ASSET ENCUMBRANCE REPORT

EBA/Rep/2023/22 JULY 2023

EBA EUROPEAN BANKING AUTHORITY

Contents

List of figures

Executive summary

EU banks' level of asset encumbrance, which had increased considerably since the outset of the pandemic, reversed during year 2022 near to its average pre-pandemic level. The asset encumbrance ratio decreased from 29.1% in December 2021 to 25.8% in December 2022. The change in the ratio was attributed to both the decrease of encumbered assets and collateral received by 7.3% (EUR 640 bn), and the increase of total assets and collateral received by 4.6% (EUR 1.4 tn).

The encumbrance ratio remained comparatively high in some large jurisdictions (Germany, France, and Italy) as well as in some Nordic countries such as Denmark and Finland. In Denmark and Finland high encumbrance ratios were mostly explained by an extensive use of covered bond funding. In Italy, central bank funding was the main source of encumbrance, while in Germany and France, the sources of encumbrance were more diverse, albeit repurchase agreements funding prevailed.

EU banks limited their reliance on central bank funding as they gradually repaid central bank facilities. The trigger point of this has been the tightening of the monetary policies by the central banks to alleviate inflation pressures. As a result of this shift away from central bank funding, repurchase agreements have become the major source of encumbrance followed by covered bonds and then central bank funding.

The level of overcollateralisation (OC) decreased slightly by 1p.p. on a yearly basis (YoY) to 115.3% as of December 2022. Despite the decrease in overall overcollateralisation, banks reported a material increase in overcollateralisation of central bank funding. This is partly explained due changes in collateral valuation caused by higher interest rates, as well as because increased use of credit claims and asset-backed securities as collateral which bear higher haircuts.

Available capacity for EU banks to access central bank funding remains important in times of market stress and turmoil. Following the decrease in liabilities towards central bank funding, EU banks reported an increase in their unencumbered central bank-eligible assets and collateral by more than EUR 700 bn to EUR 5 tn (or 17.5% of their total assets and collateral).

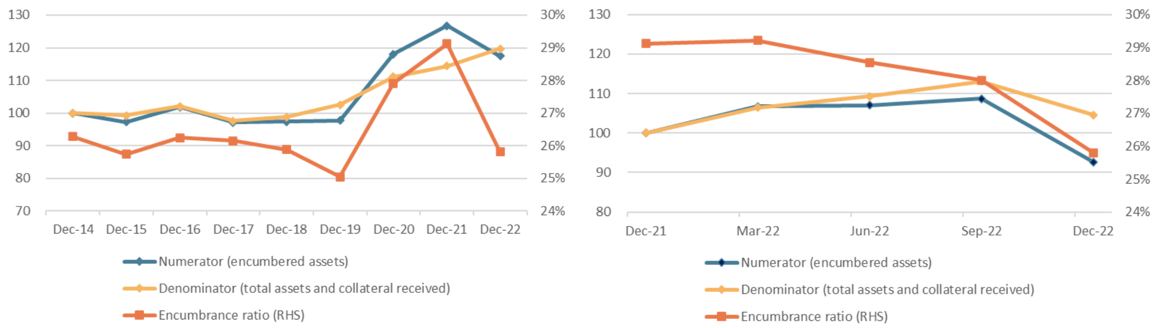
The maturity profile of encumbered assets and collateral continued to be highly influenced by the extensive use of central bank facilities as well as geopolitical tensions. For example, in the aftermath of Russian invasion there was a major shift to overnight facilities which reversed towards the end of the year.

1. Asset encumbrance ratios

1. During the year 2022, the weighted average asset encumbrance ratio (AE ratio) of the European banking sector has reversed near to its pre-pandemic average levels. As of December 2022, the asset encumbrance ratio stood at 25.8%, compared to 29.1% one year before. The AE ratio followed a gradual decreasing trend since March 2022, accelerating its decreasing pace in the last quarter (Figure 1).

2. Since the outset of the pandemic and until March 2022, the asset encumbrance ratio increased considerably mainly due to the increase in encumbered assets, yet since March 2022, EU banks decreased their encumbered assets collateral, decreasing their AE ratio too. As of December 2022, encumbered assets and collateral received decreased by EUR 642 bn (7.3% YoY), while total assets and collateral received increased by EUR 1.4 tn (4.6% YoY) compared to December 2021. The pace of the decrease in the asset encumbrance ratio accelerated during the last quarter of 2022 due to the major repayment of central bank facilities by EU banks. The change in ECB's TLTRO[1] terms which provided additional incentives to banks for early repayment of the loans drawn was a major driver of this (Figure 1).

Figure 1: Evolution of the asset encumbrance ratio of total assets and collateral received (%), numerator (encumbered assets) and denominator (total assets and collateral received); YoY (left) (Dec-14 to Dec-22) (Dec-14=100) and QoQ (right) (Dec-21 to Dec-22) (Dec-21=100)



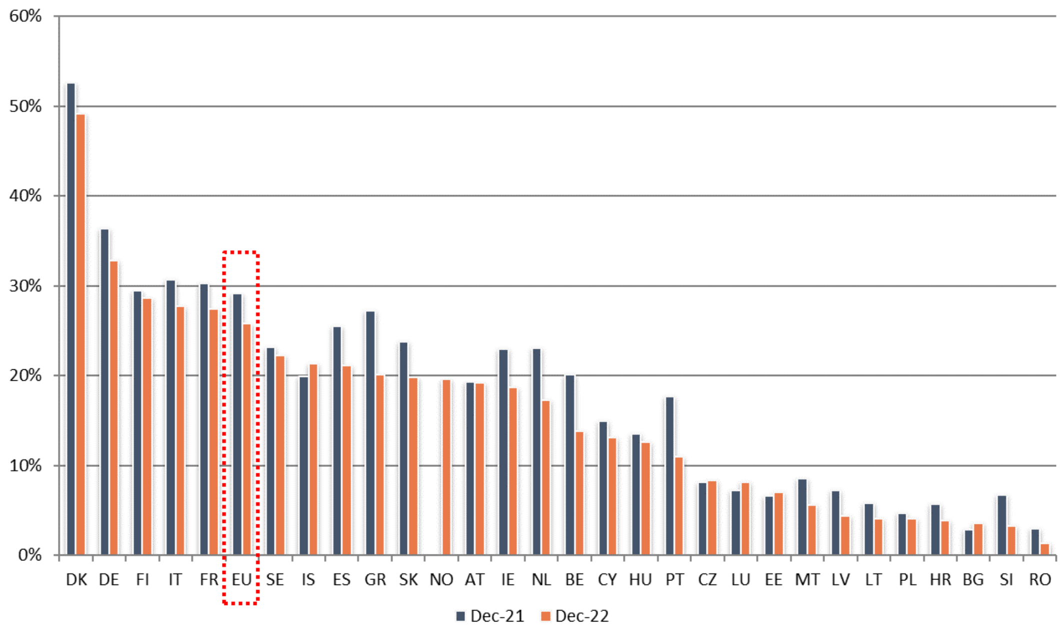
Source: EBA Supervisory Data

3. As of December 2022, only five countries showed an encumbrance ratio above the EU average (25.8%). These were the largest EU jurisdictions such as Germany (32.8%), Italy (27.7%), and France (27.4%), as well as Nordic countries such as Denmark (49.2%) and Finland (28.6%). On

[1] https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=CELEX%3A32022D2128&qid=1668618998151&home=ecb

the contrary, the ratio was very low in several non-Eurozone countries. For instance, banks from Bulgaria, Romania, Poland, and Hungary exhibited ratios below 5% (Figure 2).

Figure 2: Weighted average asset encumbrance ratio by country

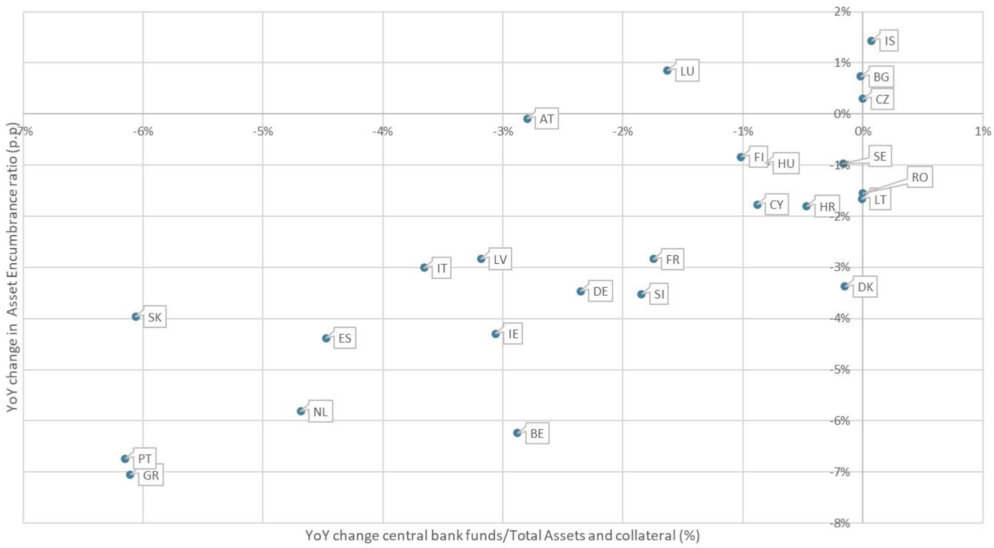


Source: EBA Supervisory Data

4. When country level encumbrance ratios are compared with those of 2021, the decrease in asset encumbrance ratios was broad based. The largest decreases in encumbrance ratios were reported by Greek banks which led the decline with a reduction of 7.1 p.p. YoY. Greek banks reported an AE ratio of 20.1% as of December 2022. Portuguese banks reported -6.7p.p. YoY decrease in their AE ratio to 11% as of December 2022. Both countries were among those reporting the highest decreases in central bank funding compared to their total assets (Figure 3)

5. During 2022, only a few countries reported an increase in their asset encumbrance ratio. The largest increases were reported in banks of Luxemburg (+0.9p.p. YoY to 4.1% in December 2022), followed by Bulgarian banks (+0.7p.p. YoY to 3.6%). Yet both countries still reported comparatively very low encumbrance ratios (Figure 2).

Figure 3: YoY percentage change of central bank funds[2] over total assets and collateral (%) VS YoY change in asset encumbrance ratio (p.p.) by country (Dec 2022)

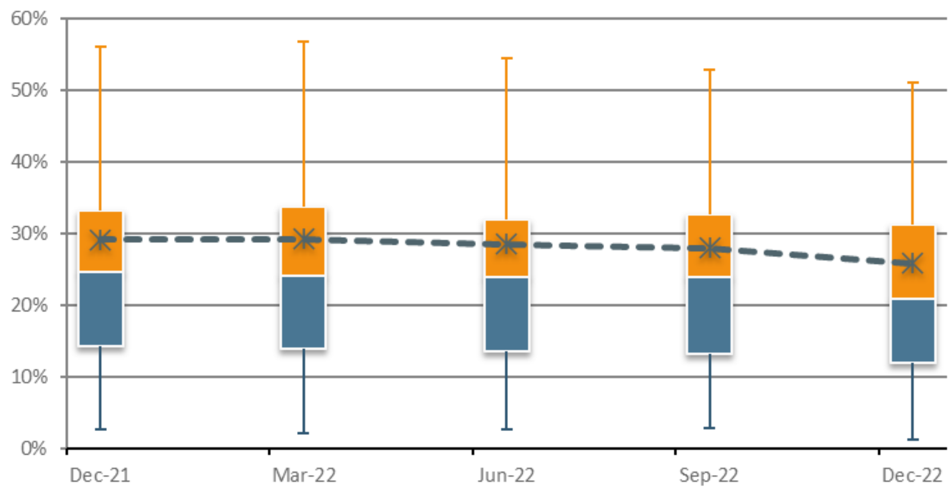


Source: EBA Supervisory Data

6. Despite the overall decrease in AE ratio, dispersion in the encumbrance levels still exists across EU banking sector. Still, the overall decrease led to a slight narrowing of the dispersion. The difference between the 5th and the 95th decreased by 3.7 p.p. YoY to 49.9% while the one between the first and third quartile remained stable YoY (Figure 4).

[2] Central bank funds refer to liabilities provided by the ECB or the central bank of a Member State.

Figure 4: Distribution of the asset encumbrance ratios of banks in the EU (weighted average, median, interquartile range and the 5th and 95th percentiles)



Source: EBA Supervisory Data

2. Sources of encumbrance

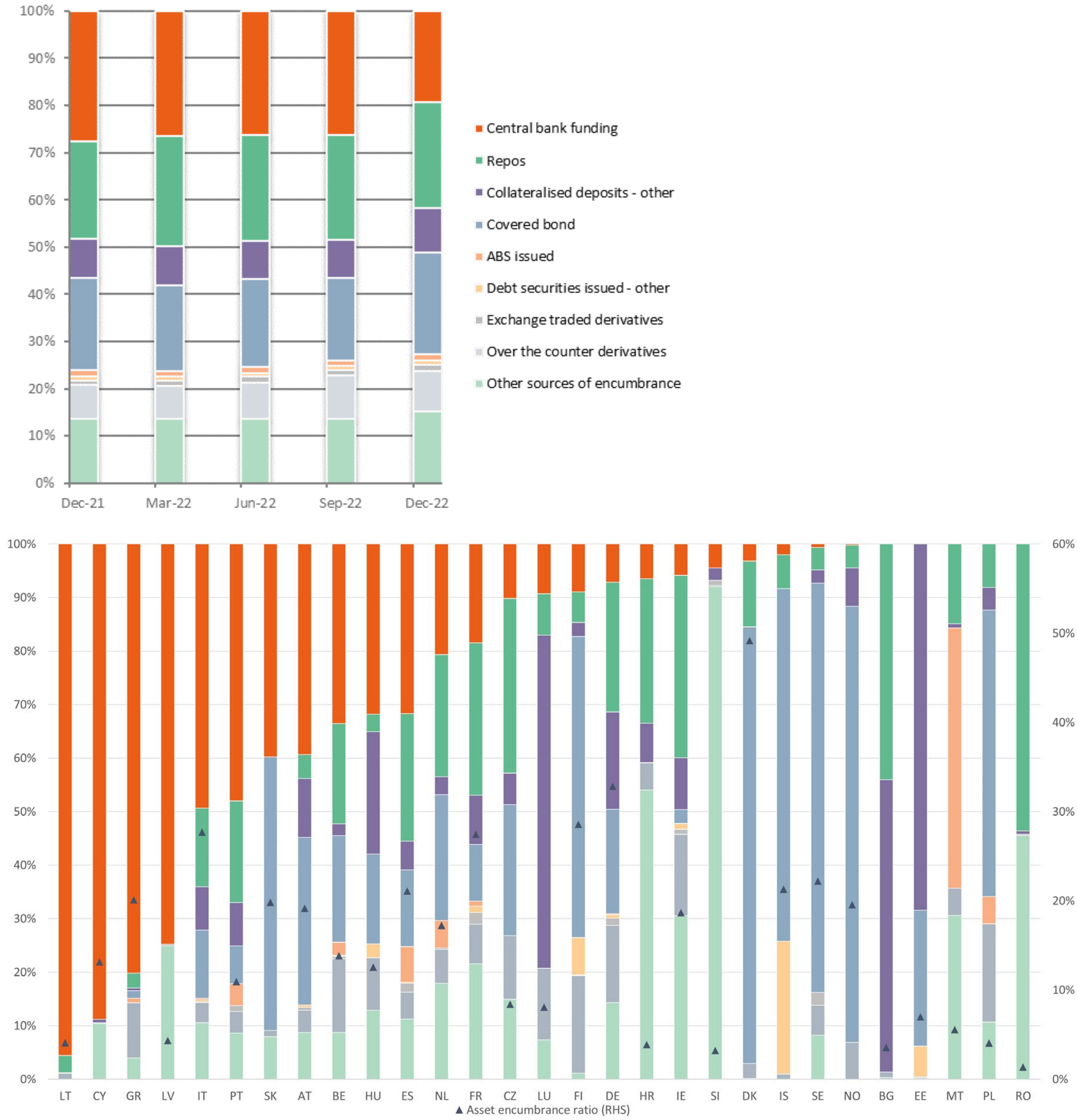
7. During the first three quarters of 2022, the distribution of sources of encumbrance remained roughly stable but in the last quarter, as banks significantly reduced their reliance on central bank facilities, the distribution changed slightly.

8. Encumbered assets for central bank funding decreased from EUR 2.4 tn in December 2021 to EUR 1.6 tn as of December 2022. As a result, central bank funding share as source of encumbrance decreased by -8.2 p.p. YoY. Despite the overall decrease in encumbered assets for central bank funding, a few countries still reported more than 50% of their total encumbered assets for central bank funding purposes (Figure 5).

9. The decrease of central bank funding reliance resulted in an increase in the shares of repurchase agreements (repos) and covered bonds as sources of encumbrance. As of December 2022, repos were the most important source of encumbrance for EU banks. The share of repos over total sources of encumbrance increased by 1.8p.p. during 2022 to 22.4%. The increase, however, in volumes of encumbered assets via repos was marginal, increasing from EUR 1.81 tn to EUR 1.83 tn (+0.9%). Almost half of the encumbered assets via repos were reported by French banks (EUR 830 bn). The highest share in repos were reported by Romanian banks (54%) (Figure 5).

10. Covered bonds issued were the second most important source of encumbrance as of December 2022. The share of covered bonds over total sources of encumbrance was 21.5% in the last quarter of 2022. By the end of 2022, there were EUR 1.76 tn of assets and collateral encumbered via covered bonds. At country level, covered bonds were especially relevant for Nordics banks. For instance, in Denmark and Norway, they accounted for more than 80%, while in Sweden, Iceland and Finland they represented more than half of the total sources of encumbrance (Figure 5).

Figure 5: Evolution of distribution of encumbered assets and collateral by sources of encumbrance (top) (Dec-21 to Dec-22) and by country (bottom) (Dec-22)



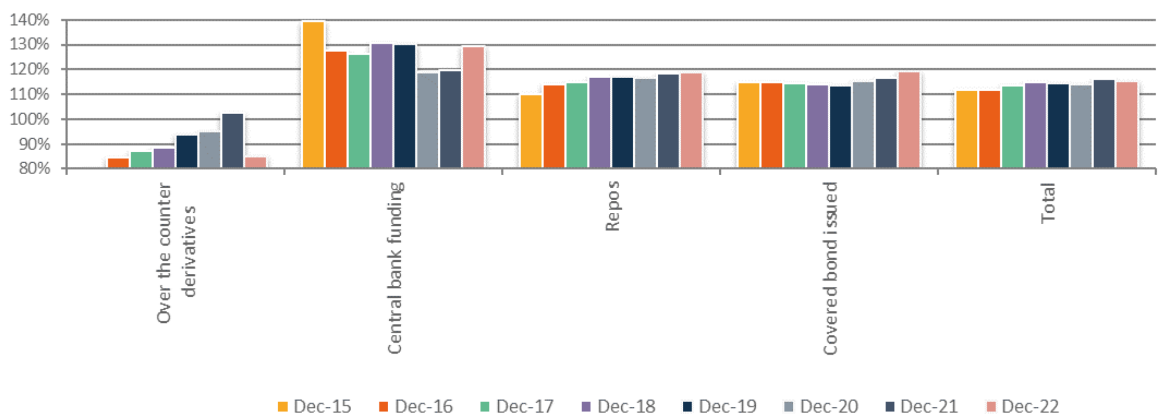
Source: EBA Supervisory Data

3. Collateralisation relative to matching liabilities

11. The level of overcollateralisation shows the level of assets and collateral that institutions have pledged relative to their matching liabilities. This overall ratio decreased marginally by 1 p.p. YoY to 115.3% as of December 2022 for the EU banking sector (Figure 6).

12. The ratio of encumbered central bank funding assets over their matching liabilities rose by close to 10p.p. during 2022, reaching a level of overcollateralisation of 130% by the end of the year. There are two possible explanations for this substantial change in overcollateralisation levels. First, the increasing interest rates have impacted the fair value of pledged collateral which may have also induced a rise in overcollateralisation. Secondly the type of collateral pledged may have also impacted this. ECB data shows that for central bank funding, eurozone banks made reduced use of public debt (central and regional government bonds) collateral which had fallen faster than credit claims and Asset-backed securities (ABS). As credit claims and ABS securities have higher haircuts this affects the level of overcollateralisation (Figure 6).

Figure 6: YoY encumbered assets and collateral relative to matching liabilities[3]



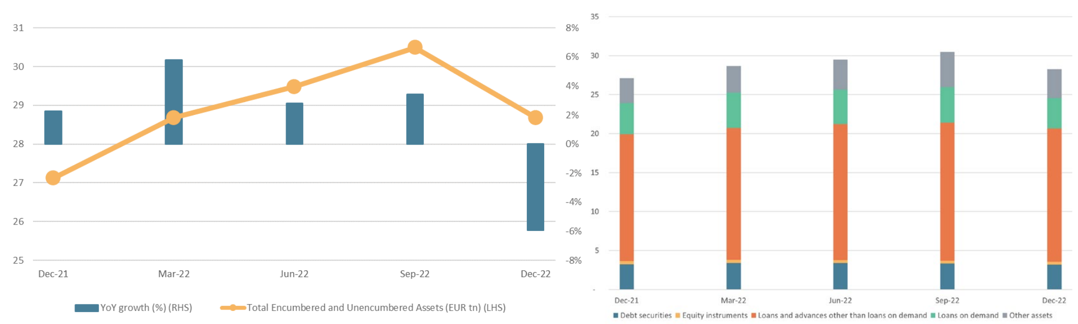
Source: EBA Supervisory Data

[3] For derivatives, it should be taken into account that derivatives are reported on a gross basis under supervisory reporting framework, while collateral might be netted. Under International Financial Reporting Standards (IFRS), offsetting is allowed only if conditions to do so are met.

4. Distribution of assets and collateral and encumbrance ratio across different asset classes

13. Total assets and collateral received increased mainly due to an increase in loans and advances (+840 bn, +5% YoY) as well as other assets (+550 bn, +17% YoY). Until the third quarter of 2022 EU banks reported stable lending growth. In the last quarter of the year, however, lending growth slowed down considerably as the effects of the increase in interest rates materially affected the Eurozone countries too (Figure 7).

Figure 7: Total assets (encumbered and unencumbered) volumes (EUR tn) and YoY growth (%) (left), distribution of total assets (encumbered and unencumbered) by asset class (right)



Source: EBA Supervisory Data

14. The distribution of assets and collateral received across different asset classes during 2022 remained roughly stable. As of December 2022, loans and advances other than loans on demand accounted for the largest share of total assets and collateral, accounting for more than half of the total assets and collateral (54.3%). This was followed by debt securities (18.9%). Debt securities retained the lion's share of the collateral (81.3%), followed by equity instruments (13.4%).

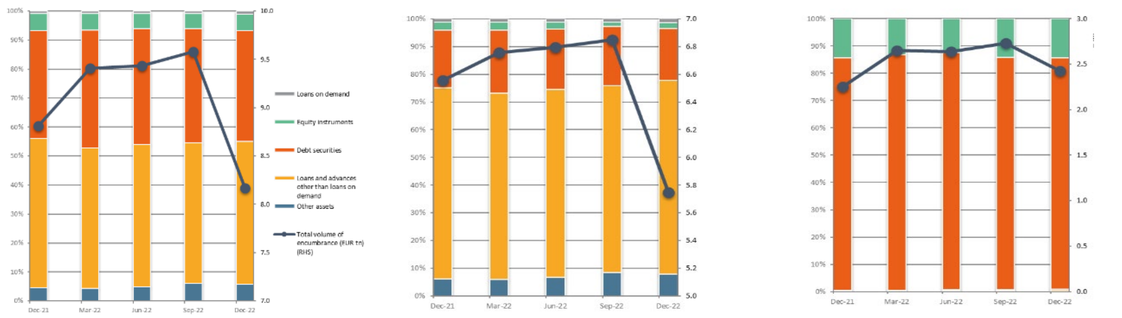
15. As of December 2022, the total volume of encumbered assets and collateral reached EUR 8.2 tn, around EUR 600 bn less compared to December 2021. The distribution across different asset classes also remained stable during 2022. As of December 2022, the share of encumbered loans and advances other than loans on demand over total encumbered assets and collateral stood at 49.4% (or EUR 4 tn), slightly lower than a year before. Debt securities were the second most relevant asset class in terms of encumbrance (38.3%, or EUR 3.1 tn). Looking at the longer-term trend, there seems to be an increasing tendency to encumber debt securities rather than loans

and advances. In December 2020, encumbered debt securities over total encumbered assets and collateral just exceeded 35%, while in March 2022 reached more than 40%, before retreating slightly by the end of 2022 (Figure 8).

16. While the share of encumbered loans and advances other than loans on demand over encumbered assets (i.e., excluding encumbered collateral) was particularly high (70% in December 2022), this asset class accounts for a negligible share of encumbered collateral. Most of the encumbered collateral was in the form of debt securities (84.8%, or EUR 2 tn in December 2022) followed by equity instruments (14.4%) (Figure 8).

Figure 8: Trend in encumbered volumes (EUR tn) and distribution of encumbered assets and collateral by type (%)

Encumbered Assets and collateral | Encumbered Assets only | Encumbered Collateral only

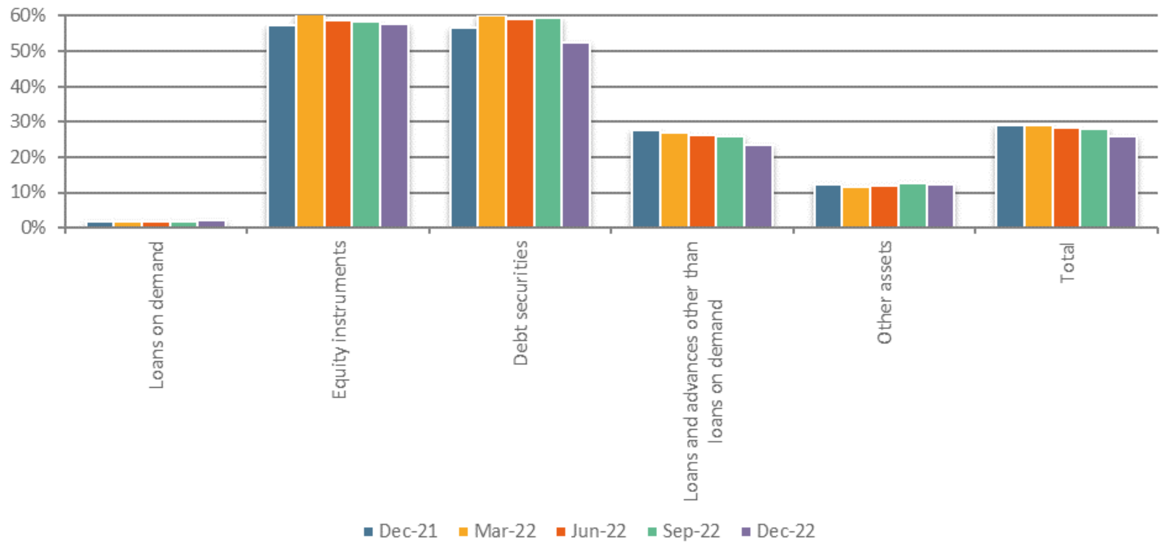


Source: EBA Supervisory Data

17. As a result of the decrease in encumbered assets and collateral and the increase in total assets and collateral, European banks increased their unencumbered assets and collateral by almost EUR 2 tn, reaching EUR 23.5 tn as of December 2022. The distribution across asset classes remained roughly stable with loans and advances other than loans on demand being the major part (56.1% of the total unencumbered assets and collateral). The share of unencumbered debt securities stabilised around 12% putting a halt on the declining trend seen since December 2019. In contrast, the share of unencumbered loans on demand - which include cash at central banks - has slightly retreated during the last year to 16.2% (from 18.3% in December 2021).

18. As regards the encumbrance ratio of the different asset classes, in line with previous years, equity instruments and debt securities showed the highest encumbrance levels (57.6% and 52.3%, respectively, in December 2022). Loans and advances other than loans on demand, which were the main asset class by total volume, exhibited an encumbrance ratio of 23.4% as of December 2022 (27.7% in December 2021), slightly below the 25.8% average (Figure 9).

Figure 9: Percentage of encumbrance of total assets and collateral by type



Source: EBA Supervisory Data

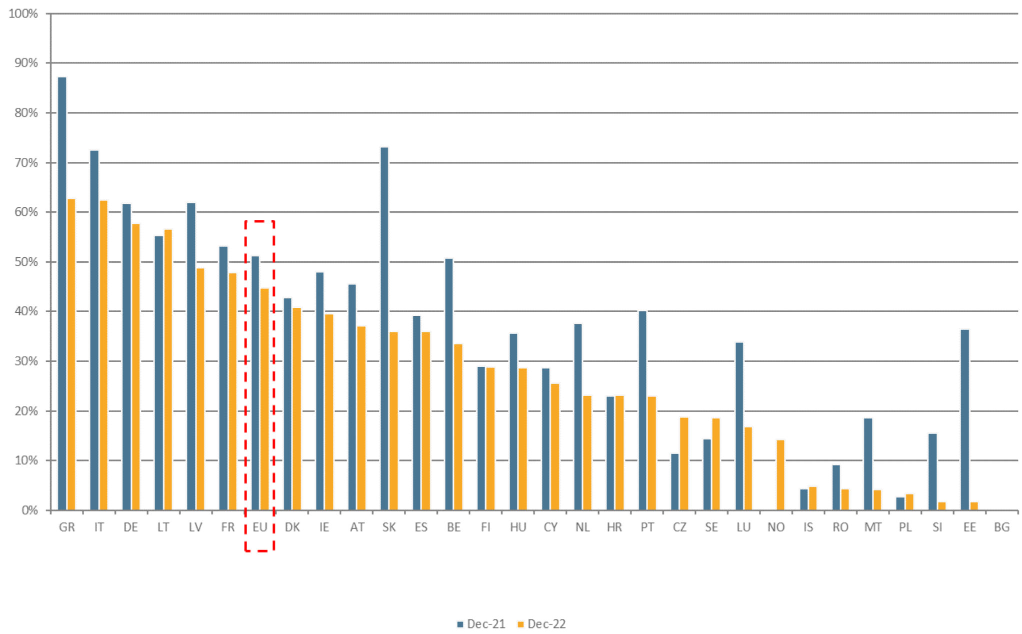
5. Central bank eligible assets

19. The elevated macroeconomic uncertainty stemming from inflationary pressures and the unprecedented pace of rising interest rates to dent these, has caused some turmoil in the banking sector globally during the first half of 2023. Access to liquidity and banks' capacity to obtain swift funding to meet possible imminent liquidity needs is therefore of outmost importance.

20. The level of unencumbered central bank-eligible assets and collateral provide a reliable indication on the capacity of each bank to access immediate funding through central bank emergency liquidity funding mechanisms. Since the outbreak of the pandemic, the encumbrance ratio of central bank eligible asset and collateral has risen substantially as banks made extensive use of central bank facilities. Yet this trend has reversed during 2022 as banks reduced the use of these facilities. As a result, the encumbrance ratio of central bank-eligible assets and collateral stood at 44.8% as of December 2022 which is similar to the levels seen in pre-pandemic levels and 5 p.p. lower than December 2021.

21. Greek and Italian banks had one of the highest the encumbrance ratios of central bank-eligible assets and collateral (above 60%), yet in both cases this was significantly lower compared to December 2021. German banks also reported a comparatively high encumbrance ratio of central bank-eligible assets and collateral (57%) (Figure 10).

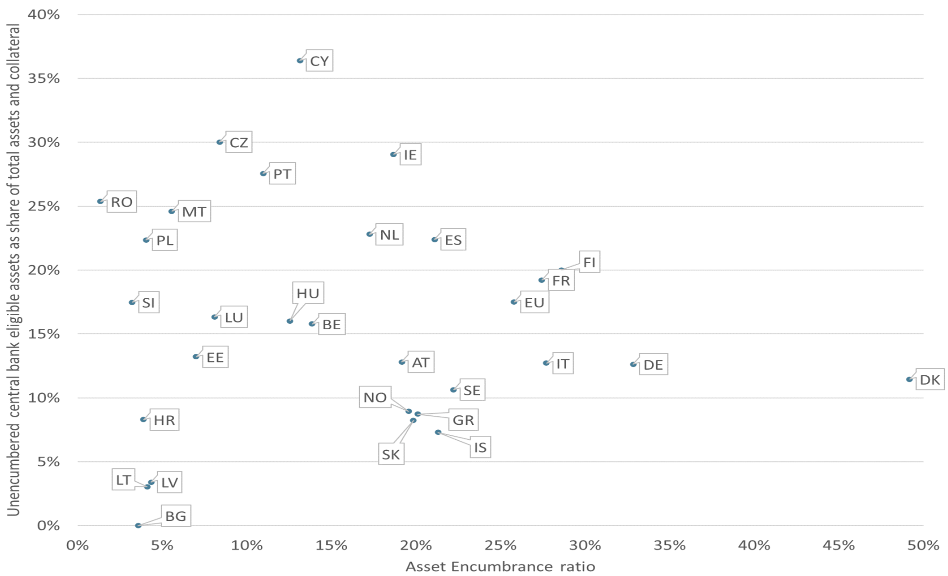
Figure 10: Level of encumbrance of central bank eligible assets and collateral by country



Source: EBA Supervisory Data

22. European banks reported almost EUR 5 tn of unencumbered central bank-eligible assets and collateral which is close to 17.5% of their total assets and collateral. This is substantially higher than what was reported in the same period last year (EUR 4.3 tn or 16% of their total assets). The increase has been broad based with only a handful of countries reporting a decrease in their unencumbered central bank-eligible assets and collateral. A low level of unencumbered central bank-eligible assets and collateral ratio as share of total assets and collateral against a high encumbrance ratio could signal banks' limited capacity to access central bank funding. (Figure 11).

Figure 11: Ratio of unencumbered central bank eligible assets and collateral over total assets and collateral against asset encumbrance ratio

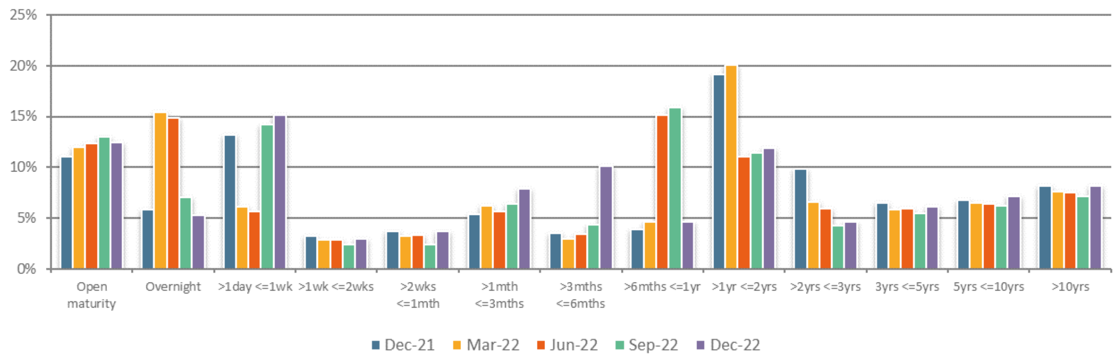


Source: EBA Supervisory Data

6. Maturity of encumbered assets and collateral

23. The maturity of encumbered assets and collateral continued to be highly influenced by the extensive use of central bank facilities, in particular the ECB's TLTRO program. In 2022, there was a large movement of encumbered assets and collateral from the 1 to 2-year bucket to less than 1 year as the remaining maturity of TLTRO facilities declined, and a big part of these mature during mid-2023. During the first half of 2022 and given the elevated uncertainty due to the Russian invasion, banks moved from facilities provided between 1 day to 1 week, towards overnight facilities. This tendency reversed during the second half of the year. Lastly, encumbered assets and collateral with "open maturity" remain a significant cohort, with more than 10% reported in this bucket (Figure 12).

Figure 12: Distribution of encumbered assets and collateral by maturity



Source: EBA Supervisory Data

Conclusion and policy suggestions

Encumbrance levels have retreated during last year which provides an additional buffer for EU banks to access funding during the current uncertain environment. The recent banking turmoil has demonstrated the importance of stable and secure access to funding. The overall increased availability of unencumbered assets limits the downside risks of an adverse feedback loop of diminishing liquidity.

Persistency in heightened inflationary pressures could prove challenging for banks as central banks tighten their monetary policies in a faster pace than initially anticipated. Capacity to access central bank funding remains important as the recent banking turmoil has proved. In the future, banks may face funding challenges due to inflationary pressures, further monetary policy tightening, and ongoing geopolitical uncertainty. To contain their funding costs, banks may resort to secured funding or pledging additional guarantees. To ensure stability banks should draft their funding plans in line with their long-term targets yet allowing adequate flexibility.

Supervisors should pay close attention to abrupt changes in encumbrance ratios and limited stocks of unencumbered central bank-eligible assets and collateral. Although EU banks have increased their stock of unencumbered assets and collateral received, including unencumbered central bank-eligible assets and collateral, there are material differences across banks and countries. Significant increases in encumbrance ratios and low stocks of unencumbered central bank-eligible assets and collateral could be early warning signs for liquidity and funding risk and should be monitored closely.

Annex 1

Following the publication of the implementing technical standards (ITS) in October 2013, in 2015, the EBA began receiving quarterly data on asset encumbrance. This report monitors the evolution of asset encumbrance and contributes to the ongoing assessment of the composition of funding sources across EU banks. The report is mainly based on data from December 2021 to December 2022.

This report is based on the full sample of banks for which the EBA receives data on asset encumbrance as part of the harmonised EU-wide supervisory reporting framework. The data are based on the EBA's implementing technical standards (ITS) on supervisory reporting (EU Regulation No 680/2014 and its subsequent amendments). Since 2015, the EBA has received supervisory data with regard to the largest credit institutions from the competent authorities. More details on the criteria for inclusion in the sample can be found in the Decision on supervisory reporting by competent authorities to the EBA[4].

As of December 2022, this report comprises 162 banks (unconsolidated number of banks, including subsidiaries) covering more than 80% of the EU/EEA banking sector by total assets. The sample of banks is reviewed annually by the competent authorities and adjusted accordingly. Banks are included in the data for each period in this report if they were in the reporting sample for that period. This means that this report is not based on a balanced sample, and that the sample may change over time.

Subsidiaries are included separately in the relevant country aggregates but consolidated at the group level when computing the EU aggregates. EU aggregates do not include figures for UK banks but include subsidiaries of UK banks in EU countries, for the entire time series.

The report does not include data from Norwegian nor Liechtensteiner banks from June 2021 to March 2022 due to the implementation of the reporting framework based on CRR2/CRD5 taking place only in Q2 2022

Ratios provided in the text are the weighted average if not otherwise stated.

[4] EBA DC 404.

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