



EBA REPORT ON ASSET ENCUMBRANCE

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Executive summary

The objective

This is the fourth annual EBA report on asset encumbrance. It contributes to the ongoing monitoring of the composition of funding sources across the EU and can be read in conjunction with the EBA's forward-looking analysis of banks' future funding plans.¹ The EBA began receiving data on asset encumbrance in 2015, following the publication of the implementing technical standards (ITS) in October 2013.²

Increasing level of asset encumbrance driven by decreased total assets

The quarterly data for the year 2017 shows a slight increase in the level of asset encumbrance across the EU compared with 2016 and 2015. The ratio of encumbered assets and collateral received³ to total assets, measured as a weighted average across the sample, was 27.9% in December 2017, compared with 26.6% for 2016 and 25.4% for 2015. While the asset encumbrance ratio has increased steadily since 2014, its recent modest increase is not an issue of immediate concern in the funding structure of EU banks, as it is mostly driven by a reduced volume of total assets as opposed to an increase in encumbered assets. In terms of banks' business models, the highest levels of encumbrance are reported by specialised mortgage institutions.

Countries with relatively high level of asset encumbrance

Looking at the geographical dispersion, a relatively high level of encumbrance, in line with observations in previous years, is reported in jurisdictions with:

- large and established covered bond markets (e.g. Denmark and Sweden);
- a high share of central bank funding, in countries severely affected by the sovereign debt crisis (e.g. Greece and Portugal), although encumbrance levels are decreasing;

¹ EBA Report on Funding Plans, September 2018.

² The ITS were mandated to the EBA in Article 100 of the Capital Requirements Regulation (Regulation (EU) No 575/2013). In addition, the ITS served the purpose of complying with the recommendations of the European Systemic Risk Board (ESRB) on the funding of credit institutions (ESRB/12/2), published in February 2013.

³ Details on the calculation of the asset encumbrance ratio, together with the definition of encumbered assets and collateral and a description of the sample, are provided in Annexes I and II.

- a relatively high share of repurchase agreement (repo) financing or high collateral requirements for over-the-counter derivatives (e.g. Italy, Belgium and the UK).

The level of encumbrance was largely stable in countries with large and established covered bond markets, such as Denmark (55% in 2017) and Sweden (27% in 2017). As in previous years, a relatively high encumbrance ratio is related to a high share of loans and advances in the total encumbered assets and collateral. The use of covered bonds in these countries accounts for almost 80% of the total encumbered assets and collateral in 2017, similar to levels in 2016.

Situation in countries affected by the sovereign debt crisis

Some countries that were more severely affected by the sovereign debt crisis still have high encumbrance levels but have shown a decrease in volume of encumbrance, for example Greece, from 43% in 2016 to 32% in 2017, and Portugal, from 21% to 19% in the same years. Decreasing encumbrance levels in these countries were already observed in the previous report. Due to the relatively low volume of assets in countries reporting this development, their encumbrance levels make only a marginal contribution to the EU aggregate encumbrance ratio. The level of central bank funding as a source of encumbrance shows a mixed trend in these countries. For example, this decreased in Greece, whereas it increased in Cyprus, Ireland, Italy and Spain, and was stable in Portugal.

Drivers of increased aggregate asset encumbrance ratio

Overall, however, the rise in the aggregate asset encumbrance ratio was driven by small increases in some jurisdictions with large banking sectors (e.g. Germany, France and the UK). Germany, for example, reported a rising share of ‘other sources of encumbrance’, accounting for one third of all encumbered assets and collateral. In the UK and in France, repos account for 40% and 31%, respectively, of encumbered assets, compared with an EU average of 27%.

Most important sources of asset encumbrance

Although repo financing is still the most important source of asset encumbrance in the EU (at an equal share of 27% in 2016 and 2017), other sources have become the second most important, as the share has increased to 26%, from 23% in December 2016. The share of covered bonds decreased from 20% in 2016 to 18% in 2017, reversing a trend from the previous year.

Encumbrance of central bank-eligible assets

Assets’ eligibility for central bank funding allows a comparison of the level of encumbrance with the amount of assets that can effectively

be encumbered. This shows that the encumbrance of central bank-eligible assets in the EU increased to 47% in December 2017, from 44% in December 2016, continuing developments already observed in the last report. Central bank eligibility can be regarded as a proxy for the overall marketability of assets. Wide dispersion can be observed in the level of encumbrance of central bank-eligible assets among countries and banks.

Monitor the use of central bank funding and the increased share of 'other sources of encumbrance'

The modest increase in the level of asset encumbrance in 2017 is not a cause for concern. The availability of collateral for central bank funding, as well as the use of central bank funding, should, nevertheless, be monitored to investigate the changes in funding structures across the EU as official sector funding is further reduced. The increasing share of 'other sources of encumbrance' should also be monitored, as these sources have become nearly as relevant as repos as the most important source of encumbrance.

Analysis of the asset encumbrance of European banks

Sample

The sample included in this report covers, as of December 2017, 187 banks for which the EBA receives data based on the ITS on supervisory reporting. Further details on the definition of the sample can be found in Annex II.

Scope of the report

This report is based on data from December 2014 to December 2017, focusing on the five quarters from December 2016 to December 2017. Figure 1 and Figure 2 show the composition of assets and collateral received across the sample. As of December 2017, the banks covered in this report accounted for EUR 32.1 trillion in total assets (encumbered and unencumbered) and EUR 5.8 trillion in collateral received. Compared with the situation described in last year's report, this represents a decrease in the volume of total assets⁴ (EUR 34.3 trillion in December 2016) and a slight increase in collateral received (EUR 5.5 trillion in December 2016). The cut-off for data updates received from banks was 4 June 2018.⁵

Figure 1: Distribution of total assets (encumbered and unencumbered) by asset type, December 2017

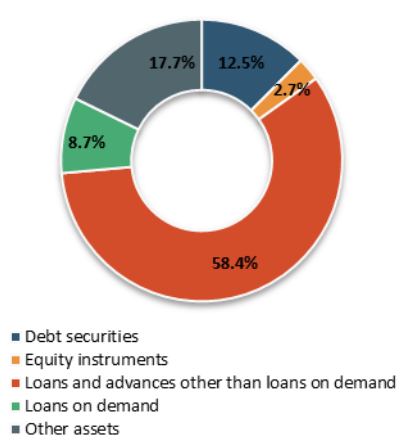
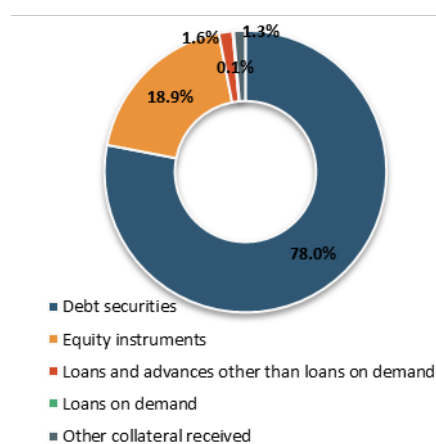


Figure 2: Distribution of total collateral received available for encumbrance (encumbered and unencumbered) by collateral type, December 2017



⁴ Although the sample of banks included in last year's report was larger (195 banks), banks excluded from this year's report are not the main driver of decreasing total assets.

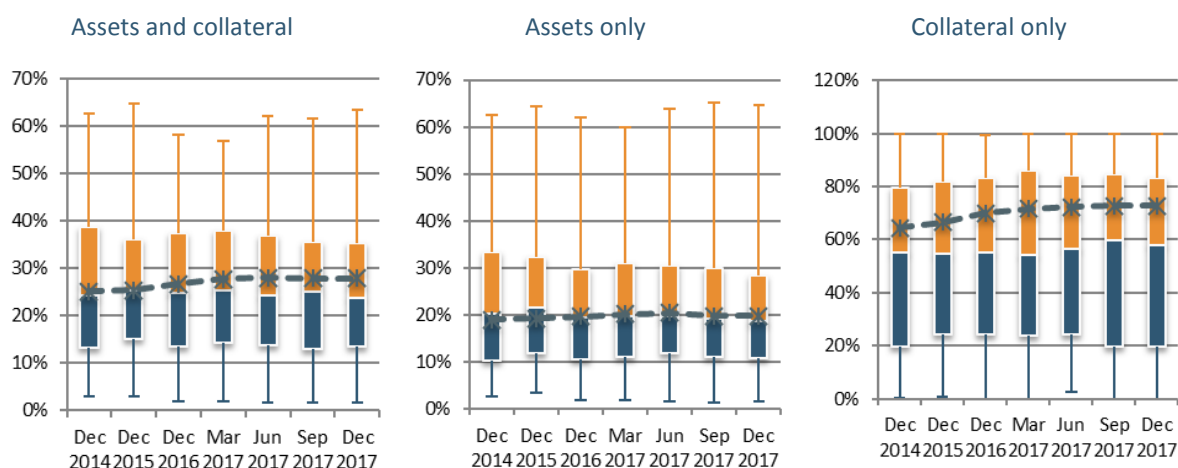
⁵ Historical data was used for this report as available at the cut-off date. As a result of resubmitted data from banks, historical values may differ from those in previous reports.

Total encumbrance

The weighted average⁶ ratio of encumbered assets and collateral received relative to the total assets and total collateral received available for encumbrance was 27.9% in December 2017. This confirms the trend of previous years, which saw a total weighted average asset encumbrance ratio of 26.6% in 2016, 25.4% in 2015, and 25.1% in 2014 (see Figure 3). The increase in the ratio was driven by a decrease in the volume of total assets (encumbered and unencumbered) in absolute terms, while the absolute volume of encumbered assets and encumbered collateral was largely unchanged (in sum, EUR 10.6 trillion in both December 2017 and December 2016). The volume of encumbered assets decreased, whereas the volume of encumbered collateral increased.

Figure 3 shows the wide dispersion of the asset encumbrance ratio across banks. Banks in the 5th and 95th percentiles, respectively, show values below approximately 2% and above 63%. Consistently with previous reports, the highest values, i.e. those above 80% or even 90%, are mostly reported by specialised mortgage institutions, and encumbrance ratios for collateral received are significantly higher than encumbrance ratios for assets only. The dispersion of encumbrance across the EU widened in December 2017, especially from Q2 2017, but is at levels comparable with 2016 and 2015. This widening was driven in particular by banks with the highest levels of asset encumbrance in the sample, which reported higher values in 2017 and deviated more from the rest of the sample.

Figure 3: Distribution of the asset encumbrance ratios of the banks in the EU (weighted average, median, interquartile range and the 5th and 95th percentiles)



⁶All weighted averages are computed as the ratio of the sum of the numerator across the sample to the sum of the denominator.

Encumbrance by country

Figure 4 presents the distribution of the asset encumbrance ratio across countries. This shows that a relatively high level of encumbrance — as in previous years — is reported in jurisdictions with:

- large and established covered bond markets (e.g. Denmark and Sweden);
- a high share of central bank funding, in countries severely affected by the sovereign debt crisis (e.g. Portugal and Greece), despite the fact that encumbrance levels are decreasing;
- a high share of repurchase agreement (repo) financing and collateral requirements for over-the-counter derivatives (e.g. Italy, Belgium and the UK).

Countries severely affected by the sovereign debt crisis (e.g. Greece, Ireland and Portugal) managed to reduce a relatively high level of encumbrance as the economic situation and the strength of domestic banking systems gradually improved. Such countries often reduced a high share of central bank funding, as had already been observed in 2016. Other countries reported a higher than average asset encumbrance due to a combination of reasons. For instance, Danish banks traditionally report a high share of covered bonds, while UK banks report a high share of repos. German banks also report a relatively high share of covered bonds, but also of collateralised deposits and over-the-counter derivatives. Asset encumbrance ratios range from 1% in Estonia to 55% in Denmark and 32% in Germany, Greece and the UK.

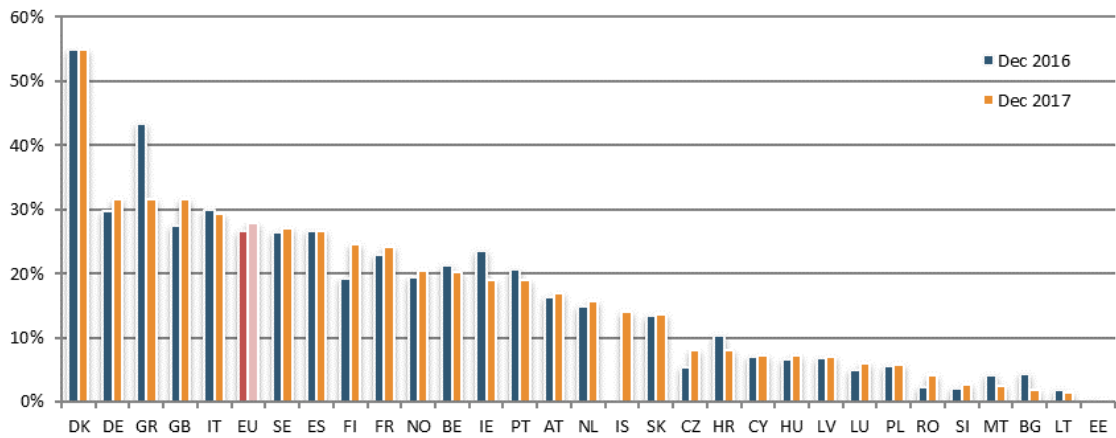
Countries with large banking sectors and small percentage increases of asset encumbrance ratios on last year (e.g. France, Germany and the UK) drive the overall increase in the ratio of asset encumbrance because of their relative size.

Conversely, the impact of, in some instances, strong reductions in encumbered assets in countries affected by the sovereign debt crisis did not affect the aggregated EU encumbrance figures because these countries are relatively small. For example, Greece reported a reduction of 12 percentage points on last year, continuing a decreasing trend since December 2015. Irish and Portuguese banks also reported a significant reduction in the volume of encumbered assets and collateral, while also showing a deleveraging trend.

The decrease in the volume of encumbrance in Portuguese banks is the reverse of last year's increase. Some countries (e.g. France and the UK) showed an increase in the ratio that is mainly driven by a decrease in the total assets and collateral available for encumbrance.

Several countries (e.g. Spain and Sweden) continued to report a relatively stable level of asset encumbrance.

Figure 4: Weighted average asset encumbrance by country



Encumbrance by asset class

Debt securities account for the largest portion of encumbered assets and collateral, with a share of 45% in December 2017 (see Figure 5). In the previous year, debt securities again accounted for the largest portion of encumbered assets and collateral, with a share of 42%. Loans and advances equally accounted for 42% of encumbered assets and collateral in 2016, but this asset class decreased to 39% of encumbered assets in 2017. Over the years 2014 to 2016, debt securities followed a decreasing trend as a share of encumbered assets. However, debt securities have decreased slightly in the past two years as a share of unencumbered assets (see Figure 6). Some Nordic countries (e.g. Denmark and Finland) reported particularly high shares of encumbered loans and advances other than loans on demand, at over 75% of the total encumbered assets and collateral.

The distribution of encumbered collateral largely remained stable between December 2016 and December 2017. Debt securities constitute by far the largest class of encumbered collateral (79% in December 2017 and in December 2016). A slight increase in the share of equity instruments as both encumbered assets and encumbered collateral has been observed since the last report.

As regards unencumbered assets of EU banks, loans and advances other than loans on demand account for the largest share, as observed in previous years. Reflecting the corresponding developments for encumbered assets, loans and advances as a portion of total unencumbered assets have increased. Unencumbered assets and collateral are more widely distributed among different types than encumbered assets and collateral, and the group of 'other assets' accounts for a higher share of unencumbered assets. Nevertheless, a 20% share of other assets constitutes a decrease from 24% in 2016 (see Figure 6).

The trends observed for the shares of encumbered asset classes are also true for volumes, as for loans and advances a 9% decrease can be observed from December 2016 to December 2017, while debt securities increased by 6% in the same period.

Figure 5: Encumbered assets and collateral by type

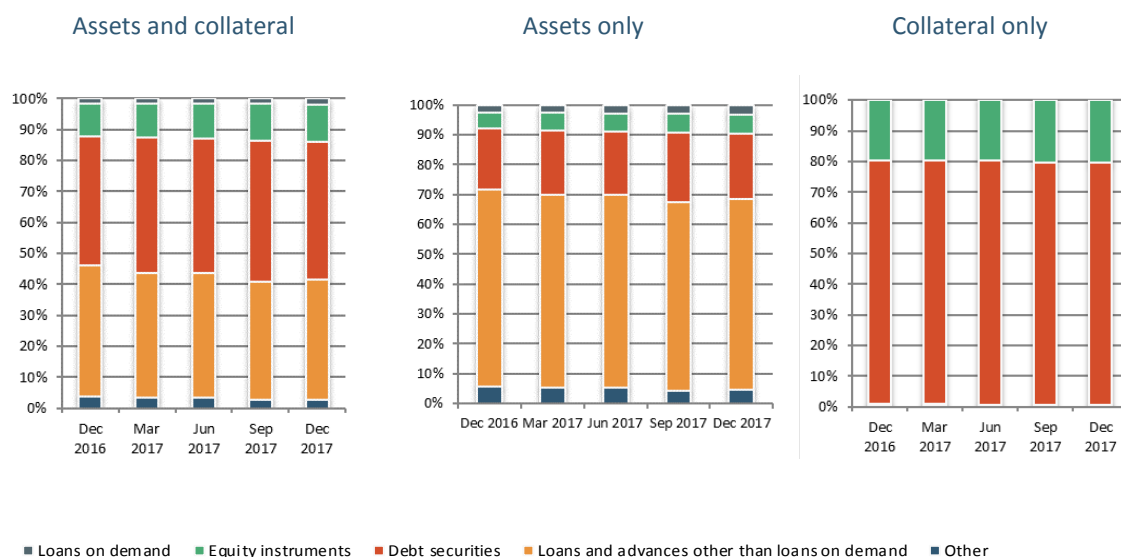
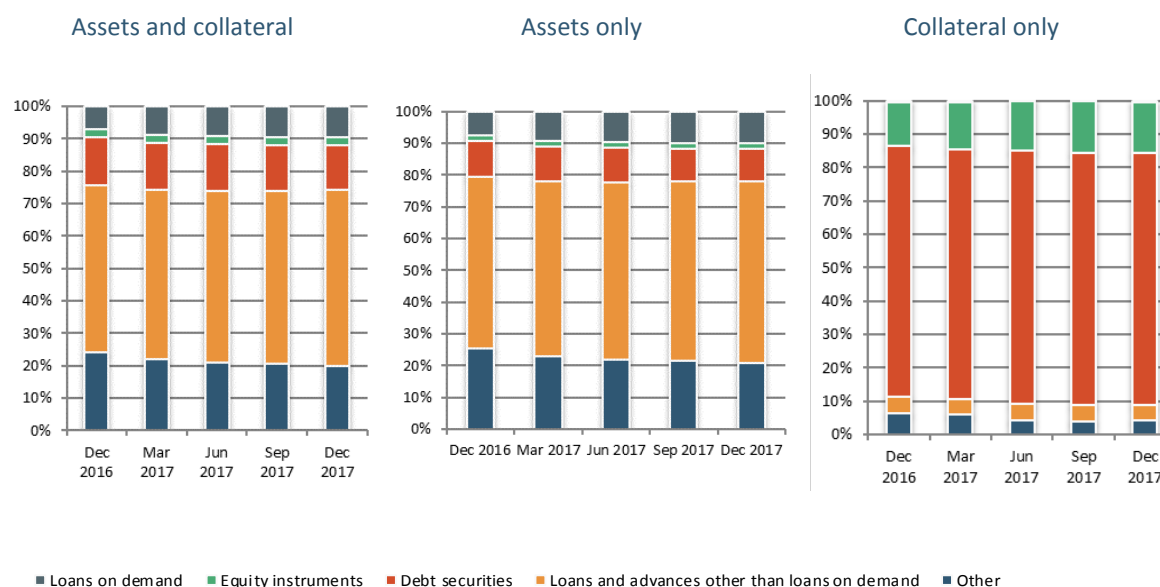


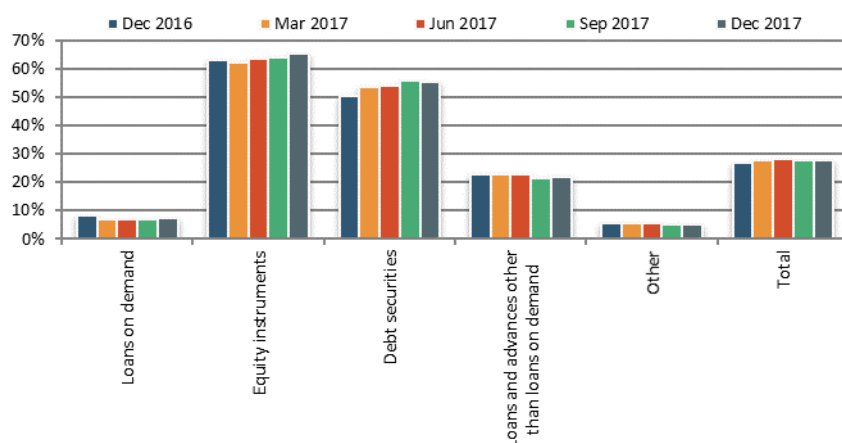
Figure 6: Unencumbered assets and collateral by type



Assets' eligibility for central bank funding is a suitable proxy for the marketability of unencumbered assets. It allows a comparison of the level of encumbrance with the amount of assets that can effectively be encumbered, as not all unencumbered assets can be used to generate funding. For instance, only 22% of loans and advances were encumbered in December 2017, but 49% of central

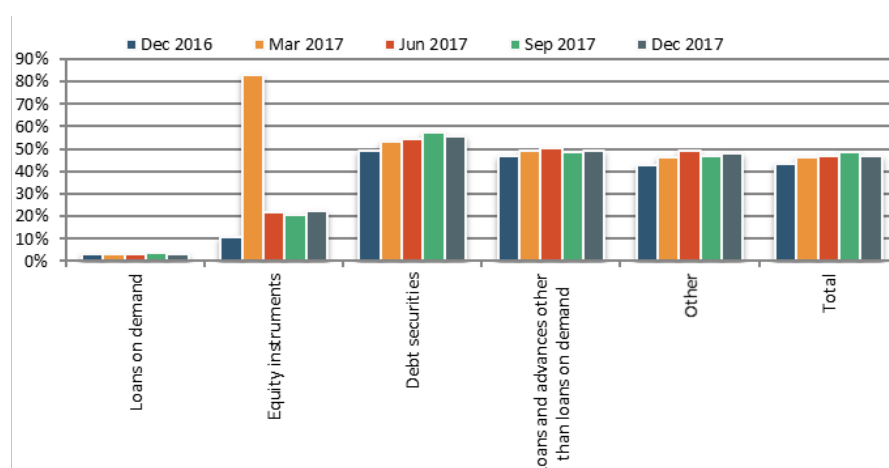
bank-eligible loans and advances were encumbered at the same point in time (see Figure 7 and Figure 8). The shares of both encumbered debt securities and encumbered equity instruments increased in 2017 (see Figure 7).

Figure 7: Level of encumbrance of total assets and collateral by type



In contrast with previous years, the encumbrance of central bank-eligible assets increased over the year by around three percentage points to 47% (see Figure 8). The largest increase was in the share of encumbered equity instruments and debt securities. The dispersion across countries was wide at between 0% and 66%, as also observed in the previous report.

Figure 8: Level of encumbrance of total central bank-eligible assets and collateral by type⁷



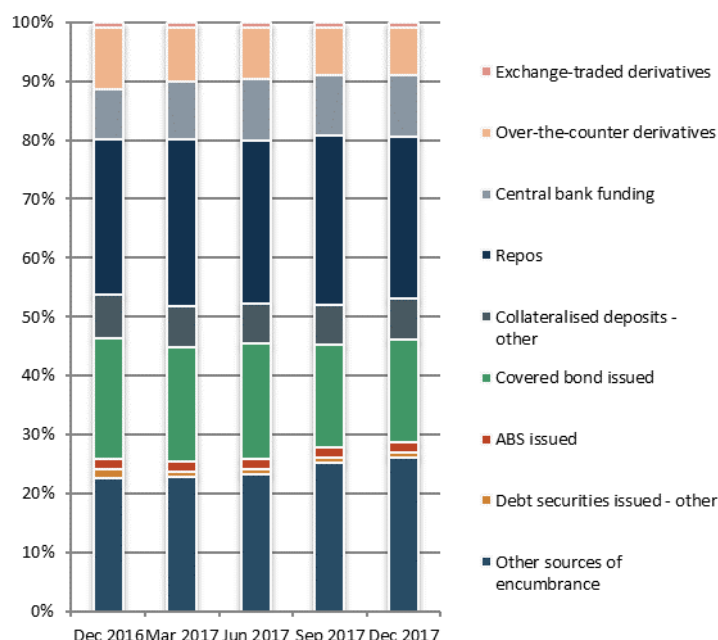
⁷ The change in the level of encumbrance of eligible equity instruments should be interpreted with care as a result of a smaller number of banks reporting data for this type of instrument.

Sources of encumbrance

The main sources of asset encumbrance — i.e. balance sheet liabilities for which collateral was posted by institutions across the sample — were repos, with a share in 2017 of 27%. The share of sources of encumbrance was almost the same as in 2016 (see Figure 9). Since the previous report, the share of ‘other sources of encumbrance’ has increased from 23% to 26%. The share of repos as a source of encumbrance was particularly high in countries such as the UK (40%) and France (31%), while the share of ‘other sources of encumbrance’ was high in countries such as Germany (33%) and the Netherlands (21%). The shares of over-the-counter derivatives (8% of the total sources in December 2017) and covered bonds issued (18%) decreased over the period for the aggregate sample, reversing the increase in both sources observed between 2015 and 2016. The volume of covered bonds as a source of encumbrance steadily decreased in 2017, consistent with the decrease in issuance volumes of covered bonds observed in 2017. The share of central bank funding as source of encumbrance showed a moderate increase during 2017, reaching 10.5% from the 8.5% observed in December 2016, and reversing the one percentage point decrease observed between 2015 and 2016.

An increase in the share of central bank funding as source of encumbrance was observed in Italy, Finland and the Netherlands. Developments were mixed in countries affected by the sovereign debt crisis: the share of central bank funding as source of encumbrance often increased, as in Cyprus, Ireland, Italy and Spain, while it stayed stable in Portugal and decreased in Greece.

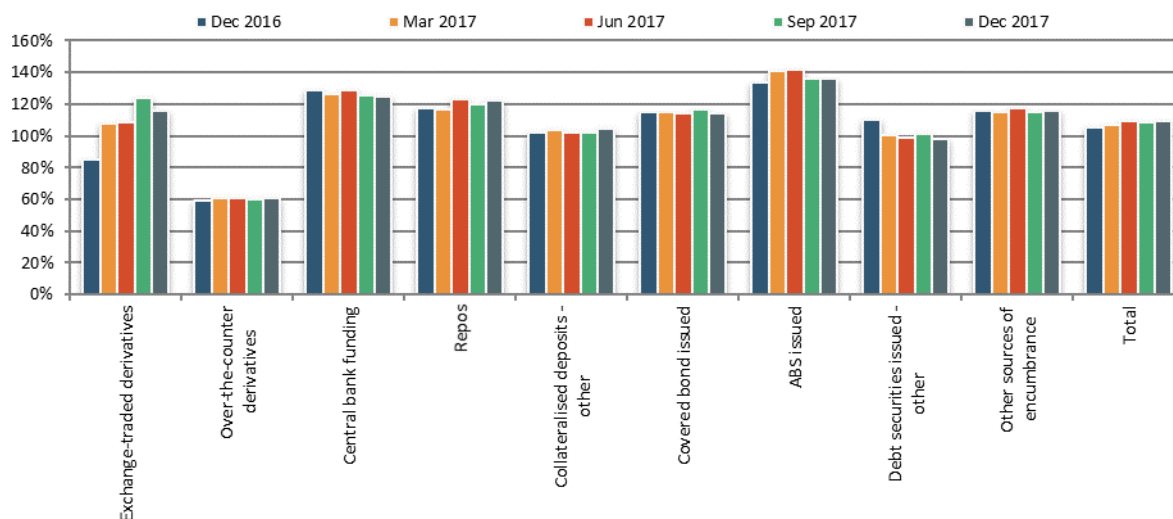
Figure 9: Distribution of the sources of encumbrance



The level of overcollateralisation — i.e. encumbered assets and collateral relative to the matching liabilities that institutions have to give — increased slightly, from 105% to 109%, during 2017 (see Figure 10) and across the quarters. While there was a significant increase for exchange-traded

derivatives, reversing a trend observed between 2015 and 2016, the level of collateralisation decreased for other debt securities issued.

Figure 10: Encumbered assets and collateral relative to matching liabilities⁸

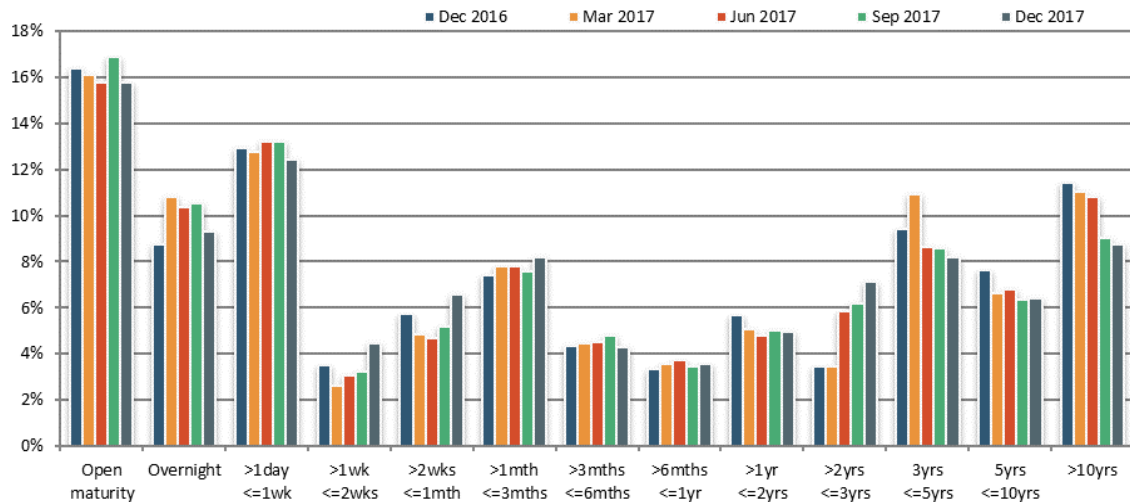


Encumbrance by maturity

The largest share of assets and collateral are those encumbered with an open maturity (on demand, without a specific maturity date) or a short maturity of up to one week, as shown in Figure 11. Some volatility in the data, especially for maturities between one week and one month, should be noted. The share of assets encumbered with a long maturity (between three and ten years) has slightly decreased, while the share of assets encumbered with a medium-term maturity (between two and three years) has strongly increased. A decreasing share of long maturities seems consistent with a decreasing share of covered bonds as source of encumbrance.

⁸ For derivatives, it should be taken into account that derivatives are reported on a gross basis under International Financial Reporting Standards (IFRS), while collateral might be netted.

Figure 11: Distribution of encumbered assets and collateral by maturity



Conclusion

The EBA monitors asset encumbrance to assess whether changes have broader implications for access to unsecured instruments, as an increase in collateralisation could suggest difficulties in the unsecured market. The analysis of asset encumbrance in 2017 shows an increase in the ratio of more than one percentage point, from 26.6% in December 2016 to 27.9% in December 2017. Although the ratio of asset encumbrance has increased steadily since 2014, its recent modest increase is not an immediate cause for concern in the funding structure of EU banks as it is driven by a reduced volume of total assets. The absolute volume of encumbered assets and encumbered collateral has remained largely unchanged. Although the modest increase in the level of total asset encumbrance in 2017 appears not to have changed in a way that gives cause for concern, the steady increase in the ratio of asset encumbrance across the EU since December 2014 warrants monitoring.

The increase in the encumbrance ratio is mainly driven by countries with large banking sectors (e.g. Germany, France and the UK), even though they reported only small percentage point increases. On the other hand, some of the countries most affected by the sovereign debt crisis showed a drop in the level of asset encumbrance. Yet some of these countries reported increasing the use of central bank funding as source of encumbrance, reversing the generally decreasing trend observed in the last report.

The main source of asset encumbrance (i.e. balance sheet liabilities for which collateral was posted) continues to be repos. However, the share of 'other sources of encumbrance' has increased further and warrants attention; it is now almost equally relevant as repos as most important source of encumbrance and should be monitored. The share of covered bonds decreased from 20% in 2016

to 18% in 2017, reversing a trend from the previous year and reflecting a decrease in the issuance volumes of covered bonds in 2017.

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 the Commission Implementing Regulation (EU) No 2015/79.⁹ The asset encumbrance ratio is defined as equal to the encumbered assets of an institution and the collateral received by the institution and reused. Therefore, the formula is encumbered 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 was added to the definition, as it can be assumed that this is usually available to be reused for refinancing transactions. Here, assets are measured at the 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 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 to the Commission Implementing Regulation (EU) No 2015/79.

⁹ Paragraphs 9-11 of Annex III.

Annex II: The sample

This report is based on the full sample of banks for which the EBA receives data on asset encumbrance as part of the EU-wide supervisory reporting data. The harmonised supervisory reporting framework (based on the EBA ITS on supervisory reporting) came into force during 2014.¹⁰ The EBA started collecting harmonised supervisory data based on the ITS from 195 banks in 29 European Economic Area (EEA) countries as of March 2015. As of December 2017, the sample in this report comprises 187 banks. The EBA received harmonised supervisory data from Iceland for the first time in March 2018. The sample of banks covers at least three banks from each country and, in addition, all large banks. In particular, the set of banks for which the EBA receives supervisory reporting data includes all institutions that fulfil at least one of the following criteria:

- The institution is one of the three largest institutions in a Member State, including banking groups at the highest level of consolidation and subsidiaries of foreign banking groups, measured by total assets. This criterion selects the top institutions at the country level and also allows the analysis of average country-level data in countries in which banks are mostly subsidiaries of foreign institutions.
- The institution's total assets are in excess of EUR 30 billion, both for institutions that represent the highest consolidation level of any given banking group and for non-EEA banking group subsidiaries. This criterion selects the largest banks at an EU level.
- The institution's four-year average of total assets is in excess of 20% of the four-year average of a Member State's gross domestic product (GDP), both for institutions that represent the highest consolidation level of any given banking group and for non-EEA banking group subsidiaries. This last relative criterion ensures that institutions that are particularly relevant for a country are included in the sample regardless of whether they meet either of the other two criteria.

Other institutions may be added to the reporting sample by the EBA or by competent authorities.

Data for banks is generally included in this report at the highest level of consolidation in the EU. In country analyses, subsidiaries of banks from other Member States of the EU were also included. It should be noted that subsidiaries of EU parent institutions therefore appear for both countries — i.e. the country of the parent and that of the subsidiary — in all country-level analyses in this report but not in EU aggregates.

Banks are included in the data for each period included 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 the sample may differ slightly over the different periods.

¹⁰ <https://www.eba.europa.eu/regulation-and-policy/supervisory-reporting>



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