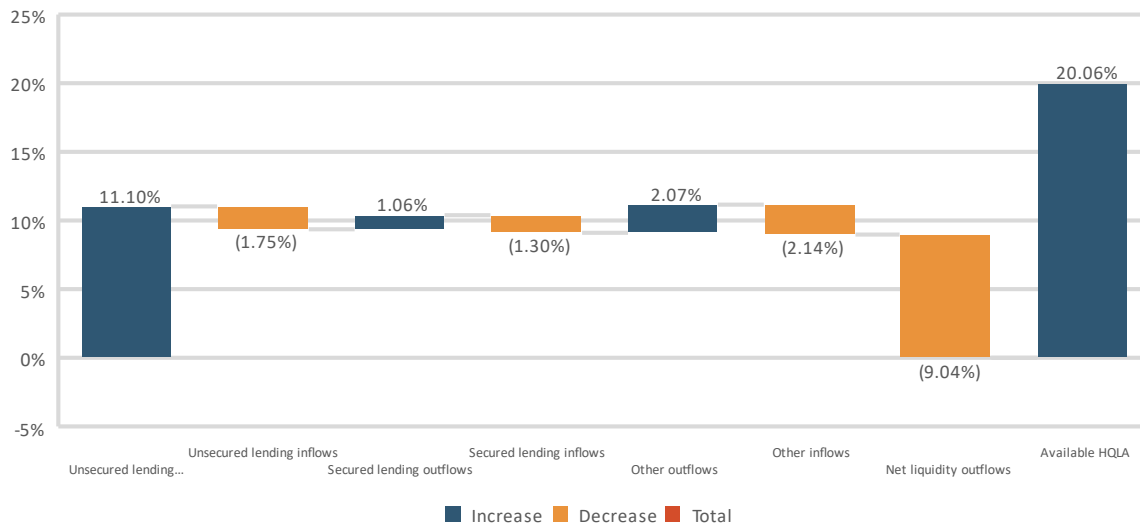
Source: Supervisory reporting and EBA calculations.

The low share of outflows from secured funding relative to total assets (1%) is driven by two aspects:

- Secured funding transactions that are conducted with the central banks receive a 0% outflow rate (irrespective of the liquidity quality of the underlying collateral), hence the column in Figure 22 for outflows from secured lending represents only secured transactions with counterparties in the interbank market.

- In addition, on average, most secured funding transactions that are conducted with other counterparties (and that fall into the LCR time horizon) are secured by liquid assets, and those transactions are subject to lower outflow rates (e.g. 0% outflow rate for secured funding transactions backed by Level 1 assets, and 15% outflow rate for secured funding transactions backed by Level 2A assets).

The final column represents the liquidity buffer that banks hold to meet their net liquidity outflows and also shows that banks hold, on average, a liquidity buffer of 20% of their total assets.

Analysis of the LCR by business model

The impact of the LCR may also differ depending on bank-specific business models, mostly because banks with different business models tend to follow different funding strategies. Therefore, the categorisation of banks by business model used in this report[26] also takes into account their specific funding structures. Table 1 indicates the main sources of funding that are generally used by banks under different business models, according to the aforementioned categorisation. Nevertheless, this list is not comprehensive and other sources of funding may be used by specific business models. Some of the business models defined in this report cannot be linked to any specific source of funding. If this is the case, the relevant row has been greyed out in Table 1.

Table 1: Main sources of funding by business model

Business model		Main sources of funding			
		Deposits from retail clients	Wholesale funding	Derivatives	Covered bonds
Universal banks	Cross-border universal banks	✓	✓	✓(+)	✗
	Local universal banks	✓	✓	✓(-)	✗
Retail-oriented banks	Consumer credit banks				
	Cooperative banks	✓	✗	✗	✗
	Savings banks	✓	✗	✗	✗
	Mortgage banks	✓	✗	✗	✗
	Private banks				
Corporate-oriented	Corporate-oriented				
Other - specialised banks	Custodian banks				
	Pass-through	✗	✗	✗	✓
	Public development banks				
	Other specialised banks				

Both cross-border universal and local universal banks use derivatives products as a source of funding, although this type of funding is generally more common for cross-border universal ones. In Table 1, if a source of funding appears with a cross for a specific business model, it means that banks of that specific business model are generally less likely to obtain funding from that specific source. Custodian banks have a specific funding structure that relies predominantly on client operational deposits. The operational deposits are kept by clients at custodians for payment and securities settlement purposes.

A different funding strategy will determine the structure of the banks' liabilities and could affect their LCR levels via the net liquidity outflows that are linked to those liabilities (the denominator of the LCR). Indeed, the comparison between two banks with exactly the same size and composition of total assets but with different funding structures will (evidently) show different LCR levels. If a

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[26] See Table 6 in Annex 1 (business model categorisation).

bank sources its funding predominantly from retail deposits, it shows a lower level of net liquidity outflows than if the bank relies on wholesale funding. This is because the latter type of funding is subject to higher run-off rates.

Data confirms that there is a wide dispersion in the LCRs across different business models in the EU banking sector (Figure 23). A sample of 305 banks was used to analyse the impact of the LCR requirement across different business models. Subsidiaries are included in the analysis to take into account the diversity of business models within the overall banking groups (subsidiaries with the same business model as their parent company have been excluded from the analysis to avoid double counting). One caveat to the analysis is the representativeness of the sample, since there is a high concentration of banks in some business models while there are only few banks in some of the others.[27] Results should therefore be interpreted with caution and should be contrasted with the sample size of the relevant business model category.

For all business models, the LCR exceeds, on average, the minimum requirement of 100%. Retail-oriented banks (an average LCR of 251% in December 2023 and 261% in June 2024) present the highest LCRs, well above the EU average. Contrarily to the evolution of the EU average, retail-oriented banks, banks classified in other business models and other specialised banks increased their average LCR, reaching a level of 261%, 241% and 222% as of June 2024, respectively. The two remaining business models declined their LCR in the same period. Corporate-oriented banks experienced the biggest LCR reduction (from 276% in December 2023 to 253% in June 2024), followed by universal banks that reduced their LCR to a level of 158% as of June 2024 (from 164% as of December 2023).

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27 Custodian banks, public banks, mortgage banks and pass-through banks are the business models with lower representation. The sample broken down by business model category is shown in Table 12 in the Annex. The definitions of the business models are presented in Table 16 in the annex.

Figure 23: LCR across business models — balanced sample
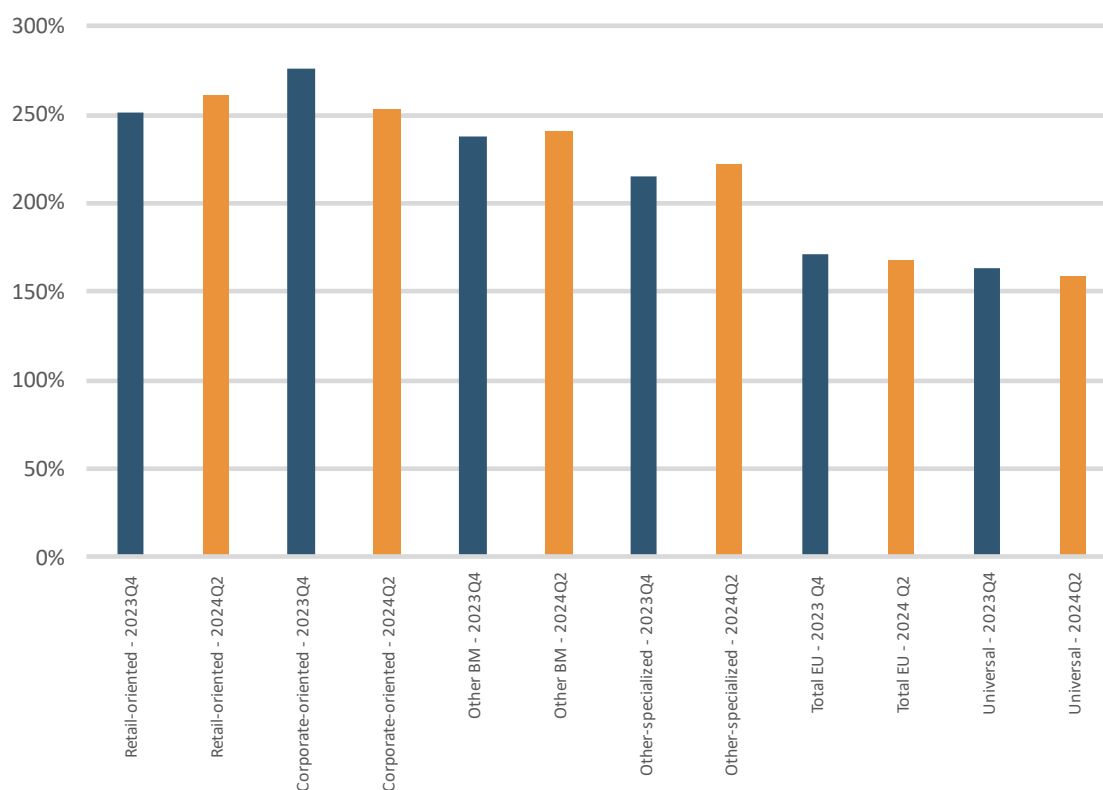
Source: Supervisory reporting and EBA calculations.

The composition of liquidity outflows may help to explain whether the structure of the LCR is influenced by the business model. Figure 24 shows the comparison between the composition of eligible LCR outflows before and after the application of haircuts. The highest share of outflows for other business models is explained by the share of retail deposits (52% of total assets as of June 2024). Retail deposits are relevant for banks classified in retail-oriented business model, which includes cooperative banks and saving banks. This means that these business models see the highest reductions in outflows after the application of haircuts.

For other business models and corporate-oriented banks, the data confirms that the share of wholesale funding is also important. For these banks, the share of non-operational deposits over total assets is 19% and 8%, respectively. As these business models also have an important share of retail deposits (52% and 37% of total assets as of June 2024, respectively), they benefit from a strong reduction in outflows after the application of haircuts, although this reduction is proportionally less significant than for those business models that obtain higher shares of retail funding.

Universal banks and other business models also have an above average share of committed facilities (11% and 9% of total assets, respectively). As a result, the reduction of liquidity outflows

after the application of haircuts is somewhat less important for this business model than for those with higher shares of retail deposits.

Figure 24: Comparisons of pre- and post-weight cash outflows relative to total assets, per business model, June 2023
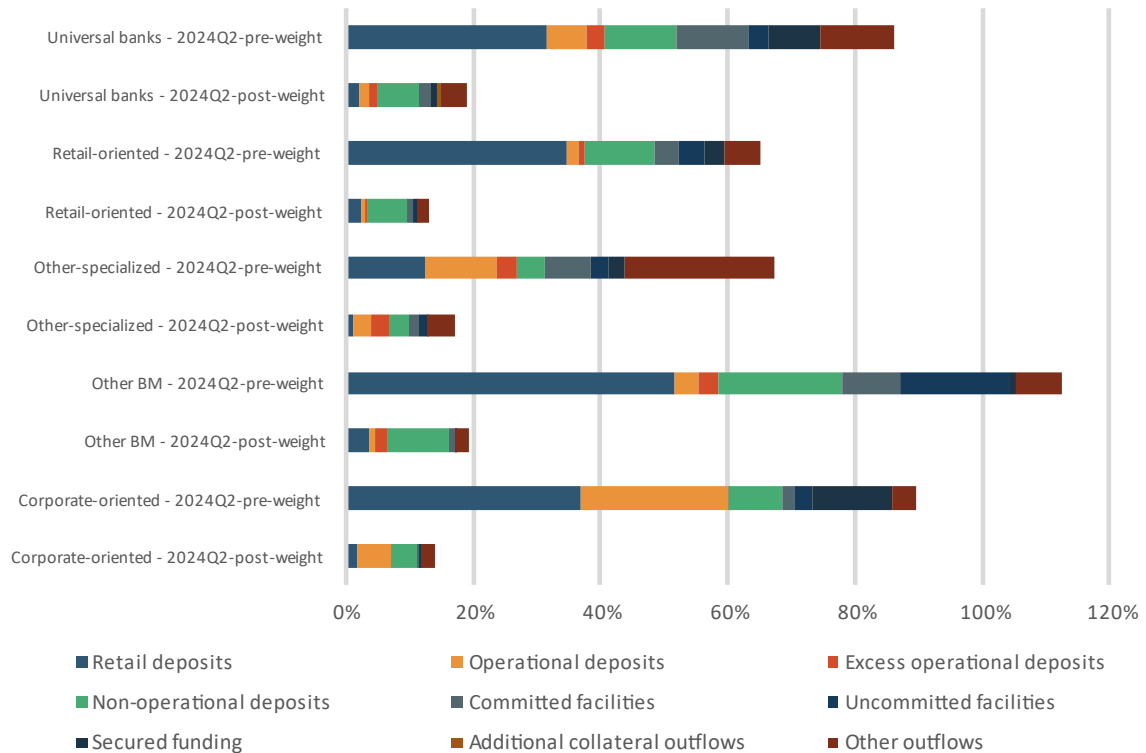
Source: Supervisory reporting and EBA calculations.

Figure 25 shows the evolution of cash outflows (post-weight) between December 2023 and June 2024. As shown in Figure 5, cash outflows (post-weight) increased for the total sample in the first half of 2024. This decline was driven by universal banks, retail-oriented banks and other business models. In the case of universal banks and other business models, the increase was mainly driven by non-operational deposits, while for retail-oriented banks the increase was driven by outflows of retail deposits and non-operational deposits.

Figure 25: Composition of cash outflows (post-weight) relative to total assets by business model — balanced sample
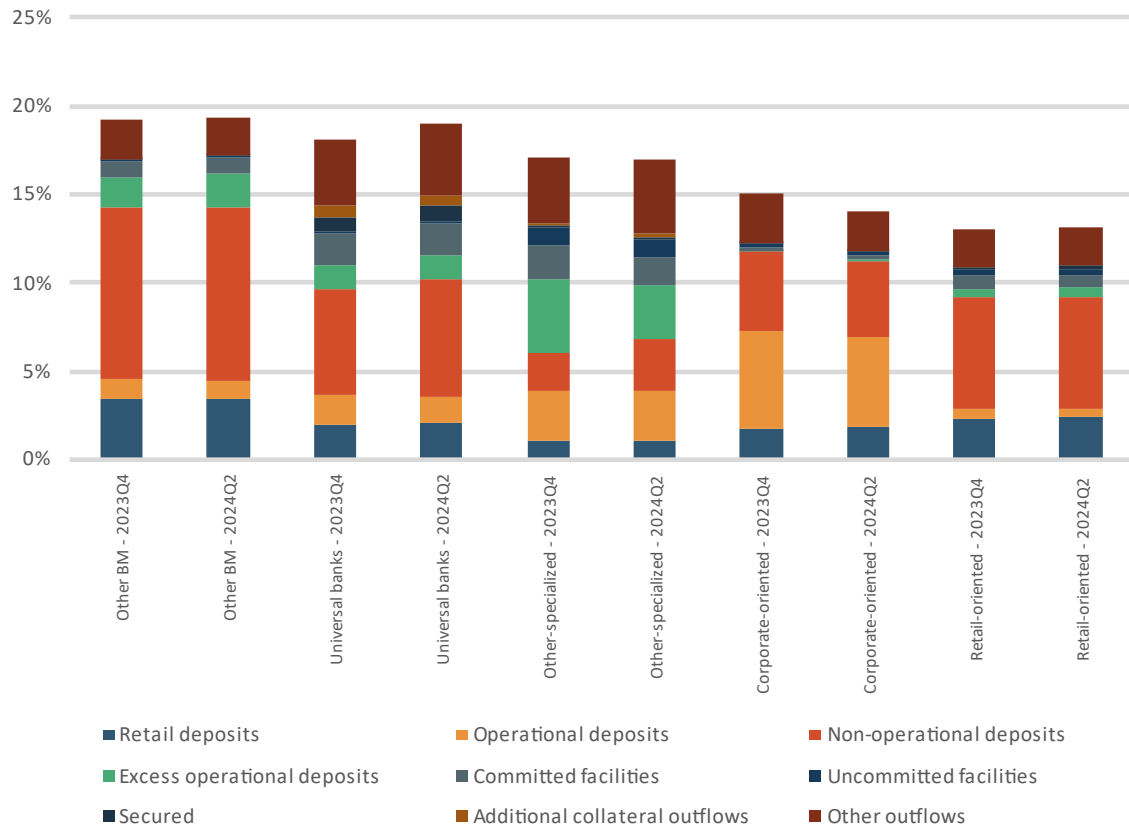
Source: Supervisory reporting and EBA calculations.

The share of cash inflows (post-weight and before the cap) relative to total assets as of June 2024 is, on average, less than 8% across business models, except for other business models (around 8.1% as of June 2024).

Figure 26: Composition of cash inflows (post-weight and before the cap) relative to total assets, per business model — balanced sample
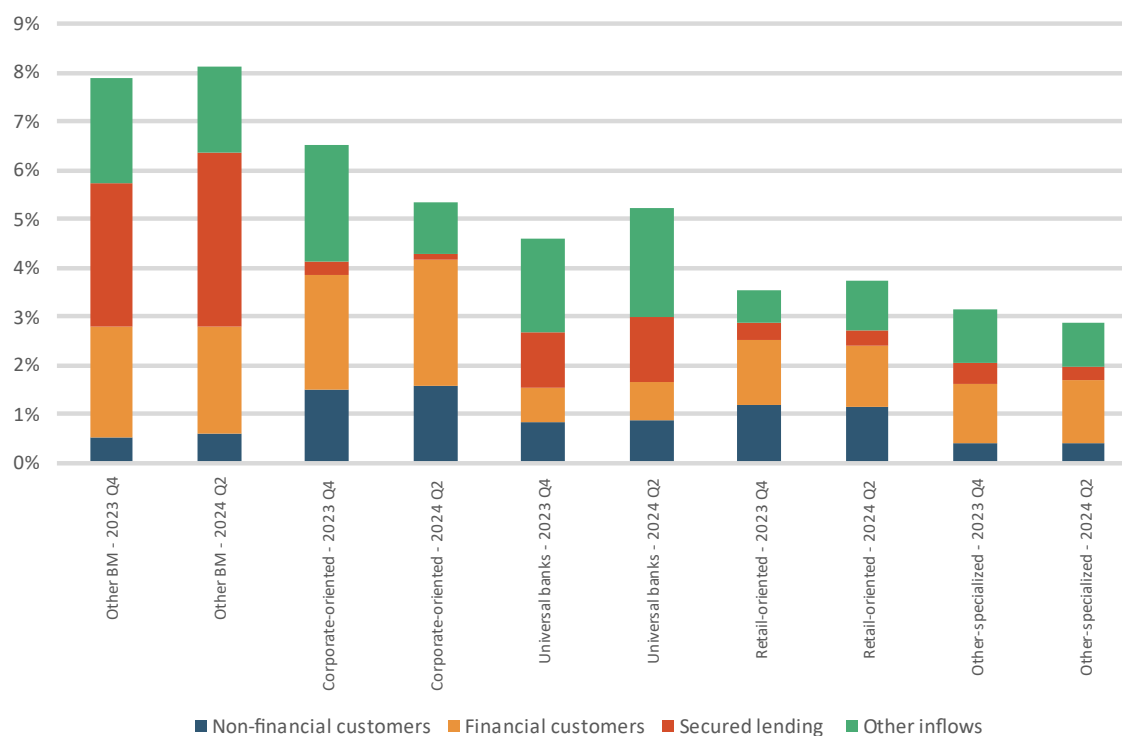
Source: Supervisory reporting and EBA calculations.

Taken together, as of June 2024, the composition of liquid assets per business model (Figure 27) and the overall high level of the LCR confirm that the liquidity buffer is of high quality (as defined in the CRR). The share of HQLA in percentage of assets ranges from 18.09% of assets for corporate-oriented banks to 41.2% of assets for other business models, while the EU/EEA average is 20.06% of total assets. The composition of HQLAs shows a high share of Level 1 cash and central bank reserves in all business models (between 7.3% and 18.6%). Level 1 cash and central bank reserves is the main item of the liquidity buffer for all business models except for retail-oriented banks, which is consistent with the fact that retail-oriented banks are mostly non-systemic banks. For non-systemic banks that are mostly small banks, the share of Level 1 cash and central bank reserves is below the share of Level 1 securities. In the first half of 2024, liquid assets declined for other specialised, universal and corporate-oriented banks. All of them declined Level 1 cash and central bank reserves. Other specialised and universal banks increased the share of Level 1 sovereigns, but this increase could not compensate the drop in Level 1 cash and central bank reserves.

Figure 27: Composition of liquid assets (post-weight and before the cap), relative to total assets, per business model — balanced sample
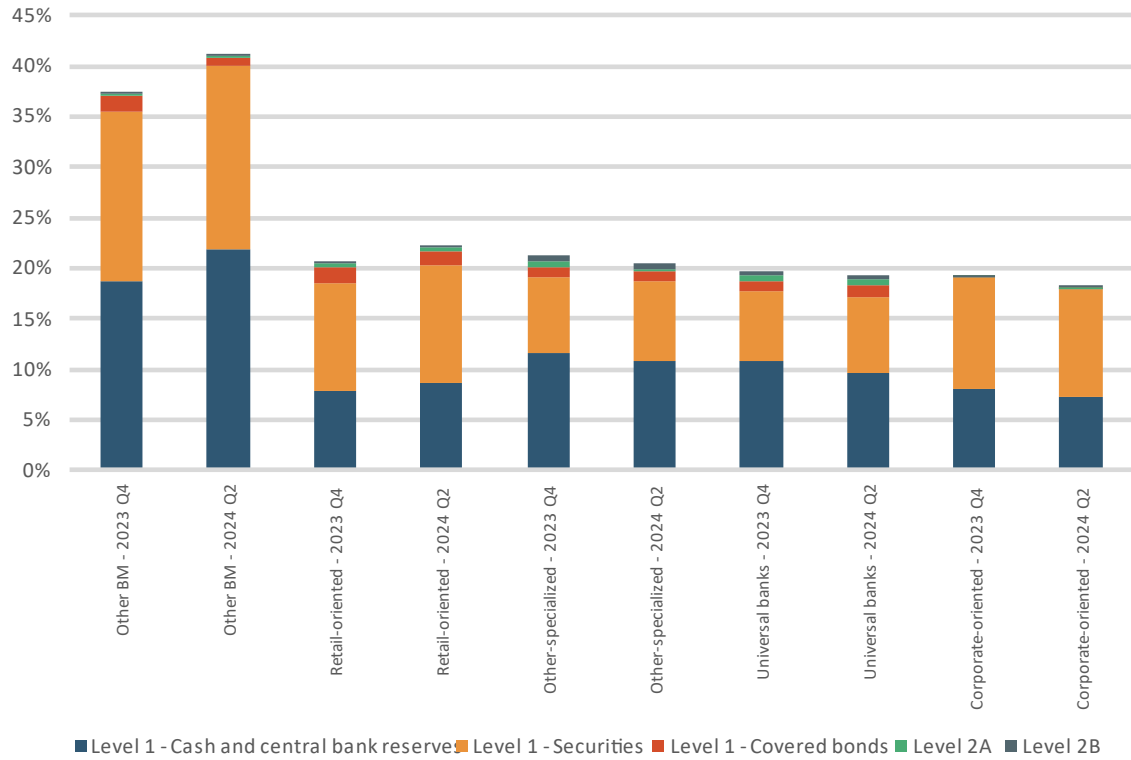
Source: Supervisory reporting and EBA calculations.

LCR — analysis of currency mismatch

Rationale for the analysis

Banks regularly finance their assets in a currency that is different from that in which the assets are denominated. There are several reasons for this, ranging from diversification, price and supply factors to structural drivers.

In the aftermath of the global financial crisis, currency mismatch in funding and the liquidity of asset buffers became important aspects to consider. In 2011, the European Systemic Risk Board (ESRB) published a recommendation on lending in foreign currencies (ESRB/2011/1) and on US dollar denominated funding of credit institutions (ESRB/2011/2). In addition, Article 8(6) of the LCR DR requires banks to ensure that the currency denomination of their liquid assets is consistent with the distribution by currency of their net liquidity outflows. Where appropriate, competent authorities may require credit institutions to restrict currency mismatches by setting limits on the proportion of net liquidity outflows in a currency that can be met during a stress period by holding liquid assets not denominated in that currency.

In normal times, it is expected that banks can easily swap currencies and can raise funds in foreign currency markets. However, the ability to swap currencies may be constrained during stressed conditions (as seen during the financial crisis). For instance, counterparty credit risk and currency-specific liquidity risk can cause significant dislocations in foreign exchange (FX) swaps markets, preventing the smooth transfers of liquidity internally from one currency to another. Indeed, this became particularly obvious following the banking turmoil after the failure of three medium-sized banks in the United States – Silicon Valley Bank, Signature Bank and later First Republic – as well as the takeover of Credit Suisse in Switzerland, which translated into a very significant widening of the USD-EUR cross currency basis swaps mid-March 2023.[28] Such widening implies that USD funding has become more expensive for Euro area banks.

Moreover, the analysis of the overall maturity mismatch and liquidity coverage between assets and liabilities across all currencies is useful in order to disentangle and assess possible large funding/outflow risks for some specific currencies. The risk profile of an institution in a specific currency could be blurred by different maturity mismatches across currencies. LCR reporting broken down by significant currencies allow for monitoring of the inherent currency risk in the institution's LCR requirements.

The analysis below uses an indicator of the LCR ratio to compare total figures across all currencies against figures per individual significant (foreign) currency[29] (limited to euro, US dollar and sterling

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[28] See Figure 53 of the 2022 EBA Risk Assessment report.

[29] Article 415(2) of the CRR indicates that a currency is considered significant if the currency-denominated liabilities are higher than 5% of total liabilities. The analysis is limited to foreign significant currencies, meaning that only significant

pound). First, the analysis shows the LCR by significant currencies as of June 2024. Second, the analysis shows the indicator of the liquidity buffer over net cash outflows developed per significant currency and it studies any currency patterns in the liquidity profiles of banks. The analysis sheds light on the banks' liquidity coverage by individual significant currencies.[30]

LCR by significant currencies

The weighted average LCR by all significant currencies (domestic and foreign) across the sample of EU/EEA banks stood at 167% as of June 2024, with none of the banks reporting levels below 100%. The LCR in EUR as a significant currency stood at 160% (3 p.p. above the levels observed as of June 2023), with only 12 banks out of the 146 reporting the LCR in EUR as a significant currency (both domestic and foreign) showing a level below 100%. The LCR in USD as a significant currency stood at 112%, with 43 banks out of the 90 reporting the LCR in USD as a significant currency (both domestic and foreign) showing a level below 100%. The LCR in GBP as a significant currency stood at 127%, with 10 banks out of the 26 reporting the LCR in GBP as a significant currency (both domestic and foreign) showing a level below 100%. Both the LCR in USD and in GBP have improved in weighted average as of June 2024 compared to the levels observed as of June 2023, as well as in terms of the number of banks reporting a level below 100%. The LCR in USD shows levels above 100% while in the previous iteration of the report was below 100%.

For most countries, the total LCR is higher than the LCR when considering only each individual significant currency (euro, USD and GBP), meaning that banks are likely to hold a higher liquidity buffer in relation to their net cash outflows in the national currency than in significant (foreign) currencies. Thus, at aggregate level, the surplus in liquidity coverage in all currencies more than offsets the liquidity shortfall in other significant currencies. Such differences between the liquidity surplus and the net cash outflows in a given currency are particularly relevant for USD and GBP. Indeed, a number of banks showed LCR USD and LCR GBP significantly below the 100% threshold and in some cases close to 0% while none of the banks of the sample presented an overall LCR below 100%.

The EU liquidity regulation requires banks to ensure consistency between liquid assets and net liquidity outflows in the LCR that are denominated in the same currency. Low levels of LCR in one significant currency may create problems during stress periods when liquidity sources may become constrained and the FX swaps markets may become difficult to access. Indeed, the rising geopolitical tensions in Europe during 2022 and the banking turmoil of the first quarter of 2023 led to a widening of the USD-EUR cross currency basis swaps, making USD funding more expensive for Euro area banks. Such a situation might pose a risk for some banks in case they need to quickly fill liquidity gaps in USD. In these cases, the competent authorities may make use of the discretion in Article 8 of the LCR DR which states that competent authorities may limit significant excesses of net

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currencies that are different from the legal currency in the country of origin of each individual bank are included, i.e. a UK bank with positions in euros, pounds sterling and US dollars over 5% of total liabilities will be considered in the analysis only for euros and US dollars but not for pounds sterling.

[30] The results are presented at an anonymised institution level and at aggregated level. An institution is included in the analysis under a specific indicator only if the relevant data is available for the total figures in the reporting currency and in at least one of the significant (and foreign currencies).

outflows denominated in a significant or reporting currency (Article 8(6) of the LCR DR). Possible specific limits or quantitative restrictions may be implemented to correct mismatches in material cases.

Table 2: LCR by significant currencies, June 2024

Country	EUR	USD	GBP	All significant currencies
AT	191	40	n.a.	175
BE	211	n.a.	n.a.	196
BG	1,024	270	n.a.	369
CY	n.a.	n.a.	n.a.	377
CZ	203	n.a.	n.a.	498
DE	171	69	n.a.	152
DK	224	n.a.	n.a.	212
EE	n.a.	n.a.	n.a.	220
ES	172	179	n.a.	182
FI	285	n.a.	n.a.	179
FR	138	119	78	147
GR	227	n.a.	n.a.	207
HU	162	n.a.	n.a.	196
IE	173	n.a.	101	177
IS	317	n.a.	n.a.	172
IT	149	n.a.	n.a.	174
LI	114	147	n.a.	207
LT	249	1,195	n.a.	596
LU	167	260	n.a.	187
LV	168	236	n.a.	180
MT	331	n.a.	n.a.	334
NL	144	123	62	156
NO	136	n.a.	n.a.	139
PL	63	n.a.	n.a.	249
PT	347	190	n.a.	305
RO	561	n.a.	n.a.	314
SE	176	186	n.a.	168
SI	310	n.a.	n.a.	292
Other	156	154	272	284
EU Average	**160**	**112**	**127**	**167**

Source: Supervisory reporting and EBA calculations. The countries included have at least 3 banks in any of the significant currencies presented in the table, including in all significant currencies. Two countries (HR, SK) have been excluded because they have less than three banks in any of the columns presented in the table. Countries that have the LCR informed in one significant currency but not in the others is because they have more than three banks reporting that significant currency (or the total significant currency) that do not reach the threshold to report the other significant currencies.

Analysis of the parameters of the LCR by significant currencies

The objective is to test whether there are any currency-specific patterns in the liquidity profiles of banks. The indicator demonstrates whether the difference between the ratio of the liquidity buffer and net cash outflows for a specific foreign currency is more pronounced than the same ratio for all currencies.

$$LCR\ by\ currency = \frac{Liquidity\ buffer_{currency}}{Outflows_{currency} - Min(Inflows_{currency}, 0.75 \times Outflows_{currency})}$$

Where currency = reporting currency (all currencies), euro, US dollar, sterling pound.

Currency mismatches in EUR

A total of 70 banks (of which 36 are G-SIIs/O-SIIs and 34 are 'other banks') reported euro as a significant (foreign) currency. Figure 28 shows a bank-by-bank comparison between banks' LCR in all currencies and LCR levels in euro as a significant (foreign) currency. The LCR level in all currencies are shown in the y-axis while the x-axis shows the LCR in euro as a significant (foreign) currency.

There is some evidence of a different pattern when euro is the significant currency. 20 banks out of the 36 banks classified as G-SIIs and O-SIIs presented an LCR$_{EUR}$ lower than the LCR$_{all\ currencies}$, which is a lower figure compared to the previous year (when 23 banks out of 37 showed LCR in EUR below the LCR in total currencies). These banks are seen in the top left corner of the chart. However, 10 banks presented an LCR$_{EUR}$ below 100% which is a deteriorated picture compared to June 2023 (8 banks).

With regards to other banks, 19 out of the 34 banks classified as 'other banks' presented an LCR$_{EUR}$ lower than the LCR$_{all\ currencies}$ (below the figure of June 2023, which was at a level of 20 out of 34) and none of the banks presented a LCR$_{EUR}$ below 100%, which is an improved picture compared to June 2023(5 banks presented an LCR$_{EUR}$ below 100% as of June 2023). These banks are located north-west of the diagonal line in Figure 28.

Figure 28: Liquidity buffer over net cash outflows where the significant currency is euro (*x*-axis) compared with the same indicator for the reporting currency (all currencies; *y*-axis), G-SIIs and O-SIIs (left) and other banks (right), June 2024
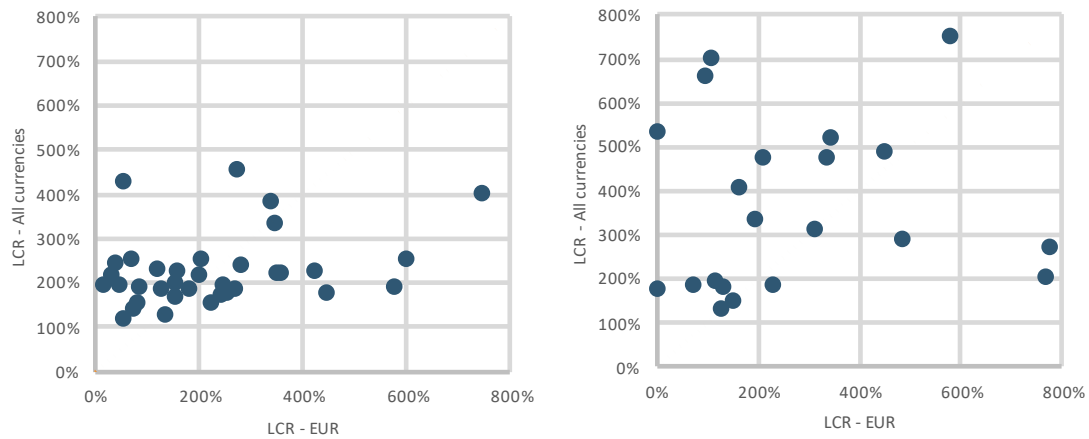
Source: Supervisory reporting and EBA calculations.

Figure 29 shows the evolution of the proportion of banks in the sample with LCR_{EUR} below $LCR_{all\ currencies}$ (blue line) and the proportion of banks in the sample with LCR_{EUR} below 100% (orange line). The chart shows, on the one hand, a decline in the share of banks with LCR_{EUR} below $LCR_{all\ currencies}$ and, on the other hand, an increase in the number of banks with LCR in EUR below 100%. The proportion of banks with LCR_{EUR} below 100% increased from 13% observed as of June 2023 to 20% as of June 2024.

Figure 29: Evolution of the comparison between the positions in LCR in EUR and LCR in all currencies — balanced sample [31]
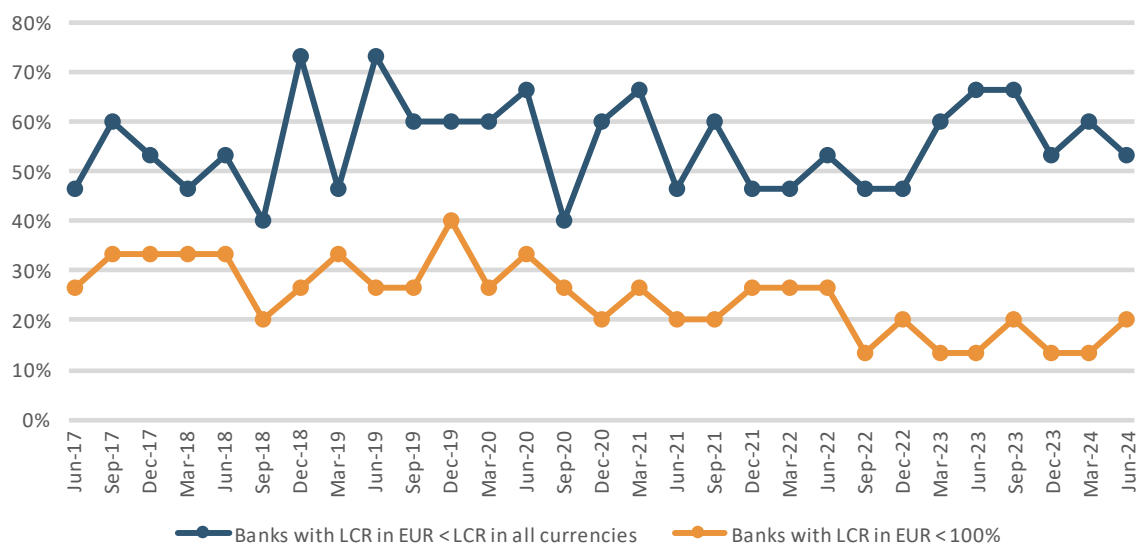
Source: Supervisory reporting and EBA calculations.

Figure 30 analyses the evolution of the weighted average level of LCR_{EUR} and $LCR_{all\ currencies}$ for a balanced sample of banks[32]. Since September 2016, LCR_{EUR} has been on average higher than the average of $LCR_{all\ currencies}$. As of June 2024, the average LCR_{EUR} is slightly above the $LCR_{all\ currencies}$, contrarily to the previous year when the average of LCR_{EUR} was well below with the $LCR_{all\ currencies}$.

Figure 31 shows the evolution of the distribution[33] of LCR_{EUR} and $LCR_{all\ currencies}$ between December 2016 and June 2024. The dispersion in LCR levels has narrowed since December 2016 and narrowed further in June 2024.

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[31] Results based on a consistent sample of 16 banks that reported LCR_{EUR} data across reference dates.

[32] Some considerations need to be taken into account when interpreting distribution graphs in this section: The blue bars represent the $LCR_{all\ currencies}$ while the orange bars represent LCR_{EUR}.

[33] The top line of the blue/orange box shows the 75th percentile, whereas the bottom line of the blue/orange box shows the 25th percentile. The top line outside the box represents the maximum observation while the bottom line outside the box represents the minimum observation.

Figure 30: Evolution of average LCR in EUR vs average LCR in all currencies — balanced sample

Source: Supervisory reporting and EBA calculations.

Figure 31: Evolution of the distribution of the LCR in EUR vs the distribution of the LCR in all currencies — balanced sample
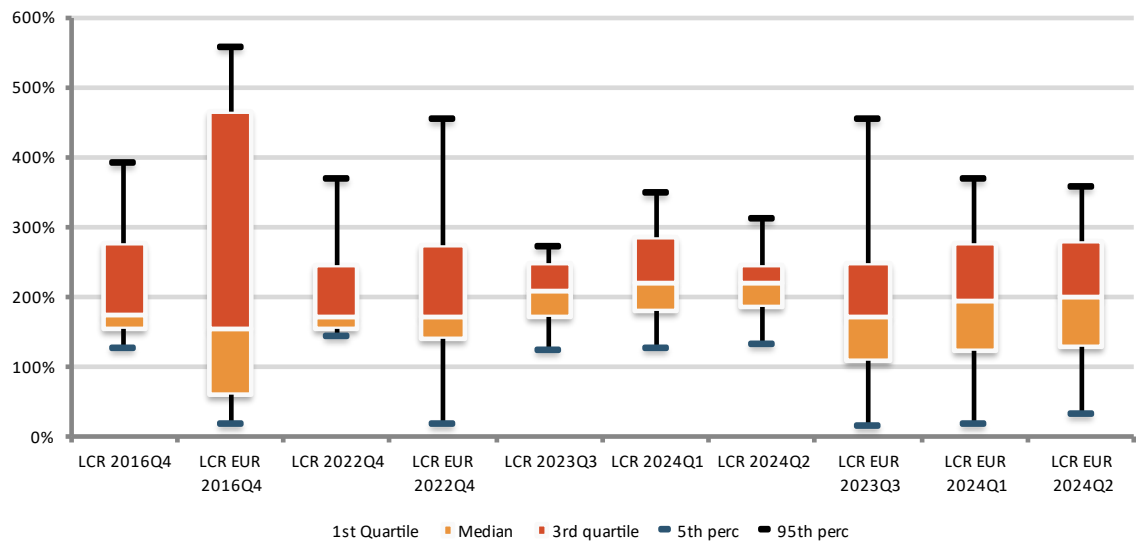
Source: Supervisory reporting and EBA calculations.

Currency mismatches in USD

A total of 103 banks (of which 53 are G-SIIs/O-SIIs and 50 are 'other banks') reported US dollar as a significant (foreign) currency. Figure 32 shows a bank-by-bank comparison between banks' LCR in all currencies and LCR levels in dollar as a significant (foreign) currency. The LCR level in all currencies are shown in the y-axis while the x-axis shows the LCR in dollar as a significant (foreign) currency.

There is clear evidence of a different pattern when US dollar is the significant currency. With regards to G-SIIs and O-SIIs, 35 banks out of the 53 banks presented an LCR USD lower than the LCR for all currencies as of June 2024, which is a lower figure compared to the previous year (June 2023), and 26 banks presented an LCR USD below 100%, which represents a decline compared to the previous exercise. Therefore, from the side of G-SIIs and O-SIIs there is an improvement in June 2024 compared to the year before.

With regards to other banks, 47 banks out of the 50 banks classified as 'other banks' presented an LCR USD lower than the LCR for all currencies, and 29 banks presented an LCR USD below 100%. In total, 6 banks showed an LCR USD close to zero. Therefore, from the side of other banks there is a deterioration in June 2024 compared to the year before. Banks with LCR USD close to zero are located close to the y axes in Figure 32.

Figure 32: Liquidity buffer over net cash outflows where the significant currency is US dollar (*x*-axis) compared with the same indicator for the reporting currency (all currencies; *y*-axis), G-SIIs and O-SIIs (left) and other banks (right), June 2024.

Source: Supervisory reporting and EBA calculations.

Figure 33 shows the evolution of the proportion of banks in the sample with LCR_{USD} below $LCR_{all\ currencies}$ (blue line) and the proportion of banks in the sample with LCR_{USD} below 100% (orange line). Since September 2016, the number of banks that have LCR_{USD} below $LCR_{all\ currencies}$ has steadily declined. In particular, is the minimum number observed since December 2022. The proportion of banks with LCR_{USD} below $LCR_{all\ currencies}$ is lower in June 2024 compared to the figures observed during all the reporting dates of 2023 and the first quarter of 2024. The proportion of banks with an LCR_{USD} below 100% also declined between September 2016 and December 2024, but more recently showed and increase between December 2023 and March 2024 (from 34.5% of banks in the sample with LCR_{USD} below 100% as of December 2023 to 37.9% as of June 2024). In the first half of 2024, the proportion of banks with LCR_{USD} below 100% slightly declined but remained at levels above 2021.

Figure 33: Evolution of the comparison between the positions in LCR in USD and LCR in all currencies — balanced sample [34]
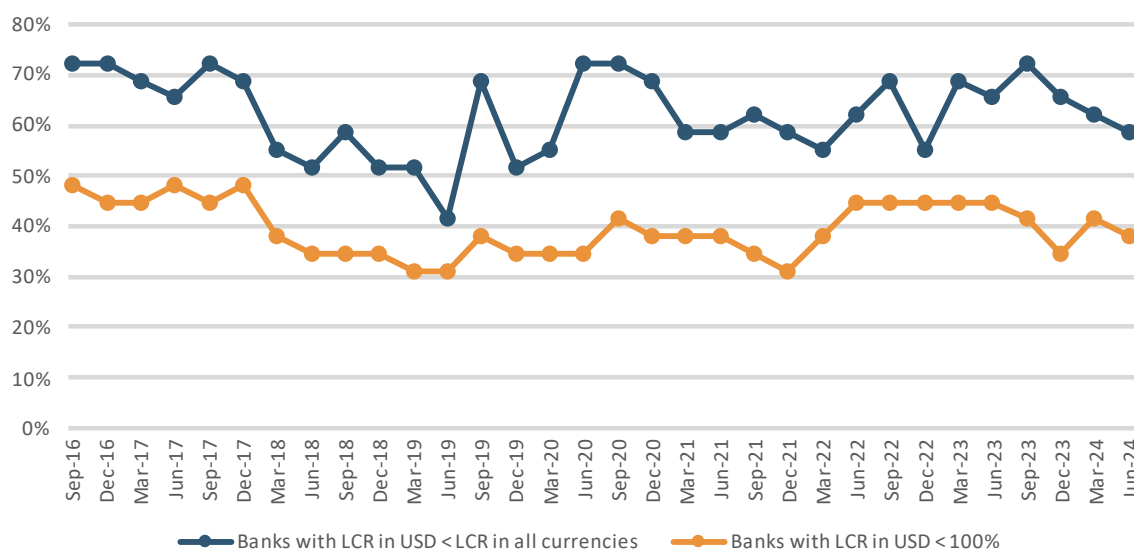
Figure 34 analyses the average level of LCR_{USD} and $LCR_{all\ currencies}$[35]. Since September 2016, the average LCR_{USD} level has been lower than the average $LCR_{all\ currencies}$ level, and below 100% since March 2021. However, by December 2022 the average level of LCR_{USD} had increased beyond 100% and remained at those levels during 2023 and the first half of 2024. The gap between the two ratios narrowed significantly between June 2018 and March 2020 but has increased since then with differences above 50 p.p. However, during the first half of 2024 we see that the difference has narrowed and now represents around 30 p.p., a difference that has not been observed since March 2020. The decrease in the gap between the two variables is driven by the downward trend of $LCR_{all\ currencies}$ observed in the period June 2023 to June 2024, together with the increase of LCR_{USD} observed in the same period.

Since March 2022 until June 2024, the LCR_{USD} showed an increase in all reporting dates showing a level of 116% for a balanced sample of banks as of June 2024. The average LCR_{USD} increased from 101% as of December 2022 to 116% as of June 2024 for a common sample of banks across all reference dates, thus above 100% and significantly below the $LCR_{all\ currencies}$ (150%). Therefore, the USD liquidity situation of EU/EEA banks as of June 2024 has improved compared to previous reporting dates of the year 2023.

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[34] Results based on a consistent sample of 32 banks that reported LCR_{USD} data across reference dates.

[35] Some considerations need to be taken into account when interpreting distribution graphs in this sector: The blue bars represent the $LCR_{all\ currencies}$ while the orange bars represent LCR_{EUR}.

Figure 34: Evolution of average LCR in USD vs average LCR in all currencies — balanced sample

Source: Supervisory reporting and EBA calculations.
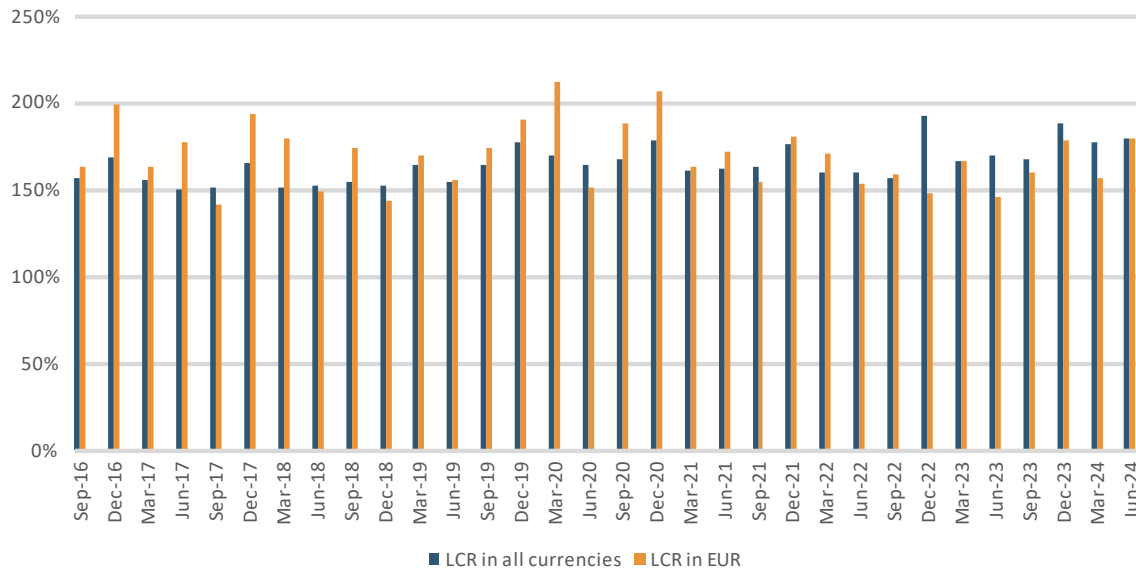
Figure 35 shows the evolution of the distribution[36] of LCR_{USD} and $LCR_{all\ currencies}$ between September 2016 and June 2024. A greater dispersion in the LCR_{USD} levels can be observed in the last reporting periods. Although on average LCR in USD has increased in June 2024 compared to June 2023, the minimum value remains close to 0% due to the poor liquidity position in USD for some banks. As of June 2024, even if the weighted average LCR_{USD} is above 100%, the 25th percentile remains below such threshold (80%) but above the level observed as of June 2023 (71%) and a number of banks showed LCR_{USD} close to 0%. Therefore, as of June 2023, both the weighted average and the main percentiles improved compared to June 2023.

Even if the EU liquidity regulation does not require banks to hold LCR levels in foreign currencies above 100%, low levels of LCR_{USD} may cause problems during volatile markets, as banks may face difficulties to swap currencies and raise funds on USD FX markets at reasonable prices. The combination of low levels of LCR_{USD} and the rising costs for USD funding following the widening of the USD-EUR cross currency basis swaps during the banking turmoil of the end of the first quarter of 2023 might pose a risk for some banks, in case they need to quickly fill liquidity gaps in USD.

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[36] The top line of the blue/orange box shows the 75th percentile, whereas the bottom line of the blue/orange box shows the 25th percentile. The top line outside the box represents the maximum observation while the bottom line outside the box represents the minimum observation.

Figure 35: Evolution of the distribution of the LCR in USD vs the distribution of the LCR in all currencies — balanced sample
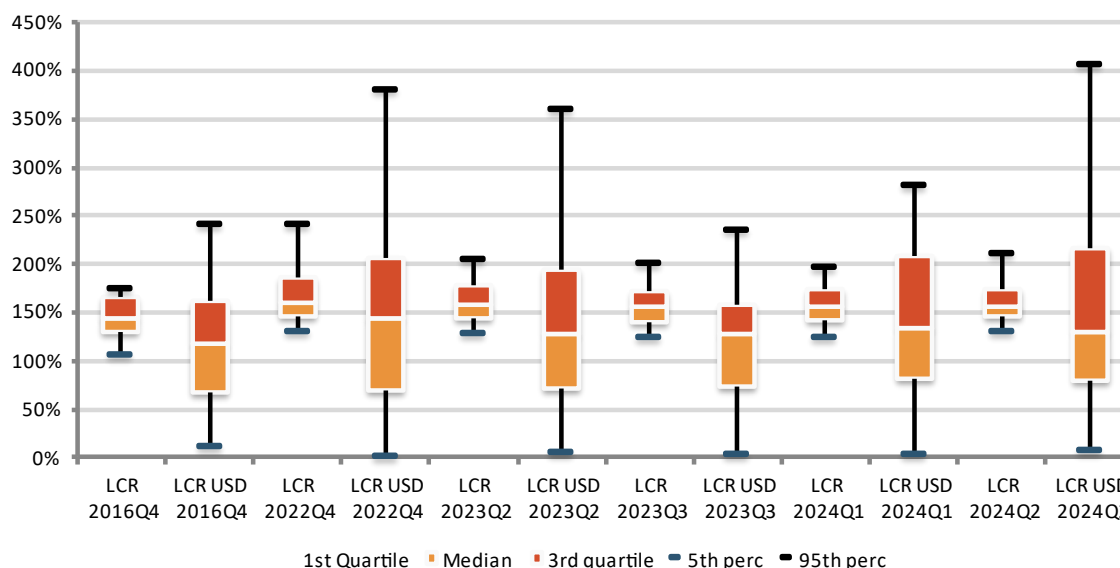
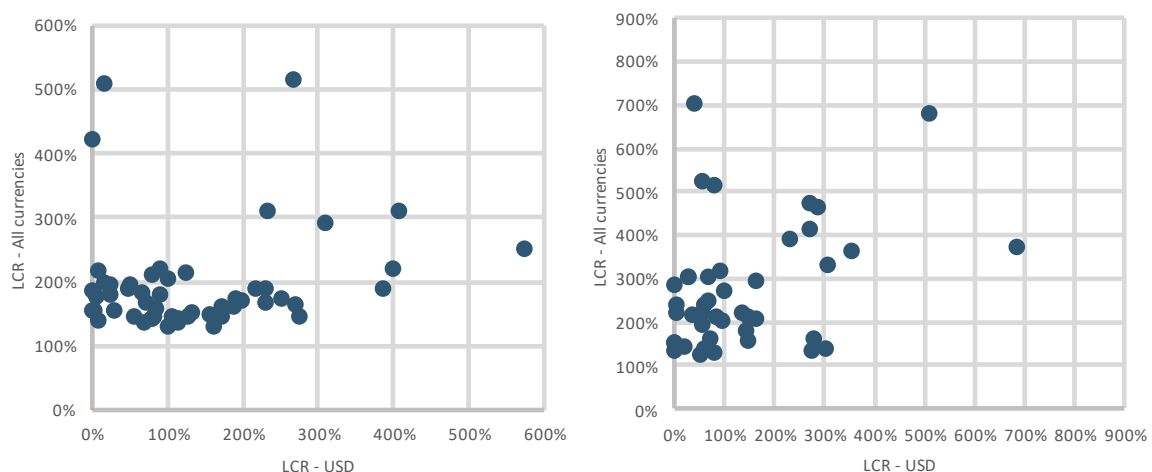
Source: Supervisory reporting and EBA calculations.

Currency mismatches in GBP

A total of 23 banks (of which 11 are G-SIIs/O-SIIs and 12 are 'other banks') reported GBP as a significant (foreign) currency. Figure 36 shows a bank-by-bank comparison between banks' LCR in all currencies and LCR levels in euro as a significant (foreign) currency. The LCR level in all currencies are shown in the y-axis while the x-axis shows the LCR in euro as a significant (foreign) currency.

With regards to G-SIIs and O-SIIs, 9 banks out of the 11 banks classified as G-SIIs and O-SIIs banks presented an LCR_{GBP} lower than the $LCR_{all\ currencies}$ (8 banks out of the 12 banks classified as 'other banks' presented an LCR_{GBP} lower than the $LCR_{all\ currencies}$). Some banks reported LCR_{GBP} close to 0% (1 G-SIIs/O-SIIs and 4 other banks). There is some evidence of a different pattern when sterling pound is the significant currency, but this evidence is based on a reduced sample of banks that reported sterling pound as a significant (foreign) currency.

Figure 36: Liquidity buffer over net cash outflows where the significant currency is pound sterling (*x*-axis) compared with the same indicator for the reporting currency (all currencies; *y*-axis), G-SIIs and O-SIIs (left) and other banks (right), June 2024

Source: Supervisory reporting and EBA calculations.

Figure 37 shows the evolution of the proportion of banks in the sample with LCR_{GBP} below $LCR_{all\ currencies}$ (blue line) and the proportion of banks in the sample with LCR_{GBP} below 100% (orange line). The evolution shows that the proportion of banks with LCR_{GBP} below $LCR_{all\ currencies}$ and the proportion of banks below 100% showed a slow but downward tendency between September 2016 and September 2020; this tendency changed in September 2020 when both variables increased. During 2023, the proportion of banks with LCR below 100% significantly declined to the minimum level of the last 10 quarters, but in June 2024 both indicators have increased and reached levels that were not observed since March 2019. The proportion of banks with LCR_{GBP} below $LCR_{all\ currencies,}$ increased from December 2023 to June 2024.

Figure 37: Evolution of the comparison between the positions in LCR in GBP and LCR in all currencies — balanced sample [37]
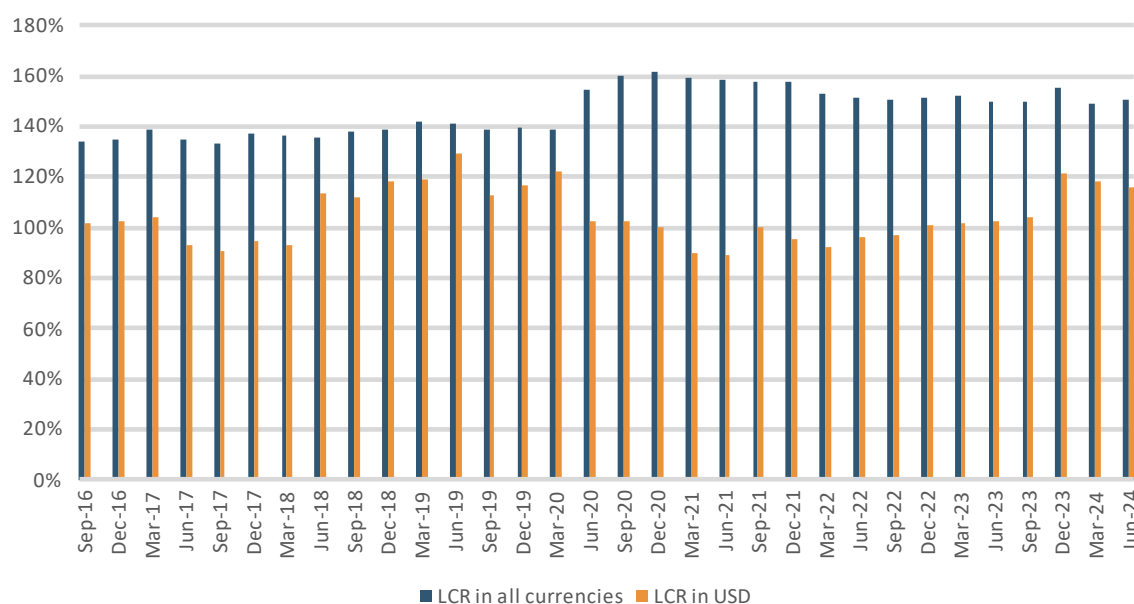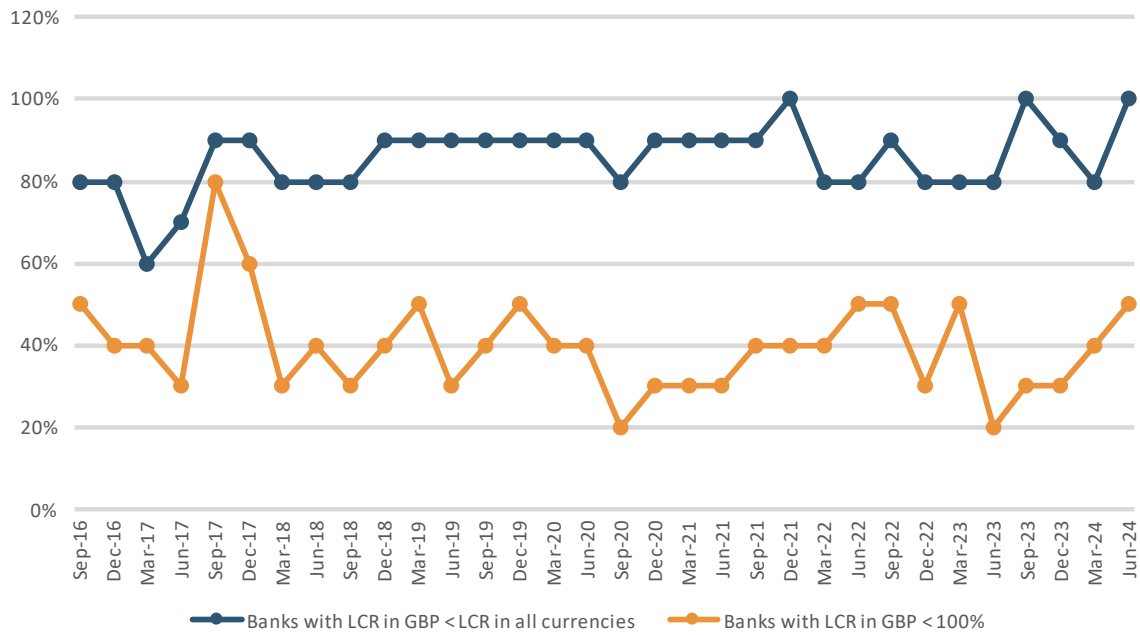

Source: Supervisory reporting and EBA calculations.

Figure 38: Evolution of average LCR in GBP vs average LCR in all currencies — balanced sample
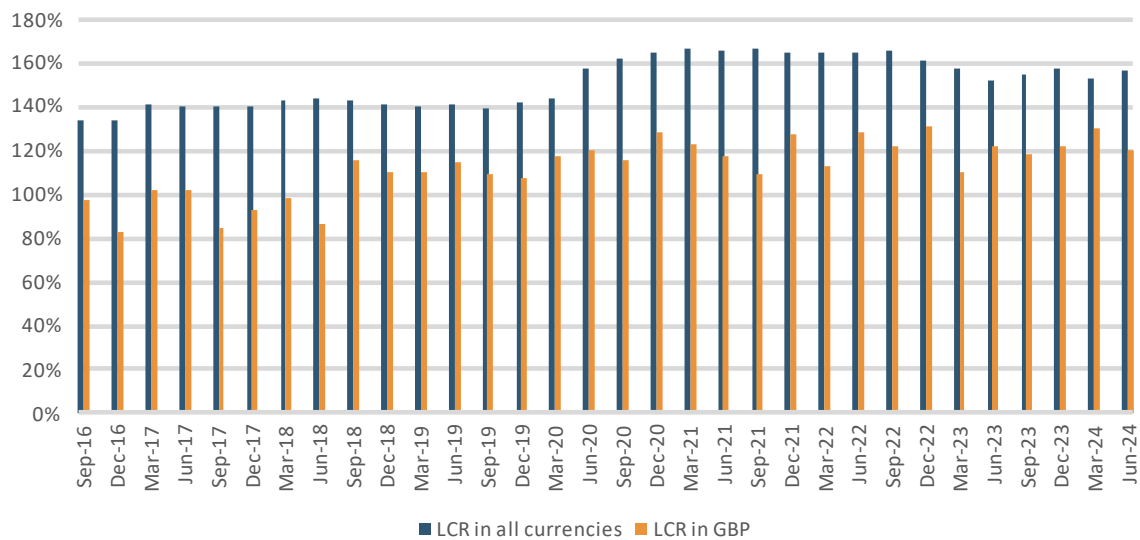
Source: Supervisory reporting and EBA calculations.

Figure 38 analyses the average level of LCR GBP and LCR in all currencies. Since September 2016, the average LCR GBP level is below the average level of LCR all currencies. As of June 2024, the average LCR GBP is 120% for the balanced sample of banks, significantly below the LCR for all currencies (157%). The level of LCR in GBP has declined as of June 2024 compared to the level

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[37] Results based on a consistent sample of 13 banks that reported LCR_{GBP} data across reference dates.

observed in December 2023 and in June 2023, contrarily to the upward evolution of the LCR in USD, which has increased in the period from June 2023 to June 2024.

Figure 39 shows the evolution of the distribution of LCR GBP and LCR in all currencies between September 2016 and June 2024. A greater dispersion in the LCR in GBP levels can be observed with data as of June 2024, in which the median and the 25th, 75th percentile are lower for the LCR GBP compared to LCR in all currencies and there are banks with LCR GBP equal to zero. As of June 2024, the 25th percentile stood at 85% while the median was 104%, this is an improved picture compared to the indicators observed as of June 2023 Similarly to banks that showed low levels of LCR USD, banks with low LCR GBP may phased problems in times of stress as banks' ability to swap currencies and raise funds in GBP might be deteriorated.

Figure 39: Evolution of the distribution of the LCR in GBP vs the distribution of the LCR in all currencies — balanced sample

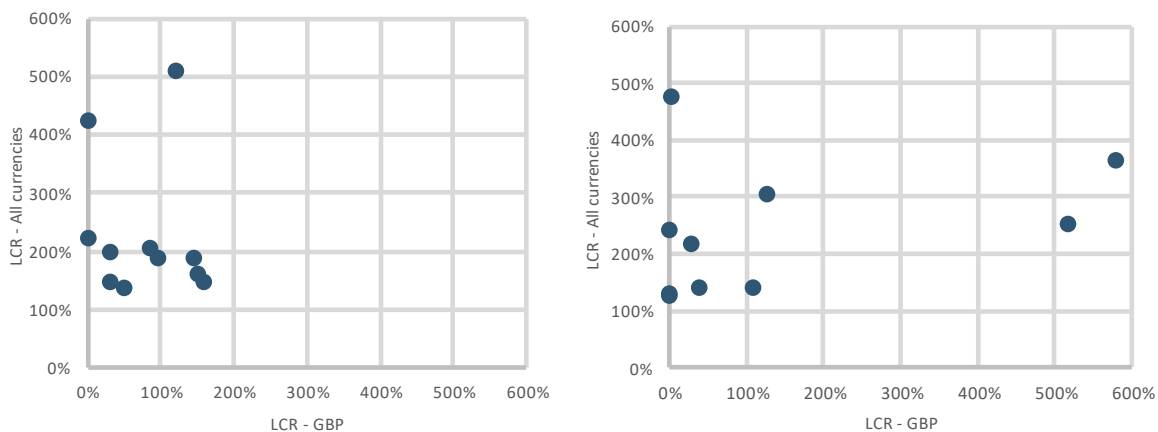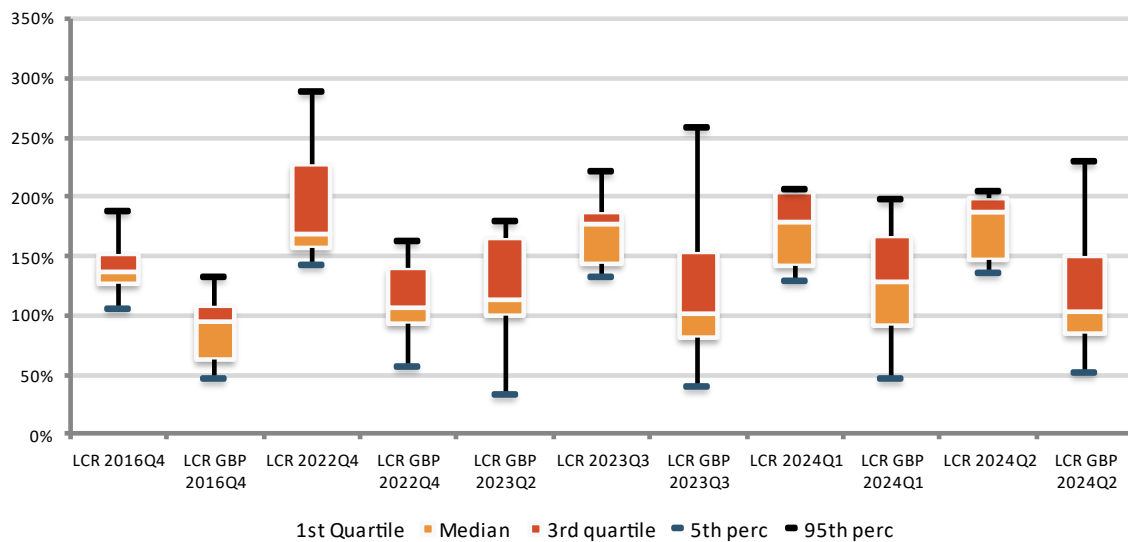Source: Supervisory reporting and EBA calculations.

LCR — impact on lending

Rationale of the analysis

This section analyses the relationship between the banks' lending behaviour and the minimum LCR requirements as introduced with EU-implementation of Basel III. In particular, the focus is on lending to households (mortgage loans and consumer loans) and to non-financial companies (NFCs hereafter). As in the other sections in this Report, the analysis is based on COREP/FINREP data. The analysis takes in consideration that banks' lending activity can be influenced by several additional factors such as regulatory requirements on the capital side, banks' financial health and the general macroeconomic conditions.

A standard empirical approach for the evaluation of the impact of the introduction of a new regulation is the Difference in Difference method (DiD). This approach requires data about a treatment group (banks subject to the new regulation) and a control group (banks not subject to the new regulation) observed before and after entering into force of the new rules. For example, in the BIS working paper 473/2014, the authors exploit data regarding UK banks. They take advantage of the fact that already in 2010 the UK Financial Services Authority introduced a regulation requiring to hold a sufficient stock of high quality liquid assets (HQLA) but not all banks were made subject to this liquidity regulation.

Two practical problems prevented to adopt the DiD for this Report. First, the LCR entered into force in 2015 but banks have started to report the LCR figure in COREP only in 2016. Albeit in 2015 the minimum LCR was set to 60% (increased up to 100% in 2018) we know that already in September 2016 (the first reference date available in COREP) most of the banks were already compliant with the 100%. This means that working with COREP data, we could not define the control group because, at the first available reference date, all the banks were subject to the LCR. Moreover, we don't have information regarding the period prior to the introduction of the LCR. Second, while it is certainly interesting to know if the LCR had an effect on lending at the moment of its introduction, it would not be possible to infer from there that the LCR still has an effect nowadays. In other words, the DiD does not fit the needs for a monitoring exercise.

We analyse the relationship between the variations of the stock of bank lending[38] at a given point in time with the level of the LCR that was observed at the beginning of the period. The underlying economic intuition is that banks need some time to react to possible liquidity problems so that the possible impact on the lending side can be observed only after a while. Non-performing exposures have been excluded from the analysis so that changes in the loan aggregates can be more easily

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[38] The lending to real economy, or the stock of lending activities, has been defined as the amount of outstanding performing loans to households and NFCs. The amounts have been obtained from FINREP as the sum of both components.

considered as proxies of the banks' lending policy. In practice, a standard approach to circumvent the endogeneity and simultaneity problem is to rely on lagged variables.[39]

We present different versions of the same model by introducing in the underlying data some filters to control for outliers or other phenomena. This approach permits on one hand to observe the results obtained on the original data set and on the other to do some sensitivity analysis. We also used the Chamberlain (1980) estimator to account for potential fixed effects.[40]

Data

The analysis is based on a panel of 90 banks[41] from 21 countries that reported FINREP and COREP data within the period 2016-2023, subsidiaries were excluded. In December 2023, these banks accounted for the 75% of the total assets of the EU banking system. For the purposes of this study, only the end-of-year figures have been considered and since lagged variables are considered, the number of observations is 630[42].

The weighted average LCR of the banks included in the sample was steadily higher than 100% and increasing over the observed period. The aggregate stock of outstanding loans to the real economy (performing loans toward households and NFCs[43]) for the 90 banks was EUR 9,4 trillion at end of 2016. It increased by 31% between 2016 and 2023 (about 4,0% on average on annual basis). At bank level, it can be observed a huge variability of the yearly growth rate of the lending level. This is partially explained by merger and acquisition operations but also by the presence in the sample of banks having a limited level of loans toward households and NFCs so that small variations in nominal terms can produce high variations in relative terms. Both for the LCR and the variation of the loans, it is possible to observe anomalous values, however most of the observations are found in a range for the LCR going from 100% to 300% and for the variation of the loans from -10% to 15% (see the figure below).

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[39] While in a model like $y_t = \beta x_t + e_t$ there exists the possibility that x_t and e_t are not independent or that the causal relationship between y_t and x_t could go in the opposite direction (i.e. it is x_t that causes y_t), in a model like $y_t = \beta x_{t-1} + e_t$ the problem is less material because in this case the explanatory variable x_t is preconditioned in respect to both e_t and y_t.

[40] While in the context of linear models with panel data, it is possible to resort to the within or the first difference transformation to account for fixed effects, for non-linear models this is no longer the case. For the specific case of logistic models, Chamberlain (1980) derived an estimator that is asymptotically unbiased also in the presence of fixed effects. The main drawback of the Chamberlain estimator is that it exploits only the observations for which the target variable has changed from a period to another. These are called the informative observations and usually their number is lower compared with the sample size.

[41] See detailed sample in **Error! Reference source not found.**.

[42] 90 banks x 7 years

[43] The data is retrieved from the Finrep template F 18.00.a (Gross carrying amount/Nominal amount)

Figure 40: Scatter plot: Variation in the stock of loans vs LCR
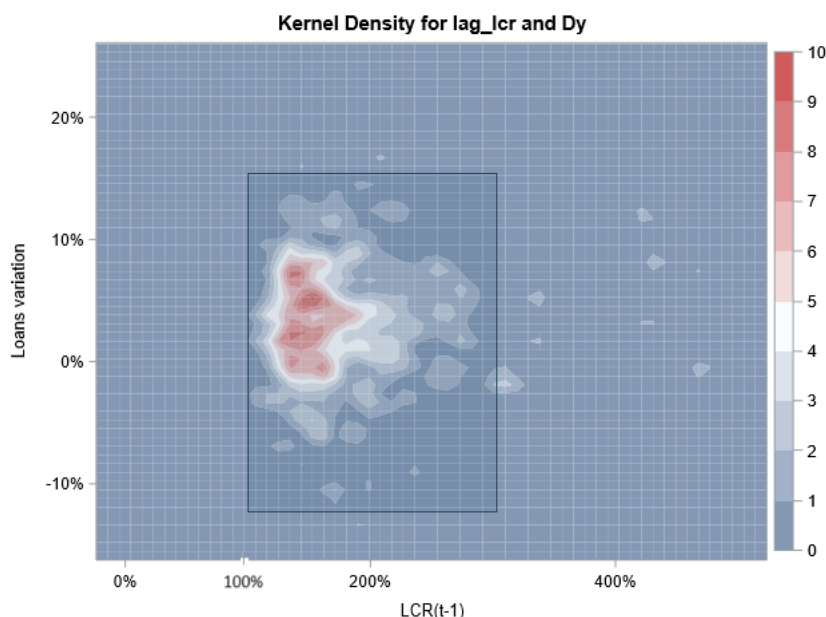
Source: Supervisory reporting and EBA calculations.

Regression analysis

The table below shows the results of a linear regression analysis (pooled OLS) where the dependent variable is the annual variation of the lending activity for each bank and the explanatory variables are the value of the LCR and size[44] of the bank at the beginning of the year. As it can be seen (P-value well above common acceptance thresholds), the relationship between the lending and the LCR appears not statistically significant. We know that already in 2016 the LCR was not binding for most of the banks and this could justify the absence of a relationship with banks decisions. However, this report showed that the LCR level has continued to increase every year, even after most of the banks have reached the regulatory minimum. This suggests that the banking industry could be pursuing a target level for LCR higher than the regulatory minimum. If the banks indeed choose to target an LCR higher than the regulatory minimum, it is still possible that liquidity constraints have an impact on the banks' lending decisions even if the minimum LCR is seemingly met.

Table 3: Linear regression, dependent variable: annual variation of lending

Variable	Parameter Estimate	Pr > |t|
Intercept	0.4090	0.6621
LCR_{t-1}	0.0367	0.2993
$Size_{t-1}$	-0.0141	0.6924

Source: Supervisory reporting and EBA calculations.

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44 Log of the total asset

To test the intuition that banks are targeting for the LCR a value higher than the minimum, a different specification of the model was estimated. A dummy variable is built to distinguish banks which LCR is below the median of the yearly distribution of the LCR reported by the banks included in the sample. Also, the considered dependent variable is a dummy variable that is equal to 1 when the banks' annual variation of the lending is negative (i.e. when the bank reduced the amount of lending toward firms and households) and zero otherwise. Table 4 shows the results of a logistic regression where the modelled event is the probability that a bank materially decreases the stock of loans. The parameter associated with the dummy variable LCR(t-1) < Median is positive and statistically significant (P-value ≈ 2.0%), denoting a higher probability that banks reduce their lending activity when the LCR is lower than the median. The accuracy (area under the curve) of this simple model was 61%.

We ran three alternative regressions. In the first case, a number of banks were excluded because their anomalous annual variation in terms of total assets or because the limited amount of loans in comparison with the total assets. We also ran a regression using the Chamberlain (1980) estimator that is known to be asymptotically robust against the possible presence of individual (fixed) effects. The number of informative data points was 224. In the third model, the lag of the dependent variable was introduced.

The statically significance of the parameter associated with the dummy variable LCR(t-1) < Median is confirmed in the first case (P-value ≈ 2.4%) and even more evident in the second case (P-value ≈ 1.5%). In the third model, the significance is reduced.

Table 4: Logistic regression, dependent variable: probability to reduce the amount of lending

Variable	Basic regression		Filtering outliers	
	Parameter Estimate	Pr > |t|	Parameter Estimate	Pr > |t|
Intercept	3.5973	0.1646	5.4604	0.064
LCR$_{t-1}$ < Median	0.7523	0.0203	0.7788	0.0237
Size$_{t-1}$	-0.2496	0.0185	-0.324	0.0074
Variable	Chamberlaine estimator		Dynamic model	
	Parameter Estimate	Pr > |t|	Parameter Estimate	Pr > |t|
Intercept			2.1906	0.4715
LCR$_{t-1}$ < Median	1.6155	0.0148	0.7168	0.0496
Size$_{t-1}$	1.7747	0.1062	-0.2072	0.094
Δy_class$_{t-1}$			1.811	<.0001

Source: Supervisory reporting and EBA calculations.

The relationship identified between the lending activity and the LCR could be spurious in the sense that the LCR could be correlated with other explanatory variables. To control for this, we also carried out a multivariate analysis to verify the robustness of the relationship. The Additional control variables added to the logistic regression are related to the banks' capital position (CeT1

ratio); profitability (ROE); riskiness of the assets (RWA density and NPL ratio); business model (Total Loans over Deposits and performing loans toward households and NFCs over performing loans and Fee over Net Operative Profits) and others. Overall, 15 additional indicators where considered. With the aim of reducing the number of estimated parameters, the Principal Component Analysis was used. We considered the first seven principal components which represented more than 80% of the total variability. The model included a variable defined at the country level that measures the annual variation of the GDP.

We also added the lag of the dependent variable. This entails to reduce the sample by one year. The inclusion of lags of the dependent variable enables to consider possible dynamic adjustment processes typical of many economic phenomena. The associated parameter is positive and significant (P-value < 1%) indicating for banks experiencing a lower loans growth rate in a given year, it is easier to observe a lower growth rate also in the subsequent year. The accuracy of the model is 75.4%. Along with this model specification, the parameter associated with the dummy variable LCR(t-1) < Median remains positive and statistically significant (P-value ≈ 1.4%).

Table 5: Logistic regression, dependent variable: probability to reduce the amount of lending

Variable	Parameter Estimate	Pr > |t|
Intercept	2.4327	0.4836
LCR_{t-1} < Median	1.0232	0.0139
$Size_{t-1}$	-0.2333	0.0966
Factor1	0.2716	0.0664
Factor2	0.2033	0.069
Factor3	-0.4906	0.055
Factor4	-0.2746	0.1349
Factor5	0.1626	0.2973
Factor6	-0.5777	0.0003
Factor7	-0.2413	0.2517
GDP_{t-1}	1.1242	0.77
Δy_class_{t-1}	1.198	0.005

Source: Supervisory reporting and EBA calculations.

Conclusions

For the period 2016-2023, a sample of 90 major EU banks was considered. Even if for most of the banks considered the LCR was above the minimum requirement during the observed period, it was possible to verify that banks with lower LCR had a higher probability of experiencing a negative growth rate of the loans. Once accounted for additional control variables, the relationship appears still statistically significant. This analysis suggests the possibility that banks are fronting a target for the LCR that is higher than the regulatory minimum and that in some circumstances this can represent a driver of their lending policies.

The unwind mechanism of the LCR

Rationale of the analysis

The unwind mechanism[45] is embedded in the calculation of the excess liquid asset amount (ELAA), which is the amount of liquid assets that is held in excess of the limits provided in the LCR Regulation and that is deducted from the current holdings of high-quality liquid assets (HQLA) when calculating the LCR liquidity buffer. These caps are intended to reduce the reliance on less-liquid assets as part of the LCR liquidity buffer. Therefore, the ELAA is not calculated based on the actual holdings of HQLA. Instead, the Article 17(2) of Delegated Regulation (EU) 2015/61 as amended by the Delegated Regulation (EU) 2018/1620 (hereinafter the Regulation) requires adjusting the amounts of Level 1, Level 2A and Level 2B assets by unwinding[46] all secured funding, secured lending or collateral swap transactions, that are involving HQLA on at least one leg of the transaction and that are maturing within 30 calendar days. In doing so, the resulting "adjusted" amounts reflect the stock of Level 1, Level 2A and Level 2B assets that an institution would hold if it had not entered these short-term secured transactions.

In that sense, the unwind mechanism aims to avoid an unsustainable inflation of the liquidity buffer by preventing credit institutions from using short-term secured funding transactions (including repos and collateral swaps) to circumvent the caps on the Level 1 covered bonds, Level 2A and Level 2B assets, and to unsustainably increase the liquidity buffer via short-term secured transactions. For example, without the unwind mechanism and through repo transactions, credit institutions could swap Level 2 assets (to which limits apply within the LCR framework) with Level 1 assets (which is allowed in unlimited amounts among the HQLA). Credit institutions are not asked to actually resolve these short-term contracts but only to simulate the economic impact of the resolution of these contracts. In other terms, in the context of the calculation of the ELAA, credit institutions are asked to evaluate the composition of their holdings of HQLA under the hypothesis that all the short-term contracts involving HQLA are not rolled over.

Although there is general agreement about the purpose of the unwind mechanism — i.e. to hinder credit institutions from improving the LCR by borrowing liquid assets against less liquid assets through short-term transactions — concerns have been raised about the possibility that the unwind mechanism may have some unintended consequences. For example, the effect of the unwind mechanism in the event of reverse repo operations can raise some doubts. Furthermore, the

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[45] In this section, the term "unwind mechanism" is generally used to indicate the "unwind" of secured transactions in order to calculate the adjusted stock of Level 1, Level 2A and Level 2B that serve as the basis for applying the caps.
[46] In finance, the term 'to unwind' is used to refer to the process of closing out a trading position; the term tends to be used when the trade is complex. The term 'unwinding' is more likely to be used when the buying or selling occurs over multiple transactions. For the purpose of this note, 'unwinding' means assuming that all short-term secured transactions (< 30 calendar days) are maturing, i.e., assuming no roll-over at all.

unwind mechanism intervenes in the complex system of cap and floor foreseen in the quantification of the LCR liquidity buffer and its effect is not easily understood.

Data

This Section offers an analysis of the impact of the unwind mechanism for a sample of major European credit institutions (institutions hereinafter). The impact is evaluated in terms of both the quantification of the Level 1 component of HQLA (the numerator of the LCR) and the quantification of the LCR itself. The analysis is extended for a period of over 7 years, i.e. from the end of 2016 to Q2 of 2024. The analysis also leverages on the extended number of institutions for which the EBA has started to collect data under the EUCLID project starting from end 2020. Thanks to this, the analysis extends also to less significant and local institutions with a second sample that has been analysed separately.

The empirical analysis is based on common reporting (COREP) data stemming from about 120 major institutions in each year (first sample) and from over 2 thousand of smaller institutions (second sample), representative of the 27 EU Member States and 3 EEA/EFTA states. Unless stated otherwise, all average figures are weighted. The Table below shows the average size of the institutions in the two samples.[47] In the sample of the major institutions the average of the Total Assets is about 230 bln of euro while in the second sample it is less than 3 bln. In both samples the average LCR is well above the regulatory minimum. In the Annex it is provided the detail of the composition of the two samples in terms of countries.

Table 6: Samples of major and smaller Institutions, June 2024

	Major Instit.	Smaller Instit.
Nr of inst.	117	2,638
Assets (bln) / Nr of inst.	238.1	2.5
LCR avg	160.4%	217.3%

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[47] Since not all institutions report Finrep information to the EBA, the Total Assets (Template F.01 row 380) has been proxied with the total exposures amount used for the computation of the Leverage Ratio (Template C.47 row 290). This definition is broader than the Total Assets because it also encompasses the off-balance sheet exposures transformed into credit equivalent through the application of credit conversion factors. This implies that it can be expected with this definition the figures are likely to be somehow higher than what could be obtained with the Finrep definition.

Impact of the unwind mechanism on L1 excluding EHQCB

As of the reporting reference date of the end of June 2024, the impact of the unwind mechanism was, at aggregate level, positive for major institutions and for the samples of smaller institutions in a sense that the adjusted amount of Level 1 assets excluding EHQCB was higher than the reported amount, with an increase of EUR 461 bln for the first sample and an increase of EUR 83 bln for the second. This result implies that for the institutions in the samples, at aggregate level and in net terms, the amount of reverse repos collateralised by other than Level 1 assets excluding EHQCB exceeded the amount of correspondingly collateralised repos. As the adjusted amount of level 1 assets EHQCB is included in the adjustment calculation with a negative sign, such an excess of reverse repos over repos, all other things being equal, reduces the ELAA and increases the liquidity buffer amount. The associated concerns refer to the fact that the calculated liquidity buffer amount might not be available throughout the LCR's 30-day horizon if the ELAA is calculated on the basis of an amount of level 1 assets EHQCB that is greater than level 1 assets EHQCB holdings at the reporting reference date[48]. Figure 41 depicts the effect of the unwind mechanism on the amount of Level 1 assets excluding EHQCB.

Figure 41: Extent of the unwind mechanism regarding L1 excl EHQCB, June 2024

Major institutions
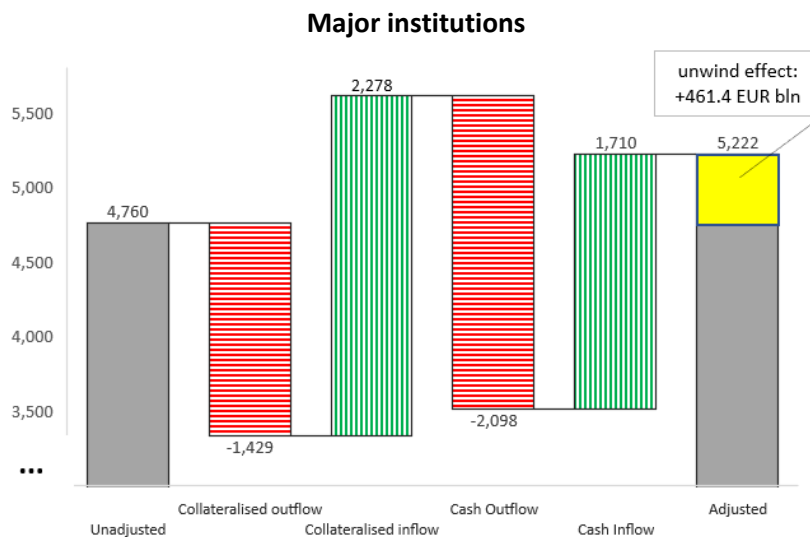
Smaller institutions

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[48] At least at the beginning of day 1 of the LCR time horizon the composition of the liquidity buffer might be not in line with Article 17(2) of Delegated Regulation (EU) 2015/61.
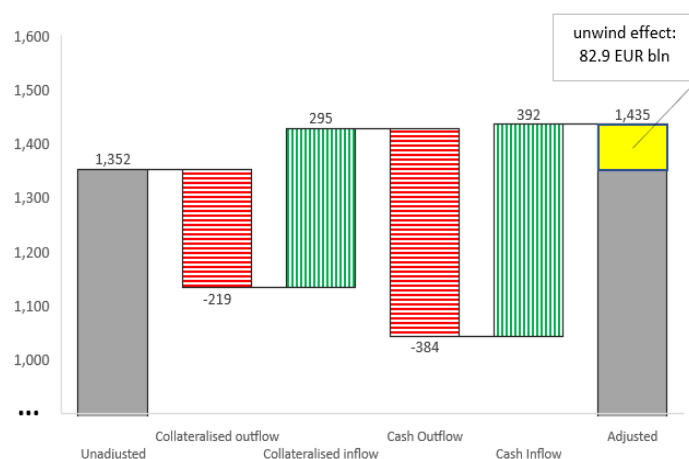
For the Major institutions the unwinding of short-term operations produced an increase of the adjusted amount of Level 1 assets excluding EHQCB with respect to the reported amounts in the period Q1 2018 to Q3 2020 (see Figure 42). Before 2018, the unwinding produced a decrease (with respect to the reported amounts) in the amount of adjusted Level 1 assets excluding EHQCB. It is worth remembering that, in Q3 2017, the ECB conducted a refinancing operation to provide additional, longer-term, refinancing to the financial sector maturing in March 2021. In May 2020 the impact of the unwind mechanism became negative for near 200 bln but in June of the same year the impact turned again to positive until then end of the year. For most of the 2021 the impact of the unwinding was practically null (less than 1% in relative terms) and it turned to positive starting from the end of the year. In May 2023 the impact of the unwind mechanism became negative but in June the impact was again null. During the 2024, the impact was positive and at the highest level observed in the last years. For the sample of small institutions, the effect of the unwind mechanism produced an increase of Level 1 assets excluding EHQCB (in comparison with the reported amount) for most of the observed period.

Figure 42: Extent of the unwind mechanism regarding L1 excl EHQCB since 2016

Major institutions

Smaller institutions
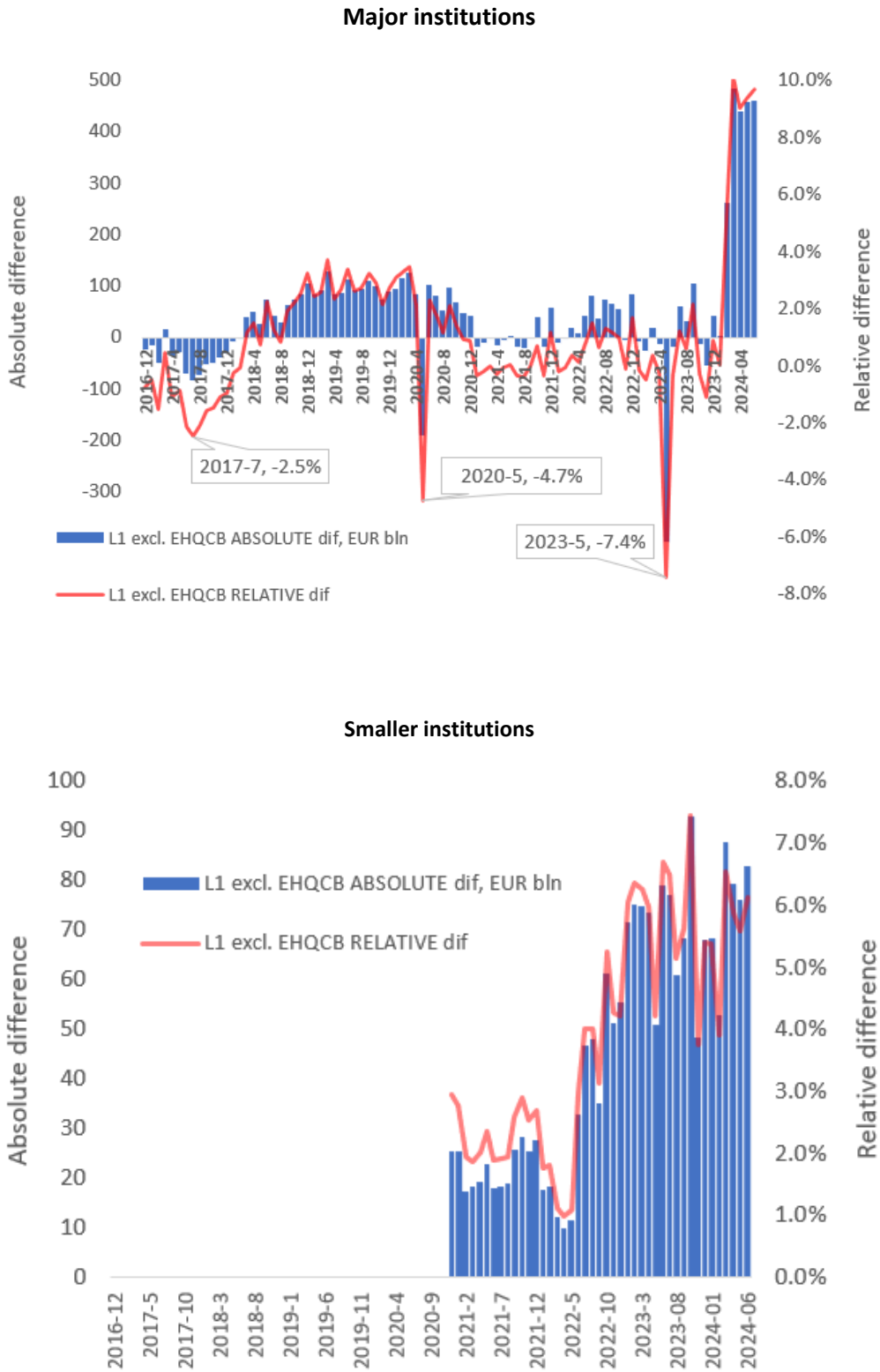
Impact of the adjustment calculation on the LCR

Even if the unwind mechanism has a non-zero effect (the adjusted amount of L1 assets differs from the actual amount), it does not necessarily have an impact on the overall level of the liquidity buffer or the LCR. This would only be the case where – based on the adjusted amounts of liquid assets – the institutions were constrained by the caps envisaged in the Regulation, thus requiring a deduction (the ELAA) from the current – unadjusted – holdings of liquid assets. Where the caps are not binding, the ELAA would be zero. The formulae for the determination of ELAA (adjustment calculation) does only induce a change to the liquidity buffer when at least one of the caps on non-Level 1 assets EHQCB, applied to the adjusted amounts after the unwind, are breached. For instance, if a bank has no non-Level 1 assets EHQCB (reported or adjusted), no cap can be breached and the unwind mechanism is irrelevant for the overall liquidity buffer (as there is nothing that can be capped). Also, if the effect of the unwind mechanism is "positive" for all categories of HQLA, the effects on individual HQLA categories can neutralise each other.

The table below shows the impact of the unwind mechanism on the LCR at institution level. In most cases, the LCR is not influenced at all by the unwind mechanism. For example, in May 2023 where the impact of the unwinding on the L1 assets was significant for the sample of Major institution (see Figure 42), the LCR was not influenced by the unwinding mechanism. Considering all the reference dates and both samples, a negative impact (a decrease of the LCR) has been observed in a limited number of cases and in most of them the LCR was below or above the regulatory minimum both with and without the application of the unwind mechanism. Only in few cases the LCR was higher than 100% without the unwind mechanism and lower with the unwind mechanism.

Table 7: Impact of the unwind mechanism on the LCR at bank level

nr of instit	Major insit.			Smaller instit.		
	LCR increases	LCR unchanged	LCR decreases	LCR increases	LCR unchanged	LCR decreases
31/07/2017	3	119	5			
31/12/2017	1	120	4			
31/12/2018	1	129	2			
31/12/2019	3	126	1			
31/05/2020	.	128	1			
31/12/2020	2	132		4	2,378	5
31/12/2021	.	126		1	2,254	2
31/12/2022	.	119	1	3	2,718	5
31/05/2023	.	119		5	2,661	53
30/06/2023	.	121	.	3	2,711	3
31/12/2023	.	119	.	2	2,630	3
30/06/2024	.	117	.	6	2,629	3

The functioning of the adjustment calculation in specific situations

In this sub-section, some practical and theoretical situations where the unwind mechanism may produce unwarranted results are analysed.

First consider a credit institution that has no HQLA at all. At the reporting date, the credit institution may make an overnight collateral swap, borrowing Level 2B assets against non-HQLA. In this case, the adjusted value of any HQLA category would be zero – i.e., no excess amounts would be calculated. Hence, the credit institution would report a positive liquidity buffer amounting to the liquidity value of the borrowed Level 2B assets, although it has no Level 1 assets and the Level 2B assets have to be returned within the LCR horizon. However, this arbitrage would be possible only if such a transaction was made with the domestic central bank otherwise, the credit institution would need to report a liquidity outflow. It was not possible to find similar situations in the two samples observed. This implies that, at least for the period and for the institutions used for this report, this situation is not relevant and only theoretical.

Second, consider a credit institution that conducts a secured funding operation with the domestic central bank using non-HQLA collateral. If the maturity of this operation falls within the LCR horizon, the operation will need to be included in the unwind. Where the funds initially received through the secured funding operation have been reused and invested in assets other than Level 1 EHQCB (for example for grating loans) and provided the credit institution does not report any other current holdings of Level 1 assets excl. EHQCB, the adjusted amount of Level 1 assets excl. EHQCB may become negative. In this case, the adjusted amount of Level 1 assets excluding EHQCB enters the adjustment calculation with a positive sign and ELAA may exceed the amount of HQLA before unwind. This is because, unlike in the Basel standards, the EU LCR regulation does not provide for a floor (of zero) for the individual categories of adjusted amounts of liquid assets. It was possible to find, overall (the entire period with monthly frequency and both samples), just 8 institutions presenting negative value for the amount of Level 1 assets excluding EHQCB after the application of the unwind mechanism and in most of these cases, the reported LCR was null. Most of these situations were observed before the 2019.

Even if there is no evidence that the absence of the zero floor has a detrimental impact, it could be argued that it is unjustified that the adjusted amount can become negative. Indeed, the motivation of the unwind mechanism is to avoid circumventing the caps referred to in the LCR regulation, but, if the assets received have been reused for non-HQLA purposes (such as granting loans), then the transaction has not been used to circumvent the limits and so there is no reason to penalise the institution. However, a negative adjusted amount provides some valuable information. It indeed reveals that part of the assets received though a short-term transaction is not available, because it is committed to a, possibly, long-term transaction.

Third, in the event of a reverse repo, a credit institution with excess liquidity uses part of its HQLA to obtain assets providing higher returns but with lower liquidity levels. In the following table it is reported the number of banks for which the adjusted L1 assets are higher than the reported L1

assets after the application of the unwinding. It is also reported the variation of the average LCR because of the application of unwind mechanism. As it can be seen, the effect is quite limited. More details are provided in the subsequent table where it is reported the detail of the institutions involved in reverse repo operations for which the impact of the unwind mechanism on the LCR is material. For the sample of major institutions, it can be noticed that the level of the LCR is well above the minimum both with and without the application of the unwind mechanism. In the sample of small institutions, it is possible to see cases where impact of the unwind mechanism is material, in particular, the unwinding shapes a material increment of the LCR, however these cases are negligible in relative terms.

Table 8: Banks involved in reverse repo operations, effect of the unwind mechanism on the LCR

Sample	date	nr of instit.	% of Net Liq Outflow (*)	LCR	effect of the unwinding on the LCR
Major instit.	31/07/2017	46	40.4%	148.8%	0.13%
	31/12/2017	41	49.6%	141.9%	0.17%
	31/12/2018	53	65.0%	142.2%	0.22%
	31/12/2019	55	59.6%	145.7%	0.48%
	31/05/2020	42	30.1%	159.5%	0.00%
	31/12/2020	54	53.4%	175.8%	0.12%
	31/12/2021	43	55.6%	171.4%	0.00%
	31/12/2022	42	52.6%	159.1%	0.00%
	31/05/2023	31	22.9%	166.9%	0.00%
	30/06/2023	45	49.5%	157.7%	0.00%
	31/12/2023	46	43.7%	162.8%	0.00%
	30/06/2024	44	47.6%	154.5%	0.00%
Smaller instit.	31/12/2020	97	19.8%	229.7%	1.48%
	31/12/2021	65	24.2%	176.6%	1.91%
	31/12/2022	89	30.0%	210.5%	1.57%
	31/05/2023	102	34.2%	209.2%	1.60%
	30/06/2023	77	33.6%	202.2%	1.64%
	31/12/2023	86	36.0%	207.8%	1.76%
	30/06/2024	92	32.0%	215.4%	1.92%

(*) the percentage is referred to the sample and period

Table 9: detail of the banks involved in reverse repo operations for which the effect of the unwind mechanism is material

	date	nr of instit.	% of Net Liq Outflow (*)	LCR with the unwind	without the unwind
Major instit.	31/07/2017	3	0.3%	249.8%	228.9%
	31/12/2017	1	0.1%	383.5%	322.8%
	31/12/2018	1	0.2%	219.0%	140.1%
	31/12/2019	3	0.6%	190.9%	143.4%
	31/12/2020	2	0.3%	289.5%	264.4%
Smaller instit.	31/12/2020	1	0.3%	241.4%	67.3%
	31/12/2021	1	0.2%	280.4%	71.7%
	31/12/2022	3	0.3%	234.8%	71.8%
	31/05/2023	4	0.3%	340.0%	169.1%
	30/06/2023	3	0.3%	308.0%	129.1%
	31/12/2023	2	0.3%	282.3%	50.8%
	30/06/2024	4	0.2%	347.5%	94.5%

(*) the percentage is referred to the sample and period

Fourth, a sale-and-lease-back structure is an operation in which the institution sells non-HQLA assets and uses the cash received in a reverse repo to return the non-HQLA assets. It is essentially an operation which changes the formal ownership but not the liquidity risk profile. What may happen in this case is that the amount of liquid assets is unchanged in comparison with the initial situation however, due to the unwinding, the cash amount is considered as if it were at hand[49]. In the situation where only Level 1 excluding EHQCB assets and non-HQLA assets are involved, it should be observed that the adjusted amount of Level 1 excluding EHQCB assets increases in respect to the reported amount but the variations of the adjusted amounts of Level 1 EHQCB, Level 2 A and Level 2 B in respect to the reported amounts is zero. It was possible to detect similar situations in the two samples considered but, in practically all that cases, the LCR was above 100% and the impact of the unwinding on the LCR was negligible.

Conclusions

In the observed period and with the available samples of credit institutions, it was not possible to detect any material impacts from the LCR unwind mechanisms on the level of the LCR. In aggregate terms, it was possible to find that the unwind mechanism has an effect on the determination of the adjusted amount of Level 1 assets, and this effect can be positive or negative, whereas the effect on the LCR is mostly null (i.e. the ELAA was zero). A few cases were detected in which the unwind mechanism caused a reduction in the LCR, but the effect was not economically meaningful in most

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[49] In other terms it is possible that a credit institution uses short term reverse repo to optimize the LCR, in this case the amount of level 1 assets excluding EHQCB will increase after the unwind.

of them[50]. Some theoretical situations where the unwind mechanism could produce unwarranted results have been studied and, in particular, it was shown that their materiality is limited. The case of reverse repo operations has been studied because in this case the unwind mechanism may produce an increase in the amount of HQLA. However, it has been empirically shown that the materiality of these situations is currently limited.

These findings appear to be due to the predominant use by banks of Level 1 EHQCB far more than the regulatory minimum of 30% of the overall liquidity buffer, which makes an excess of other HQLA categories over the respective caps relatively unlikely. However, this situation may be the result of certain special conditions on funding markets (e.g. the liquidity provision by central banks) that may cease in the future. However, as central banks are gradually winding down their long-term refinancing operations, the relevance of short-term funding operations secured with non-level 1 assets that are subject to the unwind will again become more prevalent. Thus, it has to be observed whether the practical relevance of unwarranted effects of the unwind mechanism may increase when the current funding conditions change.

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[50] It must be mentioned that the possibility to waive the unwind mechanism introduced in Delegated Regulation (EU) 2015/61 should provide sufficient flexibility to deal with such idiosyncratic situations.

Conclusions

EU banks' average LCR ratios increased in June 2024 from the year earlier but started to decline in the first half of 2024. On average, the LCR ratios remain well above the minimum requirement following significant increases starting from September 2016. The slight decline in LCRs in the first half of 2024 is mostly explained by an increase in items that count on net outflows.

The elevated level of interest rates with its adverse impact on the market value of liquid instruments, the gradual mopping-up of central bank reserves as well as the lower remuneration of central bank reserves have all contributed to shifts in the composition of the banks' liquidity buffers. Thus, the share of Level 1 cash and central bank reserves in EU/EEA banks' HQLA portfolios has sharply declined while the share of Level 1 sovereigns and covered bonds has increased. Although EU/EEA banks reported lower LCR levels in the first half of 2024, the recent cuts in most EU central banks' policy interest rates creates room for a build-up of liquidity buffers in the future.

Like in the previous years, as of June 2024 EU banks continue to hold higher liquidity buffers, in relation to their net cash outflows, in domestic currencies than in other significant (foreign) currencies. That said, a positive development is that the liquidity position in USD has substantially improved compared to the previous years both in terms of the average LCR and the share of banks that reported LCR in USD below 100%. In contrast, the LCRs in GBP have declined and the share of banks that reported LCR in GBP below 100% has increased. At the aggregate level, the surplus in liquidity coverage in all currencies offsets the liquidity shortfall in other significant currencies. However, low levels of LCR in one significant currency may generate issues during stress periods when liquidity is scarce and the FX swaps markets may be difficult to access. Banks need to ensure consistency between liquidity buffers and net outflows in each currency in which they operate. Against this background, competent authorities should consider making greater use of their discretion to restrict currency mismatches. This can be done e.g. by setting limits on the size of the net liquidity outflow in a foreign currency that can be met by holding liquid assets not denominated in that currency.

The report analysed the impact of LCR on banks' lending policies using a sample of 90 major EU banks for the period 2016-2023. Even if for most banks the observed LCR was consistently above the minimum requirement, it was possible to verify that banks with a lower LCR had a higher probability of experiencing a negative growth rate of loans. Once accounted for additional control variables, the relationship appears still statistically significant. This analysis suggests that when accounting for the possibility that banks are targeting a level of LCR that is higher than the regulatory minimum, there are some possibilities that lower levels of LCR may act as a constraint for lending growth.

It was possible to find that the LCR unwind mechanism influences the determination of the adjusted amount of Level 1 assets. While this effect can be either positive or negative, the effect on the LCR is mostly null. These findings appear to be due to the use by banks of Level 1 excluding EHQCB far

more than the regulatory minimum of 30% of the overall liquidity buffer which makes it less likely that other HQLA categories could exceed their respective caps. However, this situation may be the result of specific conditions on the funding markets (e.g. the liquidity provision by the ECB through the TLTROs) that will be gradually eliminated in the coming years.

Annex

Table 10: Number of banks included in the June 2024 analysis[51]

Country	All banks	Of which: Subsidiaries	G-SIIs/O-SIIs	Of which: Subsidiaries
AT	16	1	2	0
BE	9	0	3	0
BG	6	0	2	0
CY	4	0	1	0
CZ	5	0	1	0
DE	25	1	10	1
DK	9	0	5	0
EE	8	1	1	1
ES	37	3	4	0
FI	11	0	3	0
FR	21	0	7	0
GR	4	0	4	0
HU	9	5	7	5
IE	5	0	2	0
IS	4	0	3	0
IT	45	1	4	0
LI	3	0	3	0
LT	9	1	2	1
LU	13	5	1	0
LV	6	1	4	1
MT	5	1	3	1
NL	19	0	5	0
NO	3	0	0	0
PL	14	7	9	6
PT	15	2	6	1
RO	8	5	7	5
SE	26	0	3	0
SI	5	1	1	0
SK	1	0	0	0
Total	**345**	**35**	**103**	**22**

Source: Supervisory reporting and EBA calculations.

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[51] Results that are shown by total/group of banks (total EU/GSIIs, O-SIIs and others) do not include subsidiaries. However, results by country do include subsidiaries.

Table 11: Number of banks included in the evolution analysis[52] if the balanced sample criterion applies, June 2024

Country	All banks	G-SIIs/O-SIIs
AT	4	2
BE	3	2
BG	1	1
CY	1	1
DE	15	8
DK	4	4
EE	1	0
ES	10	4
FI	3	3
FR	9	6
GR	4	4
HU	1	1
IE	3	2
IT	9	4
MT	2	2
NL	4	4
PL	1	1
PT	5	5
RO	1	1
SE	5	3
SI	1	1
Total	**87**	**59**

Source: Supervisory reporting and EBA calculations.

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[52] All evolution analyses are shown by group of banks (total EU/GSIIs, O-SIIs and others) and, therefore, they exclude subsidiaries.

Table 12: Number of banks included in the analysis by two reference dates[53] if the balanced sample criterion applies

Country	All banks	G-SIIs/O-SIIs
AT	15	3
BE	9	3
BG	6	2
CY	4	1
CZ	5	1
DE	23	9
DK	9	5
EE	7	
ES	34	4
FI	11	3
FR	21	7
GR	4	4
HU	4	2
IE	5	2
IS	3	3
IT	42	4
LI	3	3
LT	8	1
LU	8	1
LV	5	3
MT	4	2
NL	19	5
NO	3	
PL	7	3
PT	13	5
RO	3	2
SE	25	3
SI	4	1
SK	2	
Total	**306**	**82**

Source: Supervisory reporting and EBA calculations.

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[53] Results that are shown by total/group of banks (total EU/GSIIs, O-SIIs and others) do not include subsidiaries. However, results by country do include subsidiaries.

Table 13: Number of banks submitting liquidity coverage data (by business model), June 2024

Country	All banks
Universal banks	121
Retail-oriented	85
Corporate-oriented	12
Other-specialized	31
Other BM	56
Total	**305**

Source: Supervisory reporting and EBA calculations.

Table 14: Number of banks included in analysis in section 'LCR — impact on lending', June 2024

Country	ISO code	Banks
Austria	AT	5
Belgium	BE	4
Bulgaria	BG	1
Cyprus	CY	2
Germany	DE	15
Denmark	DK	4
Estonia	EE	1
Spain	ES	10
Finland	FI	3
France	FR	9
Greece	GR	1
Hungary	HU	1
Ireland	IE	4
Italy	IT	9
Malta	MT	2
Netherlan	NL	5
Poland	PL	1
Portugal	PT	5
Romania	RO	1
Sweden	SE	6
Slovenia	SI	1
Total		**90**

Source: Supervisory reporting and EBA calculations.

Table 15: Number of banks included in analysis in section 'The unwind mechanism of the LCR'

Country	ISO code	Smaller banks	Major banks
Austria	**AT**	346	6
Belgium	**BE**	15	5
Bulgaria	**BG**	12	1
Cyprus	**CY**	5	2
Czech Rep	**CZ**	12	.
Germany	**DE**	1,190	18
Denmark	**DK**	44	4
Estonia	**EE**	5	2
Spain	**ES**	57	10
Finland	**FI**	7	4
France	**FR**	77	12
Greece	**GR**	10	4
Croatia	**HR**	12	.
Hungary	**HU**	8	1
Ireland	**IE**	7	6
Iceland	**IS**	.	3
Italy	**IT**	117	10
Liechtenst	**LI**	10	.
Lithuania	**LT**	13	1
Luxembou	**LU**	47	3
Latvia	**LV**	6	1
Malta	**MT**	14	2
Netherlan	**NL**	22	6
Norway	**NO**	39	3
Poland	**PL**	503	2
Portugal	**PT**	20	5
Romania	**RO**	9	1
Sweden	**SE**	99	7
Slovenia	**SI**	5	1
Slovakia	**SK**	4	.
Total		**2,715**	**120**

Source: Supervisory reporting and EBA calculations.

Table 16: Definition of business models

Type of business model	Business model	Label	Qualitative description of the business model		
			Main activities	**Main funding**	**Ownership/legal structure**
Universal banks	Cross-border universal bank	Cross-border universal	Engaged in several banking activities including retail, corporate and capital market operations Major cross-border operations	Diversified source of funding including deposits from clients, wholesale funding and derivatives liabilities Significant part of funding can come from foreign investors Taking or not taking retail deposits	Major cross-border cooperative banks: owned by depositors All others: no specification
	Local universal bank	Local universal	Engaged in several banking activities including retail, corporate and capital market operations Operating predominantly in their domestic market	Diversified source of funding including deposits from clients, wholesale funding and derivatives liabilities Predominantly funded in their domestic market Taking or not taking retail deposits	Major cross-border cooperative banks: owned by depositors All others: no specification
Retail banks	Consumer credit banks (including automotive banks)	Consumer/auto	Originating and servicing consumer loans to retail clients	No specification	No specification
	Co-operative banks/savings and loan associations	Cooperative	Originating and servicing loans to local community individuals and businesses	Retail deposits	Owned by depositors
	Savings banks	Savings	Retail banking (payments, savings products, credits and insurances for individuals and small and medium-sized enterprises)	Retail deposits	No specification
	Mortgage banks taking retail deposits (including building and loan associations from Germany – *Bausparkasse*)	Mortgage	Originating and servicing mortgage loans to retail clients	Retail deposits	No specification Building societies: subject to specific statutory requirements with respect to activities and purpose
	Private banks	Private	Wealth management services to high net worth individuals and families	No specification	No specification
Corporate-oriented banks	Corporate-oriented (including leasing and	Corporate-oriented	Financing domestic and international trade Specialise in products such as letters of credit,	No specification Taking or not taking retail deposits	No specification

	factoring, merchant banks)		bank guarantees and collection and discounting of bills		
Other specialised banks	Custodian institutions (including CSDs, which are subject to CSDR)	Custodian	Custodian services (holding securities in electronic or physical form on behalf of corporate and individual investors for safekeeping) Other services such as account administration, transaction settlements, collection of dividends and interest payments, tax support and foreign exchange	No specification	No specification
	Institutions not taking retail deposits (including pass-through financing)	Pass-through	Originating and servicing loans (including mortgage loans) Includes pass-through financing	No retail deposits Issuance of covered bonds or other types of securities liabilities	No specification
	Public development banks	Public	Financing public sector projects or the provision of promotional credit or municipal loans	No specification	Majority owned by the state or public sector. Subject to specific statutory requirements with respect to the purpose and/or activity
	Other specialised banks	Other	Banks not included in the above categories (residual category) This category should include among other business models: * Islamic finance * cooperative central banks * CCPs	No specification	No specification

Source of detailed business model categories: Cernov and Urbano (2018), "Identification of EU bank business models: A novel approach to classifying banks in the EU regulatory framework", EBA Staff Paper N 2 - June 2018.
Grouping by 'Type of business model' based on EBA criteria.

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