



EBA REPORT ON ASSET ENCUMBRANCE

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Executive summary

Increasing encumbrance levels might result in higher funding costs. Encumbrance subordinates unsecured creditors who might demand higher spreads in stress situations and it might lead secured creditors to request banks to pledge more collateral fueling an adverse feedback loop. Although encumbrance ratios depend on banks' business models, variations should be adequately monitored.

In 2021, the encumbrance ratio of EU/EEA banks continued the upward trend initiated in 2020. The encumbrance ratio rose from 27.9% in December 2020 to 29.1% in December 2021. While encumbered assets and collateral received (i.e., the numerator of the ratio) rose by 8.5%, the growth of total assets and collateral received (i.e., the denominator) was 4%.

Central bank funding increased its relevance as the main source of asset encumbrance. Even though market tensions receded in 2021, banks continued to make extensive use of central bank funding. In contrast, the relevance of covered bonds continued the downward trend initiated in 2020 amid favourable conditions of central bank facilities and progress in the build-up of MREL buffers.

The level of overcollateralisation (OC) increased 2.3 p.p. on a yearly basis (YoY) to 116.3% as of December 2021. The OC rises were moderate in the three main sources of encumbrance: 0.5 p.p. for central bank funding, 1.9 p.p. for repos, and 0.8 p.p. for covered bonds.

The encumbrance ratio was comparatively high in some large jurisdictions (Germany, France, and Italy) as well as in 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. In Germany and France, the sources of encumbrance were more diverse albeit with a preponderance of repo funding. On the opposite side, several non-Eurozone countries showed very low encumbrance ratios.

Loans and advances other than loans on demand accounted for more than half of total encumbered assets and collateral. Debt securities were the second asset class most commonly used to obtain secured funding. These two asset classes accounted for almost 90% of encumbered assets and collateral. The highest encumbrance ratios by asset class were observed in equity instruments and debt securities.

Introduction

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 2020 to December 2021.

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 EBA¹.

As of December 2021, this report comprises 154 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 time².

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.

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

¹ [EBA DC 404](#).

² Norwegian banks have not implemented yet the reporting framework based on CRR2/CRD5. Therefore, Norwegian figures are excluded from the entire time series.

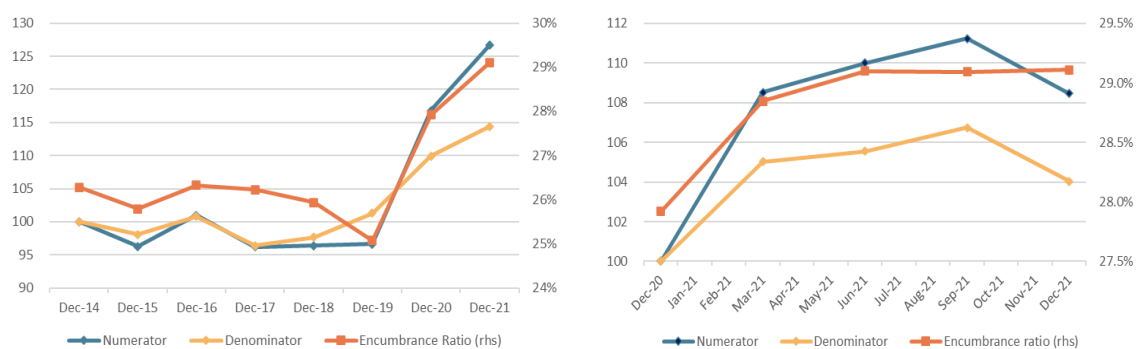
1. Total encumbrance

In 2021, banks kept operating under COVID-related uncertainty and making extensive use of secured funding. As a result, the encumbrance ratio continued the upward trend initiated in 2020 and in December 2021 it stood at 29.1%, compared to 27.9% a year before (Figure 1).

Encumbered assets and collateral received rose by 8.5% (+EUR 688 bn to EUR 8.8 tn), while the growth of the denominator (total assets and collateral received) was 4% (+EUR 1.2 tn to EUR 30.3 tn). Despite the overall increase in the encumbrance ratio, in December 2021, banks still had more unencumbered assets and collateral received than a year before (EUR 21.5 tn in December 2021, +2.3% YoY) (Figure 1).

Most of the increase in encumbered assets and collateral took place in the first quarter of 2021 (+8.5% on a quarterly basis – QoQ -) as banks continued to make extensive use of secured funding to build liquidity buffers to weather the potential effects of a new wave of the pandemic. In the second and the third quarter of the year, the increases were less pronounced (1.4% and 1.1% QoQ, respectively) and, in the fourth quarter, a decrease was observed (-2.5% QoQ) (Figure 1).

Figure 1: YoY (left) and QoQ (right) evolution of the asset encumbrance ratio of total assets and collateral received (%), numerator and denominator



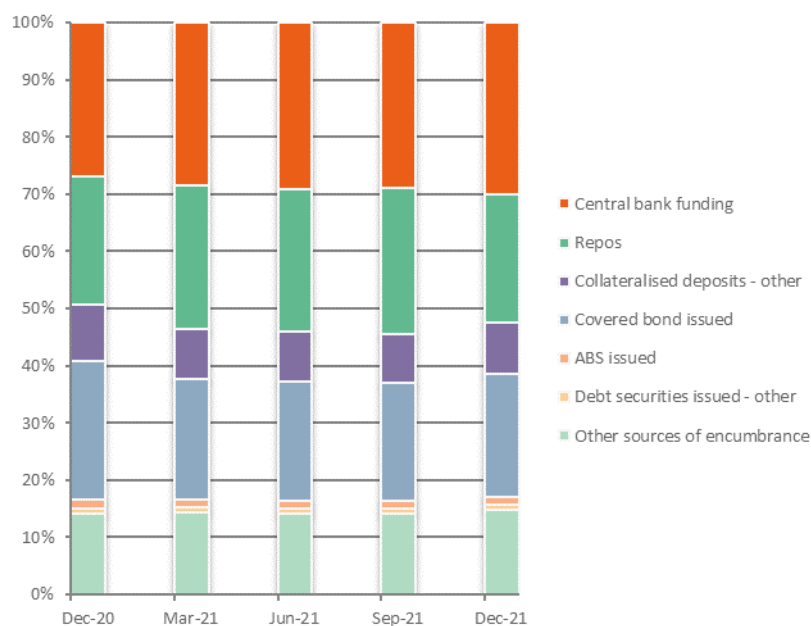
As in previous years, in 2021 the encumbrance ratio of total assets (i.e., excluding collateral received) was substantially below that of total collateral received (24.2% vs 71.3% as of December 2021). The growth of encumbered assets (+6.4% YoY) outpaced that of total assets (+3.4% YoY). Hence, the encumbrance ratio of total assets rose 0.7 p.p. Nonetheless, the volume of unencumbered assets also rose by 2.4%, from EUR 20.1 tn to EUR 20.6 tn.

Regarding collateral received, its encumbrance ratio went up 2.8 p.p. to 71.3% in December 2021 following a 15.1% increase in the numerator (encumbered collateral) and a 10.3% increase in the denominator (total collateral both encumbered and unencumbered). The volume of unencumbered collateral also increased slightly in 2021 (+0.1%) to EUR 928 bn.

2. Sources of encumbrance

The trends identified in the sources of encumbrance in 2020 did not change substantially in 2021. Central bank funding consolidated its position as the main source of encumbrance, followed by repos and covered bonds (Figure 2).

Figure 2: Distribution of the sources of encumbrance



In 2021, EU/EEA banks continued to make extensive use of central bank facilities. As a result, the weight of central bank funding over total sources of encumbrance rose 3.3 p.p. YoY to 27.6% (Figure 2). Thus, central bank funding was responsible for EUR 2.4 tn of encumbered assets and collateral. The weight of central bank funding over total sources of encumbrance was particularly relevant for countries like Cyprus, Greece or Portugal. It also represented an important share of overall encumbrance in Baltic countries (Estonia, Lithuania and Latvia) but the overall asset encumbrance ratio of banks in these countries stood at rather low levels.

The second most important source of encumbrance in 2021 were repos (different from central bank funding), whose share over total sources of encumbrance increased slightly (+0.1 p.p. YoY) to 20.6% (Figure 2). By the end of 2021, there were EUR 1.8 tn of assets and collateral encumbered via repos. Almost half of this amount was located in French banks (EUR 910 bn). In addition to France, repos were also a relevant source of encumbrance in Germany and Ireland.

Following the trend observed since 2019, the weight of covered bonds over total sources of encumbrance continued to decline. As of December 2021, covered bonds were responsible for 19.7% of total encumbrance, i.e., 2.3 p.p. below its December 2020 level and 6.8 p.p. below the

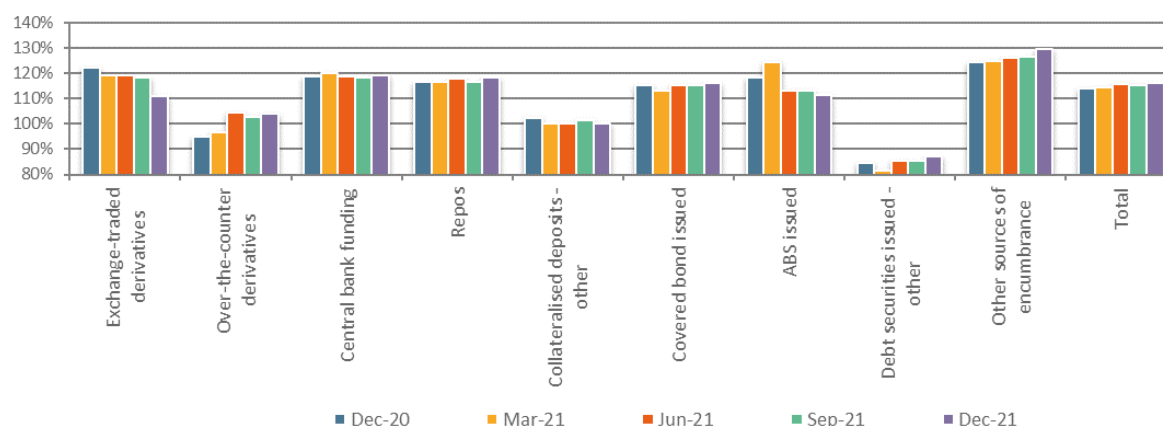
level observed in December 2019. This decline was explained by two main factors. On the one hand, banks might have focused more on the issuance of MREL-eligible securities, hence, reducing the reliance on covered bond funding. On the other, the outbreak of the pandemic in 2020 and the set up of extraordinarily favourable central bank liquidity facilities, namely, the new European Central Bank (ECB) targeted longer-term refinancing operations (TLTRO III), led many banks to substitute covered bond funding for cheaper central bank funding.

The challenging market conditions observed since the outbreak of the war in Ukraine and the end of TLTRO III facilities might revert the declining trend observed in the share of covered bonds as a source of encumbrance. In fact, the first three months of 2022 have witnessed the highest covered bond issuance since 2011.

At a country level, covered bonds were especially relevant for Nordic banks. For instance, in Denmark and Sweden they account for ca. 80% of total encumbrance, while in Iceland and Finland they represent 97% and 60% of total sources of encumbrance, respectively.

The level of overcollateralisation (OC level) — i.e., assets and collateral that institutions have to pledge relative to the matching liabilities — increased 2.3 p.p. YoY to 116.3% as of December 2021. The OC rises were moderate in the three main sources of encumbrance: 0.5 p.p. for central bank funding, 1.9 p.p. for repos, and 0.8 p.p. for covered bonds (Figure 3).

Figure 3: Encumbered assets and collateral relative to matching liabilities³



It is also noteworthy the different evolution of the OC level of exchanged traded and over-the-counter (OTC) derivatives. During 2020, the former rose substantially (+8.5 p.p. YoY), presumably because of increasing margin calls amidst high market volatility, while the increase in the latter was rather muted (+1.4 p.p.). However, in 2021, while the OC level of exchange traded derivatives returned to its pre-pandemic level (-11.5 p.p. to 111.1%), that of OTC derivatives rose 8.8 p.p. to

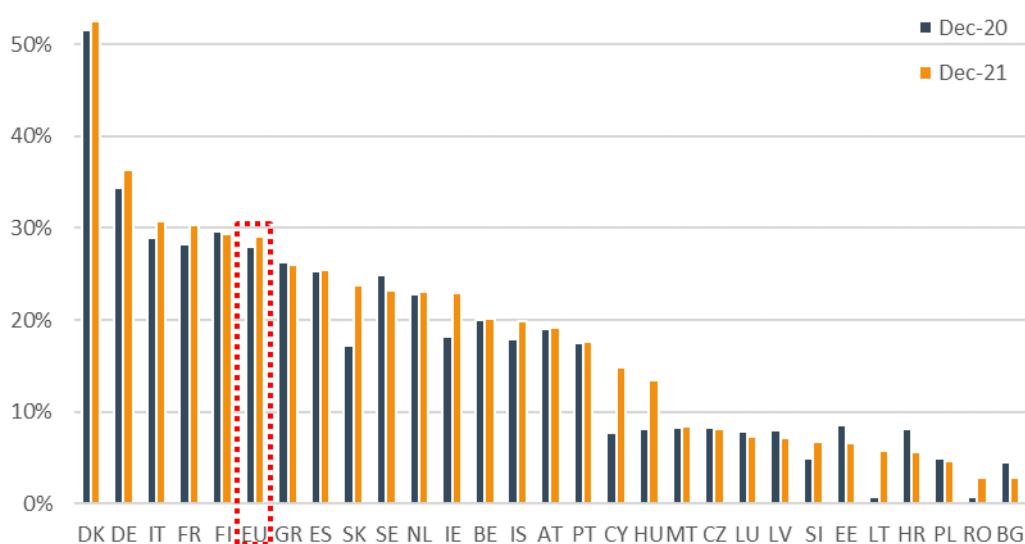
³ For derivatives, it should be taken into account that derivatives are reported on a gross basis under supervisory reporting framework, while collateral might be netted. Under International Financial Reporting Standards (IFRS), offsetting is allowed only if conditions to do so are met.

103.9%. Hence, the OC level of OTC derivatives continued the rising trend observed since data is available leaving the OC gap between exchange traded and OTC derivatives at its tightest level.

3. Encumbrance by country and by bank

As of December 2021, only five countries showed an encumbrance ratio above the EU average. These were large EU jurisdictions such as Germany (36.3%), Italy (30.7%), and France (30.3%), as well as Denmark (52.6%) and Finland (29.4%). On the contrary, the ratio was very low in several non-Eurozone countries. For instance, banks from Bulgaria, Romania or Poland exhibited ratios below 5% (Figure 4).

Figure 4: Weighted average asset encumbrance by country



In Denmark and Finland, covered bond issuance explained the high encumbrance ratios as they were responsible for ca. 80% and 60% of encumbrance, respectively. In Italy, central bank funding was the source of more than half of encumbrance. Repo funding was the main source of encumbrance for French and German banks with shares of 29% and 22%, respectively. In France, central bank funding was also a relevant source of encumbrance (22%) whereas in Germany covered bonds were very relevant (20%) (see more on sources of encumbrance in Chapter 2).

When encumbrance ratios across countries are compared with those of 2020, the largest increases were observed in Cypriot banks (+7.2 p.p. YoY to 14.9% in December 2021), followed by Slovak (+6.7 p.p. to 23.8%) and Hungarian (+5.3 p.p. to 13.5%) ones. However, it is worth stressing that in 2021 all these countries presented encumbrance ratios below the EU average (see Figure 4).

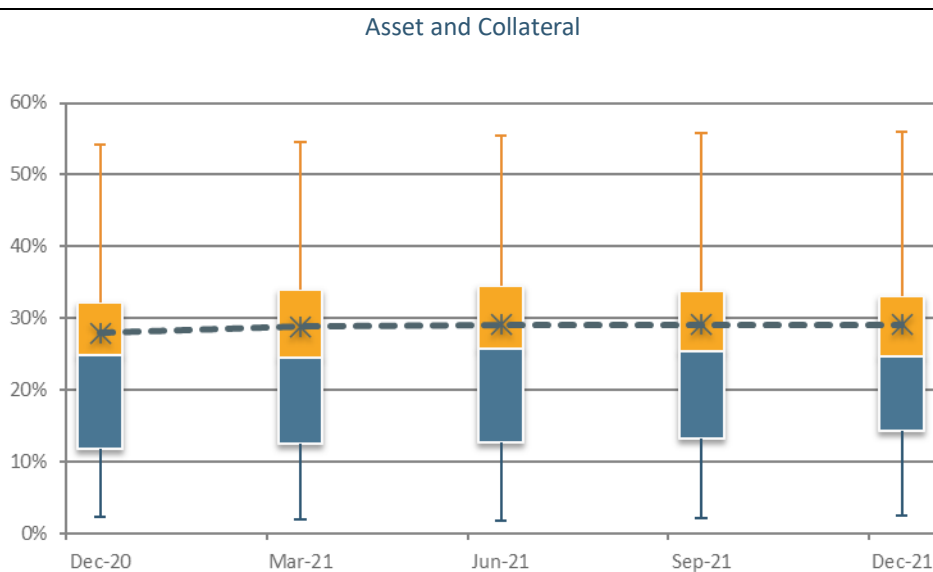
In the case of Cypriot banks, the increase was led by a surge in the share of other sources of encumbrance. For Slovak banks, the rise in encumbrance was accompanied by a substantial

increase in the share of central bank funding as a source of encumbrance. For Hungarian institutions, the rise was driven by an increasing use of collateralised deposits.

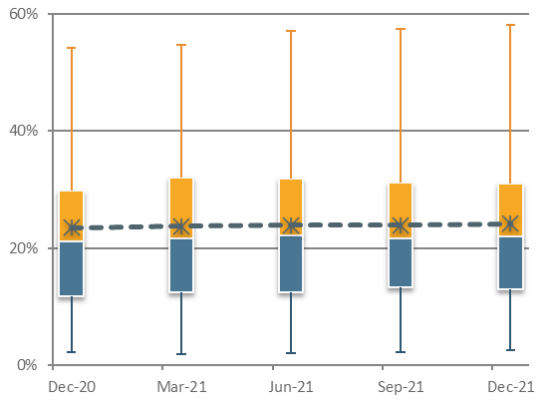
On the contrary, the largest decreases in encumbrance ratios were observed in countries that already presented very low encumbrance ratios in 2020. Croatian banks led the decline with a reduction of 2.4 p.p. YoY to 5.7% as of December 2021, followed by Estonian (-2.0 p.p. to 6.6%) and Bulgarian (-1.7 p.p. to 2.8%) banks.

At a bank level, mixed trends were observed in terms of dispersion of encumbrance ratios. On the one hand, the interquartile difference narrowed as the encumbrance ratio of the first quartile rose 2.5 p.p. in 2021 to 14.3% while the third quartile only rose by 1 p.p. to 33.2%. On the other, the difference between the 5th and th 95th percentiles widened slightly. While the ratio corresponding to the former rose by 0.4 p.p. in 2021 to 2.6%, that of the latter went up by 1 p.p. to 56.1% (Figure 5).

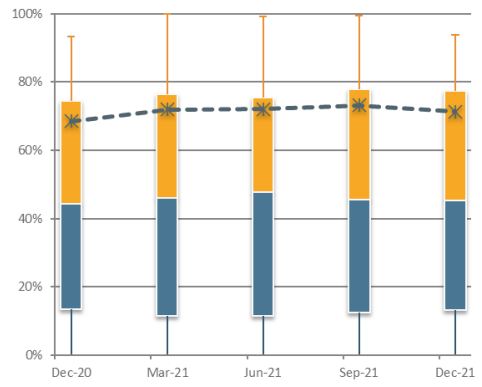
Figure 5: Distribution of the asset encumbrance ratios of banks in the EU (weighted average, median, interquartile range and the 5th and 95th percentiles)



Assets only



Collateral only

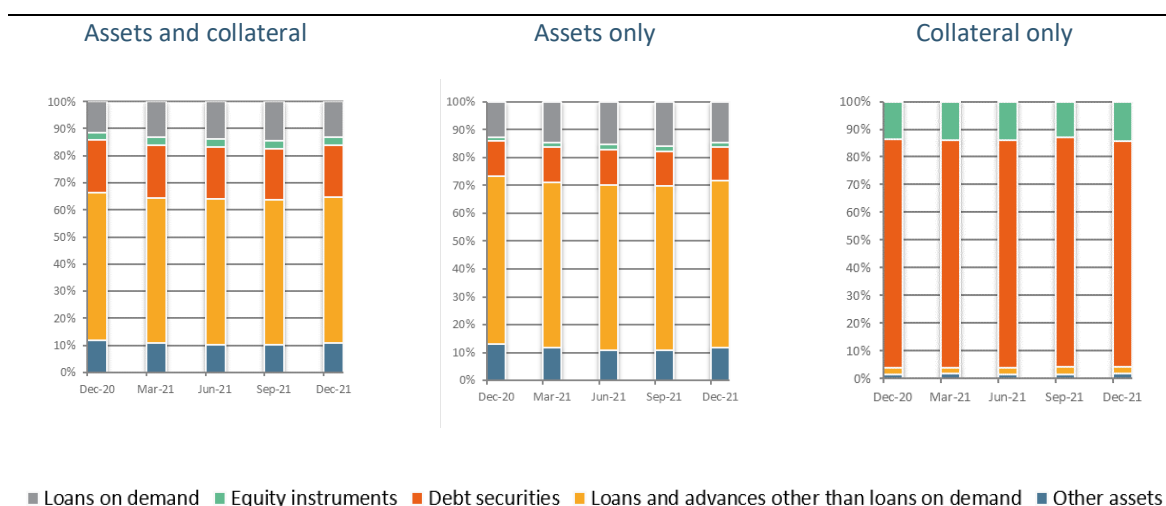


4. Encumbrance by asset class and maturity

Total assets and collateral received increased by 4% in 2021 (see Chapter 1) mainly on the back of a rise in loans on demand (+20.7%, +EUR 686 bn YoY) and in loans and advances other than loans on demand (+3.1%, +EUR 494 bn). These figures reflect two main trends observed in banks' balance sheet. On the one hand, after a slowdown in new credit in the second half of 2020, lending growth resumed again amidst the economic recovery. On the other, banks continued to make extensive use of central bank funding (see Chapter 2) in early 2021. Nonetheless, the proceeds were not massively allocated to the provision of new lending or to the purchase of securities. Instead, a large part of the funding ended up as central bank deposits (cash at central banks is included under loans on demand).

As a result of these trends, the distribution of assets and collateral received across different asset classes in 2021 was similar to 2020. In December 2021, loans and advances other than loans on demand accounted for the largest share of total assets and collateral (54% vs 54.5% in December 2020), followed by debt securities (19.2% vs 19.6% in December 2020). The largest increase was experienced by loans on demand, which increased their share by 1.8 p.p. to 13.2%. It is also noteworthy that, when only collateral is considered, debt securities accounted for the largest share (81.4% vs 82.4% in 2020) followed by equity instruments (14.1% vs 13.7% in 2020) (Figure 6).

Figure 6: Distribution of volumes of total assets and collateral by type

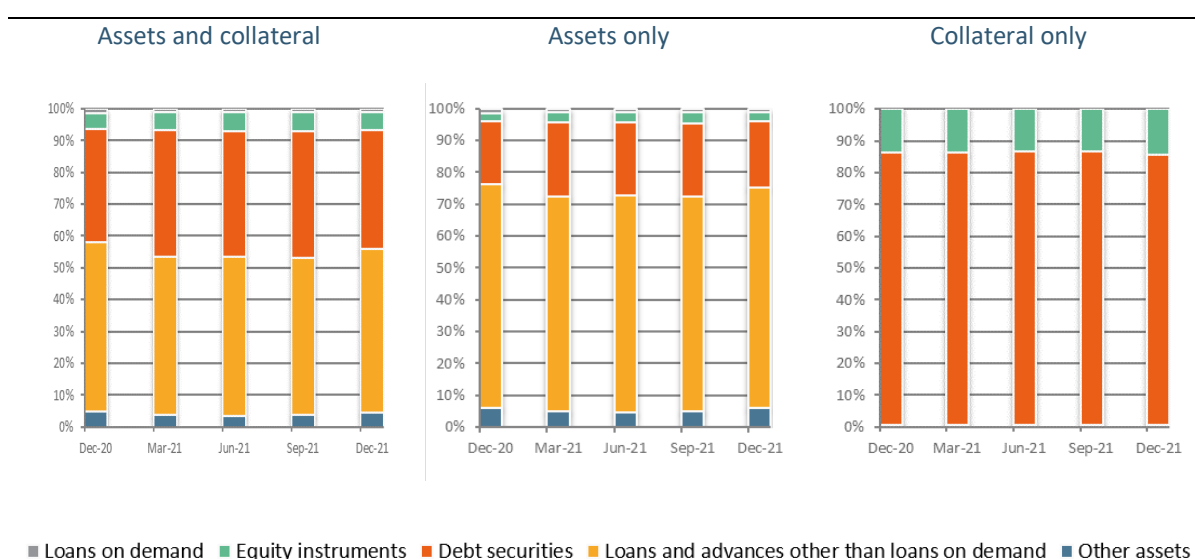


The distribution of encumbered assets and collateral across the different asset classes in 2021 was also similar to previous years. In December 2021, the share of encumbered loans and advances other than loans on demand over total encumbered assets and collateral was broadly in line with the share of this asset class over total assets and collateral and stood at 51.5% (53.3% a year before). Debt securities were the second most relevant asset class in terms of encumbrance (37.3% of total encumbered assets and collateral in December 2021 vs 35.7% in December 2020) exceeding by far the share of this asset class over total assets and collateral (both encumbered and unencumbered). In contrast to debt securities, loans on demand were only responsible for 0.9% of total encumbrance (1.2% in December 2020) despite its relatively high share over total assets and collateral (Figure 7).

The share of encumbered loans and advances other than loans on demand over encumbered assets (i.e., excluding encumbered collateral) was particularly high (69.1% in December 2021 vs 70.2% in December 2020). In contrast, this asset class accounts for a negligible share of encumbered collateral (0.4% in December 2021, same as in December 2020) (Figure 7).

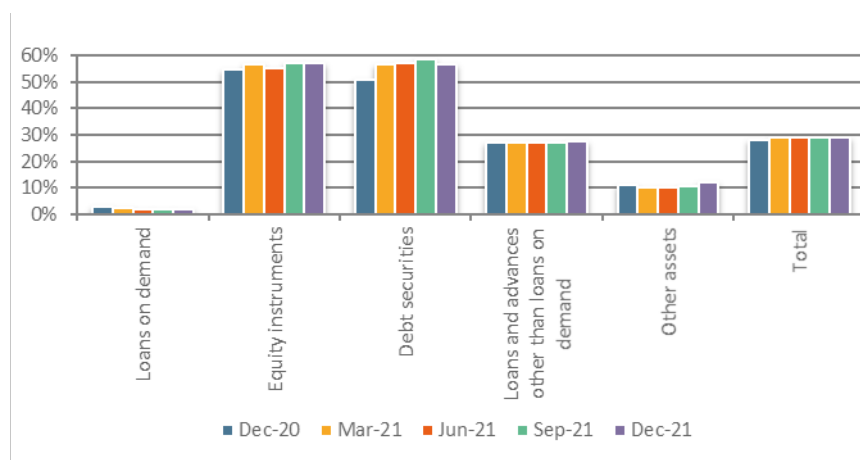
Most of the encumbered collateral was in the form of debt securities (85.1% in December 2021 vs 85.7% in December 2020). Equity instruments also had a significant weight in encumbered collateral (14.4% in December 2021 vs 13.8% in December 2020) (Figure 7).

Figure 7: Distribution of volumes of encumbered assets and collateral by type



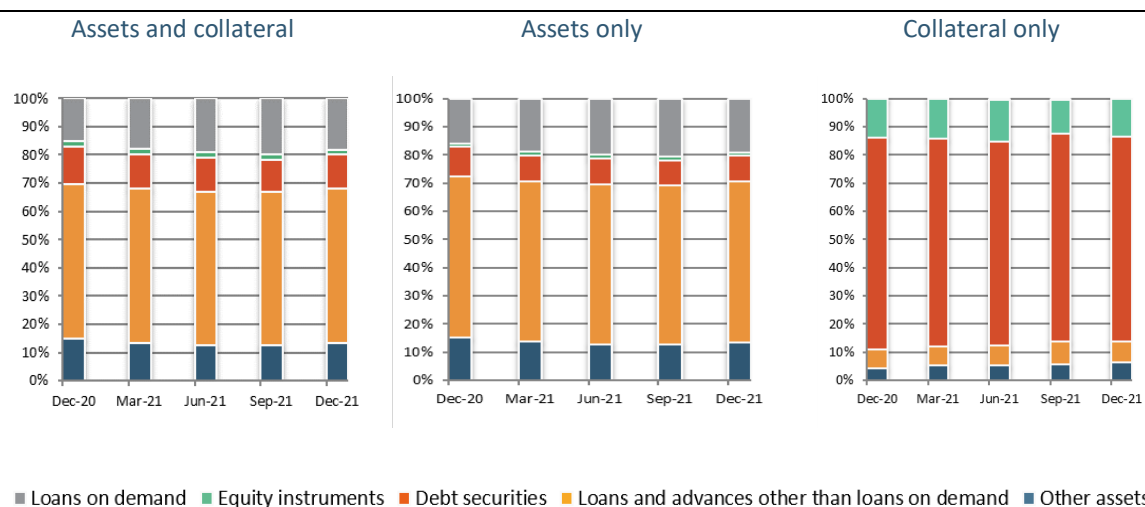
As regards the encumbrance ratio of the different asset classes, in line with previous years, equity instruments and debt securities showed the highest encumbrance levels (57.4% and 56.6%, respectively, as of December 2021). Loans and advances other than loans on demand, which were the main asset class by total volume, exhibited an encumbrance ratio of 27.7% in December 2021 (27.3% in December 2020), slightly below the 29.1% average (Figure 8).

Figure 8: Percentage of encumbrance of total assets and collateral by type



Regarding the distribution of unencumbered assets and collateral, in December 2021, 55% of them were made of loans and advances other than loans on demand (54.9% in December 2020). It is noteworthy that the share of unencumbered debt securities – which are presumably one of the asset classes that are easier to encumber to generate additional funding - over total unencumbered assets and collateral has been on a continuous decline since December 2019 (11.7% in December 2021 vs 14.7% in December 2019). In contrast, the share of unencumbered loans on demand - which include cash at central banks - has risen from 8.8% in December 2019 to 18.2% in December 2021. In absolute terms, the increase in unencumbered loans on demand over the past two years (EUR 2.2 tn) more than offset the decline in debt securities (EUR 428 bn) and loans and advances other than loans on demand (EUR 460 bn) (Figure 9).

Figure 9: Distribution of volumes of unencumbered assets and collateral by type

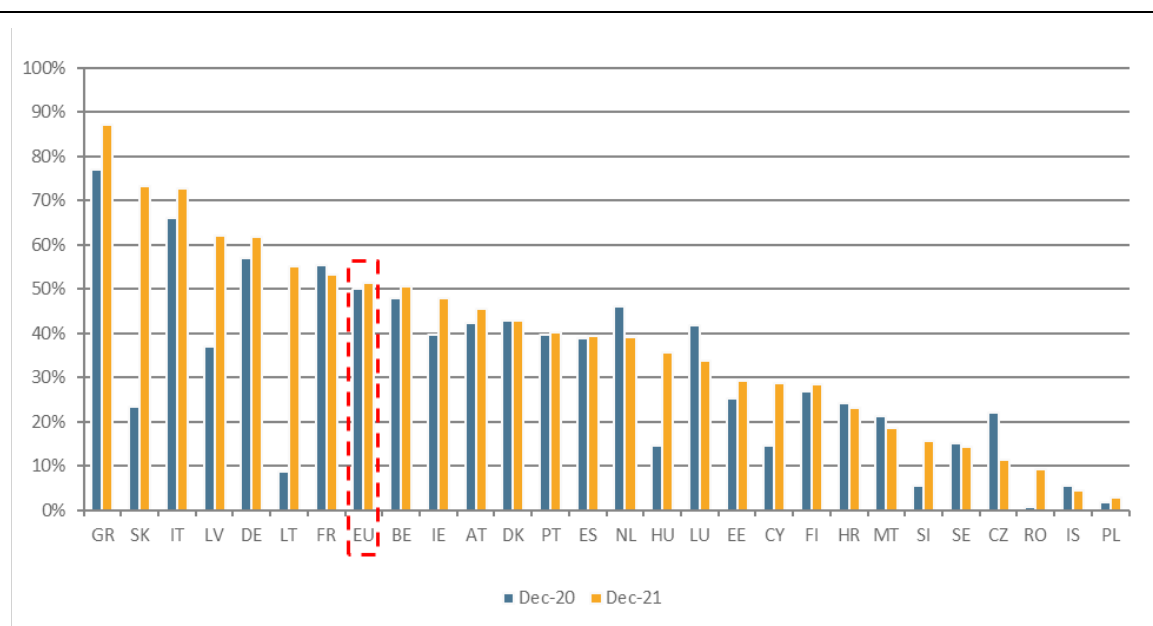


The analysis of central bank-eligible assets and collateral (CBEAC) provides a good overview of banks' capacity to obtain funding in a quick and easy way. Since the outbreak of the pandemic, the

encumbrance ratio of CBEAC has risen substantially as banks made extensive use of central bank facilities. As a result, the encumbrance ratio of CBEAC rose from 44.6% in December 2019 to 50.1% in December 2020. In 2021, this ratio continued to increase reaching a maximum of 53.7% in the third quarter of 2021 though, in the last quarter, the ratio declined slightly to 51.4% (Figure 10).

In countries like Greece, Slovakia or Italy the encumbrance ratio of CBEAC was above 70%. On the contrary, non-Eurozone countries presented the lowest encumbrance ratio for these assets. For instance, Polish, Icelandic and Romanian banks exhibited an average encumbrance ratio of CBEAC below 10% (Figure 10).

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

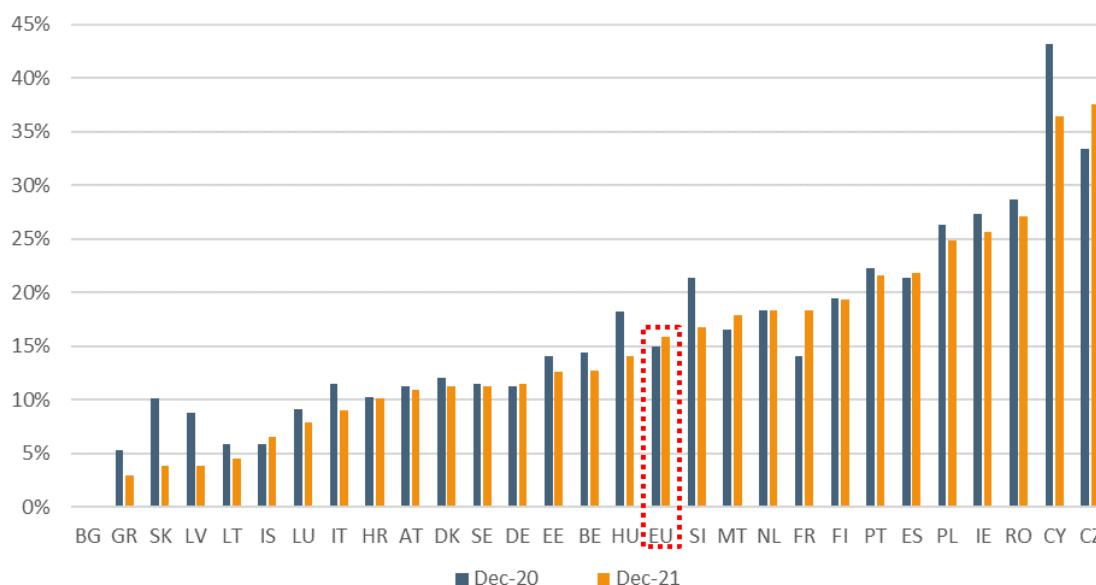


Despite the increase in the encumbrance ratio of CBEAC, it is also noteworthy that unencumbered central bank-eligible assets and collateral also increased by 15.4% since December 2019 (by 9.6% from December 2020), meaning that banks had EUR 575 bn of additional assets and collateral that could still be pledged to obtain central bank funding compared to December 2019 (+EUR 379bn compared to December 2020). However, some of the countries with the highest encumbrance ratio of CBEAC like Italy, Greece or Slovakia registered a substantial decline in their volumes of unencumbered CBEAC over the past two years (-25%, -39% and -59.5%, respectively) (Figure 11).

After a decline in 2020, the ratio of unencumbered CBEAC to total assets and collateral, rose again in 2021 and, by the end of that year, it stood at 15.9% (15% in December 2020 and 15.6% in December 2019). The ratio was particularly low in countries with a high encumbrance ratio of CBEAC like Greece (4.2%) and Slovakia (3.8%). Countries like Bulgaria⁴, Lithuania or Latvia also presented ratios below 5% but their overall encumbrance ratios were low (Figures 4 and 11).

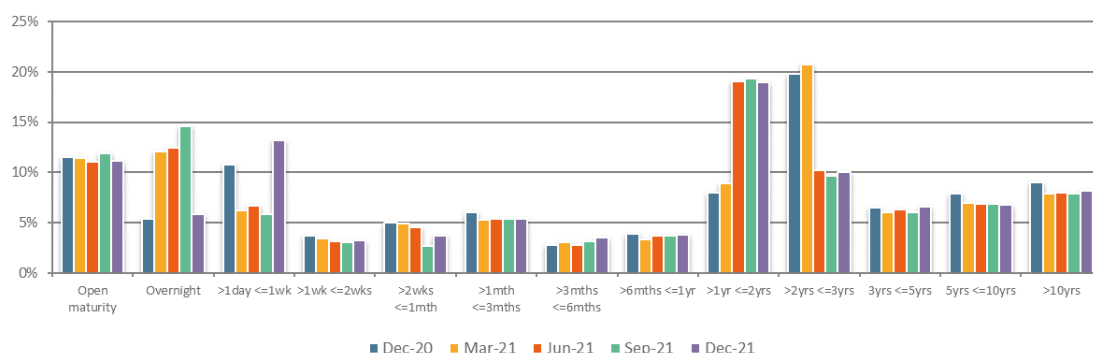
⁴ Bulgaria maintains a Currency Board regime that limits traditional monetary policy functions. In particular, its central bank can only provide extraordinary liquidity support but cannot be a common source of refinancing for banks,

Figure 11: Ratio of unencumbered central bank eligible assets and collateral over total assets



As regards the maturity of encumbered assets and collateral, it continued to be highly influenced by the extensive use of central bank facilities, in particular the ECB TLTRO III. In 2021, there was a large movement of encumbered assets and collateral from the 2 to 3-year bucket to the 1 to 2-year bucket as the remaining maturity of TLTRO facilities declined. The encumbered assets and collateral allocated to the latter bucket increased from 8% in December 2020 to 19% in December 2021 while in the case of the former they fell from 19.8% to 10% in the same period. Other relevant buckets were the “open maturity” one (11.1% of total assets and collateral in December 2021) and the 1-day to 1-week (13.2%) (Figure 12).

Figure 12: Distribution of encumbered assets and collateral by maturity



Conclusion

Although encumbrance ratios depend on banks' business models, sharp increases should be carefully monitored. As encumbrance subordinates unsecured creditors, they might demand higher spreads in stress situations and lead banks to prioritise secured funding. Increasing encumbrance ratios might also raise concerns among secured creditors that may demand higher OC levels, apply larger haircuts on collateral or make margin calls. This could lead to an adverse feedback loop of higher encumbrance, higher funding costs and diminishing liquidity.

Going forward, banks might face funding challenges. Inflationary pressures and monetary policy normalisation along with uncertainty stemming from the war in Ukraine have resulted in increasing yields and spread widening. In order to contain their funding costs, banks might resort more extensively to secured funding or to pledging additional guarantees. In order to prevent adverse feedback loops in funding, banks' funding plans should be consistent with their longer term business strategy.

Supervisors should pay special attention to banks that have suffered a substantial rise in encumbrance ratios and whose stock of unencumbered CBEAC is more limited. Although EU banks have increased their stock of unencumbered assets and collateral received, including unencumbered CBEAC, material differences can be observed across banks and countries. Material increases in encumbrance ratios and low stocks of unencumbered CBEAC could be an early warning for liquidity and funding risk.

Annex I: The asset encumbrance ratio

The core metric applied in this report is the asset encumbrance ratio. The metric used as a basis for all analyses (unless stated otherwise) is the asset encumbrance ratio as defined in Commission Implementing Regulation (EU) No 2015/79⁵. The asset encumbrance ratio is defined as an institution's stock of encumbered assets and collateral received and reused, over total assets and collateral received:

$$AE\% = \frac{\text{Total encumbered assets} + \text{Total collateral received and reused}}{\text{Total assets} + \text{Total collateral received available for encumbrance}}$$

Collateral received is part of the definition, as it can be assumed that this is usually available to be reused for refinancing transactions. Here, assets are measured at their carrying amount, while collateral is measured at fair value. Additional selected analyses apply the same calculation for assets or collateral only. An asset is treated as encumbered if it has been pledged or if it is subject to any form of arrangement to secure, collateralise or credit enhance any transaction from which it cannot be freely withdrawn. This definition covers, but is not limited to:

- secured financing transactions, including repurchase contracts and agreements, securities lending and other forms of secured lending;
- various collateral agreements, for instance collateral placed for the market value of derivative transactions;
- financial guarantees that are collateralised;
- collateral placed at clearing systems, central counterparties (CCPs) and other infrastructure institutions as a condition of access to service;
- central bank facilities;
- underlying assets from securitisation structures, where the financial assets have not been derecognised from the institution's financial assets;
- assets in cover pools used for covered bond issuance.

Further details on the definitions of various metrics and the data reported can also be found in Annex III of Commission Implementing Regulation (EU) No 2015/79.

⁵ Paragraphs 9-11 of Annex III.

Annex II: References to FINREP tables

This annex gives details of the calculations underlying the figures presented in the report. Reference is made to ITS data points identified with the following convention: ITS *Table name_row number_column number*. For example, F 32.01_020_010 refers to FINREP Table 32.01, row 020, Column 010 – Asset encumbrance: Encumbrance overview – Assets, Assets of the reporting institution, Carrying amount of encumbered assets.

Figure	Chart name	Series	Formula
Fig.1	YoY (left) and QoQ (right) evolution of the asset encumbrance ratio of total assets and collateral received (%), numerator and denominator	Encumbered assets and collateral (numerator)	$(F\ 32.01_010_010 + F\ 32.02.a_130_010)$
		Total assets and collateral (denominator)	$(F\ 32.01_010_010 + F\ 32.02.a_130_010 + F\ 32.01_010_060 + F\ 32.02.a_130_040)$
		Asset encumbrance ratio	$(F\ 32.01_010_010 + F\ 32.02.a_130_010) / (F\ 32.01_010_010 + F\ 32.02.a_130_010 + F\ 32.01_010_060 + F\ 32.02.a_130_040)$
Fig.2	Distribution of the sources of encumbrance	Central bank funding	$(F\ 32.04.b_060_030 + F\ 32.04.b_080_030) / (F\ 32.04.b_170_030)$
		Over-the-counter derivatives	$(F\ 32.04.b_030_030) / (F\ 32.04.b_170_030)$
		Exchange-traded derivatives	$(F\ 32.04.b_020_030 - F\ 32.04.b_030_030) / (F\ 32.04.b_170_030)$
		Repos	$(F\ 32.04.b_050_030 - F\ 32.04.b_060_030) / (F\ 32.04.b_170_030)$
		Collateralised deposits – Other	$(F\ 32.04.b_070_030 - F\ 32.04.b_080_030) / (F\ 32.04.b_170_030)$
		Covered bond issued	$(F\ 32.04.b_100_030) / (F\ 32.04.b_170_030)$
		ABS issued	$(F\ 32.04.b_110_030) / (F\ 32.04.b_170_030)$
		Debt securities issued – Other	$(F\ 32.04.b_090_030 - F\ 32.04.b_100_030 - F\ 32.04.b_110_030) / (F\ 32.04.b_170_030)$
		Other sources of encumbrance	$(F\ 32.04.b_120_030) / (F\ 32.04.b_170_030)$
Fig.3	Encumbered assets and collateral relative to matching liabilities	Central bank funding	$(F\ 32.04.b_060_030 + F\ 32.04.b_080_030) / (F\ 32.04.a_060_010 + F\ 32.04.a_080_010)$
		Over-the-counter derivatives	$(F\ 32.04.b_030_030) / (F\ 32.04.a_030_010)$
		Exchange-traded derivatives	$(F\ 32.04.b_020_030 - F\ 32.04.b_030_030) / (F\ 32.04.a_020_010 - F\ 32.04.a_030_010)$
		Repos	$(F\ 32.04.b_050_030 - F\ 32.04.b_060_030) / (F\ 32.04.a_050_010 - F\ 32.04.a_060_010)$
		Collateralised deposits – Other	$(F\ 32.04.b_070_030 - F\ 32.04.b_080_030) / (F\ 32.04.a_070_010 - F\ 32.04.a_080_010)$
		Covered bond issued	$(F\ 32.04.b_100_030) / (F\ 32.04.a_100_010)$
		ABS issued	$(F\ 32.04.b_110_030) / (F\ 32.04.a_110_010)$
		Debt securities issued – Other	$(F\ 32.04.b_090_030 - F\ 32.04.b_100_030 - F\ 32.04.b_110_030) / (F\ 32.04.a_090_010 - F\ 32.04.a_100_010 - F\ 32.04.a_110_010)$
		Other sources of encumbrance	$(F\ 32.04.b_120_030) / (F\ 32.04.a_120_010)$
Fig.4	Weighted average asset encumbrance by country	Total	$(F\ 32.01_010_010 + F\ 32.02.a_130_010) / (F\ 32.01_010_010 + F\ 32.02.a_130_010 + F\ 32.01_010_060 + F\ 32.02.a_130_040)$
		Assets and collateral	$(F\ 32.01_010_010 + F\ 32.02.a_130_010) / (F\ 32.01_010_010 + F\ 32.02.a_130_010 + F\ 32.01_010_060 + F\ 32.02.a_130_040)$
Fig.5	Distribution of the asset encumbrance ratios of banks in the EU (weighted average, median, interquartile range and the 5th and 95th percentiles)	Assets	$(F\ 32.01_010_010) / (F\ 32.01_010_010 + F\ 32.01_010_060)$
		Collateral	$(F\ 32.02.a_130_010) / (F\ 32.02.a_130_010 + F\ 32.02.a_130_040)$
Fig.6	Distribution of volumes of total assets and collateral	Loans on demand	$(F\ 32.01_020_010 + F\ 32.01_020_060 + F\ 32.02.a_140_010 + F\ 32.02.a_140_040) / (F\ 32.01_010_010 + F\ 32.01_010_060 + F\ 32.02.a_130_010 + F\ 32.02.a_130_040)$

Figure	Chart name	Series	Formula
Fig.7	by type – ASSETS AND COLLATERAL	Equity instruments	$(F\ 32.01_030_010 + F\ 32.01_030_060 + F\ 32.02.a_150_010 + F\ 32.02.a_150_040) / (F\ 32.01_010_010 + F\ 32.01_010_060 + F\ 32.02.a_130_010 + F\ 32.02.a_130_040)$
		Debt securities	$(F\ 32.01_040_010 + F\ 32.01_040_060 + F\ 32.02.a_160_010 + F\ 32.02.a_160_040) / (F\ 32.01_010_010 + F\ 32.01_010_060 + F\ 32.02.a_130_010 + F\ 32.02.a_130_040)$
		Loans and advances other than loans on demand	$(F\ 32.01_100_010 + F\ 32.01_100_060 + F\ 32.02.a_220_010 + F\ 32.02.a_220_040) / (F\ 32.01_010_010 + F\ 32.01_010_060 + F\ 32.02.a_130_010 + F\ 32.02.a_130_040)$
		Other assets	$(F\ 32.01_120_010 + F\ 32.01_120_060 + F\ 32.02.a_230_010 + F\ 32.02.a_230_040) / (F\ 32.01_010_010 + F\ 32.01_010_060 + F\ 32.02.a_130_010 + F\ 32.02.a_130_040)$
	Distribution of volumes of total assets and collateral by type – ASSETS ONLY	Loans on demand	$(F\ 32.01_020_010 + F\ 32.01_020_060) / (F\ 32.01_010_010 + F\ 32.01_010_060)$
		Equity instruments	$(F\ 32.01_030_010 + F\ 32.01_030_060) / (F\ 32.01_010_010 + F\ 32.01_010_060)$
		Debt securities	$(F\ 32.01_040_010 + F\ 32.01_040_060) / (F\ 32.01_010_010 + F\ 32.01_010_060)$
		Loans and advances other than loans on demand	$(F\ 32.01_100_010 + F\ 32.01_100_060) / (F\ 32.01_010_010 + F\ 32.01_010_060)$
	Distribution of volumes of total assets and collateral by type – COLLATERAL ONLY	Other assets	$(F\ 32.01_120_010 + F\ 32.01_120_060) / (F\ 32.01_010_010 + F\ 32.01_010_060)$
		Loans on demand	$(F\ 32.02.a_140_010 + F\ 32.02.a_140_040) / (F\ 32.02.a_130_010 + F\ 32.02.a_130_040)$
		Equity instruments	$(F\ 32.02.a_150_010 + F\ 32.02.a_150_040) / (F\ 32.02.a_130_010 + F\ 32.02.a_130_040)$
		Debt securities	$(F\ 32.02.a_160_010 + F\ 32.02.a_160_040) / (F\ 32.02.a_130_010 + F\ 32.02.a_130_040)$
	Distribution of volumes of encumbered assets and collateral by type – ASSETS AND COLLATERAL	Loans and advances other than loans on demand	$(F\ 32.02.a_220_010 + F\ 32.02.a_220_040) / (F\ 32.02.a_130_010 + F\ 32.02.a_130_040)$
		Other assets	$(F\ 32.02.a_230_010 + F\ 32.02.a_230_040) / (F\ 32.02.a_130_010 + F\ 32.02.a_130_040)$
		Loans on demand	$(F\ 32.01_020_010 + F\ 32.02.a_140_010) / (F\ 32.01_010_010 + F\ 32.02.a_130_010)$
		Equity instruments	$(F\ 32.01_030_010 + F\ 32.02.a_150_010) / (F\ 32.01_010_010 + F\ 32.02.a_130_010)$
	Distribution of volumes of encumbered assets and collateral by type – ASSETS ONLY	Debt securities	$(F\ 32.01_040_010 + F\ 32.02.a_160_010) / (F\ 32.01_010_010 + F\ 32.02.a_130_010)$
		Loans and advances other than loans on demand	$(F\ 32.01_100_010 + F\ 32.02.a_220_010) / (F\ 32.01_010_010 + F\ 32.02.a_130_010)$
		Other assets	$(F\ 32.01_120_010 + F\ 32.02.a_230_010) / (F\ 32.01_010_010 + F\ 32.02.a_130_010)$
		Loans on demand	$(F\ 32.01_020_010) / (F\ 32.01_010_010)$
Distribution of volumes of encumbered assets and collateral by type – COLLATERAL ONLY	Equity instruments	$(F\ 32.01_030_010) / (F\ 32.01_010_010)$	
	Debt securities	$(F\ 32.01_040_010) / (F\ 32.01_010_010)$	
	Loans and advances other than loans on demand	$(F\ 32.01_100_010) / (F\ 32.01_010_010)$	
	Other assets	$(F\ 32.01_120_010) / (F\ 32.01_010_010)$	
Percentage of encumbrance of total assets and collateral by type	Loans on demand	$(F\ 32.02.a_140_010) / (F\ 32.02.a_130_010)$	
	Equity instruments	$(F\ 32.02.a_150_010) / (F\ 32.02.a_130_010)$	
	Debt securities	$(F\ 32.02.a_160_010) / (F\ 32.02.a_130_010)$	
	Loans and advances other than loans on demand	$(F\ 32.02.a_220_010) / (F\ 32.02.a_130_010)$	
Percentage of encumbrance of total assets and collateral by type	Other assets	$(F\ 32.02.a_230_010) / (F\ 32.02.a_130_010)$	
	Loans on demand	$(F\ 32.01_020_010 + F\ 32.02.a_140_010) / (F\ 32.01_020_060 + F\ 32.01_020_010 + F\ 32.02.a_140_040 + F\ 32.02.a_140_010)$	
	Equity instruments	$(F\ 32.01_030_010 + F\ 32.02.a_150_010) / (F\ 32.01_030_060 + F\ 32.01_030_010 + F\ 32.02.a_150_040 + F\ 32.02.a_150_010)$	
Percentage of encumbrance of total assets and collateral by type	Debt securities	$(F\ 32.01_040_010 + F\ 32.02.a_160_010) / (F\ 32.01_040_060 + F\ 32.01_040_010 + F\ 32.02.a_160_040 + F\ 32.02.a_160_010)$	

Figure	Chart name	Series	Formula	
Fig.9	Distribution of volumes of unencumbered assets and collateral by type - ASSETS AND COLLATERAL	Loans and advances other than loans on demand	$(F\ 32.01_100_010 + F\ 32.02.a_220_010) / (F\ 32.01_100_060 + F\ 32.01_100_010 + F\ 32.02.a_220_040 + F\ 32.02.a_220_010)$	
		Other assets	$(F\ 32.01_120_010 + F\ 32.02.a_230_010) / (F\ 32.01_120_060 + F\ 32.01_120_010 + F\ 32.02.a_230_040 + F\ 32.02.a_230_010)$	
		Total	$(F\ 32.01_010_010 + F\ 32.02.a_130_010) / (F\ 32.01_010_060 + F\ 32.01_010_010 + F\ 32.02.a_130_040 + F\ 32.02.a_130_010)$	
	Distribution of volumes of unencumbered assets and collateral by type – ASSETS ONLY	Loans on demand	$(F\ 32.01_020_060 + F\ 32.02.a_140_040) / (F\ 32.01_010_010 + F\ 32.02.a_130_040)$	
		Equity instruments	$(F\ 32.01_030_060 + F\ 32.02.a_150_040) / (F\ 32.01_010_060 + F\ 32.02.a_130_040)$	
		Debt securities	$(F\ 32.01_040_060 + F\ 32.02.a_160_040) / (F\ 32.01_010_060 + F\ 32.02.a_130_040)$	
		Loans and advances other than loans on demand	$(F\ 32.01_100_060 + F\ 32.02.a_220_040) / (F\ 32.01_010_060 + F\ 32.02.a_130_040)$	
		Other assets	$(F\ 32.01_120_060 + F\ 32.02.a_230_040) / (F\ 32.01_010_060 + F\ 32.02.a_130_040)$	
		Distribution of volumes of unencumbered assets and collateral by type – COLLATERAL ONLY	Loans on demand	$(F\ 32.01_020_060) / (F\ 32.01_010_060)$
	Equity instruments		$(F\ 32.01_030_060) / (F\ 32.01_010_060)$	
	Debt securities		$(F\ 32.01_040_060) / (F\ 32.01_010_060)$	
	Loans and advances other than loans on demand		$(F\ 32.01_100_060) / (F\ 32.01_010_060)$	
	Other assets		$(F\ 32.01_120_060) / (F\ 32.01_010_060)$	
	Fig.10	Level of encumbrance of central bank eligible assets and collateral by country	Loans on demand	$(F\ 32.02.a_140_040) / (F\ 32.02.a_130_040)$
			Other assets	$(F\ 32.02.a_230_040) / (F\ 32.02.a_130_040)$
Fig.11	Ratio of unencumbered central bank eligible assets and collateral over total assets	Equity instruments	$(F\ 32.02.a_150_040) / (F\ 32.02.a_130_040)$	
		Debt securities	$(F\ 32.02.a_160_040) / (F\ 32.02.a_130_040)$	
Fig.12	Distribution of encumbered assets and collateral by maturity	Total	$(F\ 32.01_010_030 + F\ 32.02.a_130_030) / (F\ 32.01_010_030 + F\ 32.01_010_080 + F\ 32.02.a_130_030 + F\ 32.02.a_130_060)$	
		Open maturity	$(F\ 32.01_010_080 + F\ 32.02.a_130_060) / (F\ 32.01_010_010 + F\ 32.01_010_060)$	
		Overnight	$(F\ 33.00.a_010_010 + F\ 33.00.a_030_010) / (F\ 33.00.a_010_SUM(all\ columns) + F\ 33.00.a_030_SUM(all\ columns))$	
		>1day <=1wk	$(F\ 33.00.a_010_020 + F\ 33.00.a_030_020) / (F\ 33.00.a_010_SUM(all\ columns) + F\ 33.00.a_030_SUM(all\ columns))$	
		>1wk <=2wks	$(F\ 33.00.a_010_030 + F\ 33.00.a_030_030) / (F\ 33.00.a_010_SUM(all\ columns) + F\ 33.00.a_030_SUM(all\ columns))$	
		>2wks <=1mth	$(F\ 33.00.a_010_040 + F\ 33.00.a_030_040) / (F\ 33.00.a_010_SUM(all\ columns) + F\ 33.00.a_030_SUM(all\ columns))$	
		>1mth <=3mths	$(F\ 33.00.a_010_050 + F\ 33.00.a_030_050) / (F\ 33.00.a_010_SUM(all\ columns) + F\ 33.00.a_030_SUM(all\ columns))$	
		>3mths <=6mths	$(F\ 33.00.a_010_060 + F\ 33.00.a_030_060) / (F\ 33.00.a_010_SUM(all\ columns) + F\ 33.00.a_030_SUM(all\ columns))$	
		>6mths <=1yr	$(F\ 33.00.a_010_070 + F\ 33.00.a_030_070) / (F\ 33.00.a_010_SUM(all\ columns) + F\ 33.00.a_030_SUM(all\ columns))$	
		>6mths <=1yr	$(F\ 33.00.a_010_080 + F\ 33.00.a_030_080) / (F\ 33.00.a_010_SUM(all\ columns) + F\ 33.00.a_030_SUM(all\ columns))$	

Figure	Chart name	Series	Formula
		>1yr <=2yrs	$(F\ 33.00.a_010_090 + F\ 33.00.a_030_090)/(F\ 33.00.a_010_SUM(\text{all columns}) + F\ 33.00.a_030_SUM(\text{all columns}))$
		>2yrs <=3yrs	$(F\ 33.00.a_010_100 + F\ 33.00.a_030_100)/(F\ 33.00.a_010_SUM(\text{all columns}) + F\ 33.00.a_030_SUM(\text{all columns}))$
		3yrs <=5yrs	$(F\ 33.00.a_010_110 + F\ 33.00.a_030_110)/(F\ 33.00.a_010_SUM(\text{all columns}) + F\ 33.00.a_030_SUM(\text{all columns}))$
		5yrs <=10yrs	$(F\ 33.00.a_010_120 + F\ 33.00.a_030_120)/(F\ 33.00.a_010_SUM(\text{all columns}) + F\ 33.00.a_030_SUM(\text{all columns}))$
		>10yrs	$(F\ 33.00.a_010_130 + F\ 33.00.a_030_130)/(F\ 33.00.a_010_SUM(\text{all columns}) + F\ 33.00.a_030_SUM(\text{all columns}))$
		Total	$(F\ 32.01_010_030 + F\ 32.02.a_130_030)/(F\ 32.01_010_030 + F\ 32.01_010_080 + F\ 32.02.a_130_030 + F\ 32.02.a_130_060)$
		Exchange-traded derivatives	$(F\ 32.04.b_020_030 - F\ 32.04.b_030_030)/(F\ 32.04.a_020_010 - F\ 32.04.a_030_010)$



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