



EBA REPORT ON ASSET ENCUMBRANCE

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Executive summary

This report is the third edition of the annual EBA report on asset encumbrance. It forms part of the ongoing commitment to monitoring 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) published in October 2013.²

The quarterly data for the year 2016, underlying this report, shows a slight increase in the level of asset encumbrance across the EU compared with last year's figures, and also relative to 2014. The ratio of encumbered assets and collateral received relative to the total assets and collateral received available for encumbrance,³ measured as a weighted average across the sample, was 26.6% in December 2016, compared with 25.4% for December 2015 and 25.1% for December 2014, albeit with wide dispersion among countries and banks. The highest levels of encumbrance (80-90%) are reported by specialised mortgage institutions.

A relatively high level of encumbrance — as in previous years — is reported in jurisdictions with:

- large and established covered bond markets (most notably Denmark and Sweden);
- a high share of central bank funding, in countries severely affected by the sovereign debt crisis (e.g. Greece);
- a high share of repo financing and collateral requirements for over-the-counter derivatives (e.g. the UK).

The slight increases in the ratio reported by countries with large and established covered bond markets, such as Denmark (55% in December 2016) and Sweden (26% in December 2016), are related to a high share of loans and advances in the total encumbered assets and collateral: almost 80% for both countries, with an increasing trend in the past two years (from 76% in December 2014 and 78% in December 2015), compared with 42% for the EU. The use of covered bonds accounts for around 80% of the total encumbered assets and collateral in December 2016, an increasing trend since 2014.

Some countries that were more severely affected by the sovereign debt crisis have high encumbrance levels but showed a decrease in volume of encumbrance compared with last year (from 22% to 7% in Cyprus, from 47% to 43% in Greece), and in particular a decreased dependence on the use of central bank funding, which could indicate a general improvement in the funding

¹ EBA Report on Funding Plans, July 2017.

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 also 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.

conditions in these countries. In particular, Greece and Cyprus decreased their level of encumbrance from central bank funding from about 90% in December 2015 to about 70% in December 2016. Due to the relatively low volume of assets in those countries reporting this development, the decrease had only a marginal effect on the EU aggregate encumbrance ratio. Moreover, other countries reported an increase in the level of central bank funding as a source of encumbrance. This was the case for Slovenia (from 57% to 67%) and Italy (from 22% to 27%). The average share of central bank funding in the total sources of asset encumbrance was 8% in December 2016.

The rise in the aggregate asset encumbrance ratio was driven by small increases in some jurisdictions with large banking sectors, for example in Italy (where the increase was due to an increase in central bank funding) and in the UK. In the UK, the increase was mostly due to a high and rising share of repurchase agreement (repo) financing and also of over-the-counter derivatives. In the UK, repos account for 39% of encumbered assets and collateral, compared with an EU average of 26%. Although repo financing is still the main source of asset encumbrance in the EU, its share decreased in aggregate over the period, in favour of an increase in the share of covered bonds issued (20%) and especially over-the-counter derivatives (10% in December 2016).

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 not only that the total encumbrance in the EU has increased but also that, in contrast with previous reports, the encumbrance of central bank eligible assets has also risen, from 42% in December 2015 to 44% in December 2016. Here central bank eligibility can be seen as a proxy for the overall marketability of assets. Wide dispersion among countries and banks can be observed also in this case.

Taking into account the limited time series for this report, the modest uptick in the level of total asset encumbrance in 2016 appears not to be a cause for concern. Nonetheless, the availability of collateral for central bank funding in particular, as well as the use of central bank funding, should be carefully monitored to investigate the changes in funding structures across the EU as official sector funding is reduced. The increase in the volume of over-the-counter derivatives as a source of encumbrance, observed in the majority of countries (including some of those driving the increase in encumbrance), should also be monitored.

Analysis of the asset encumbrance of European banks

Sample

The sample included in this report covers, as of December 2016, 195 out of 196 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.⁴

Scope of the report

This report is based on data for the period from December 2014 to December 2016, focusing on the five quarters from December 2015 to December 2016. Figure 1 and Figure 2 show the composition of assets and collateral received across the sample. As of December 2016, and similarly to the situation described in last year's EBA report, the banks covered in this report accounted for EUR 34.3 trillion and EUR 5.5 trillion in, respectively, assets (encumbered and unencumbered) and collateral received. The cut-off for data updates received from banks was 1 June 2017.⁵

Figure 1: Distribution of total assets (encumbered and unencumbered) by asset type, December 2016

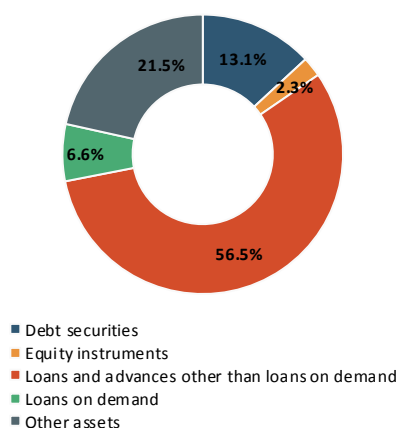
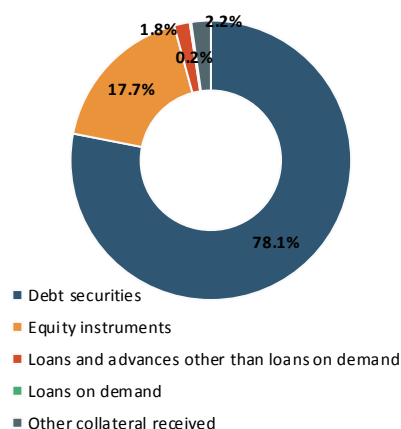


Figure 2: Distribution of total collateral received available for encumbrance (encumbered and unencumbered) by collateral type, December 2016



⁴ One bank was excluded, as it did not report sufficient data to calculate the overall encumbrance ratio. Additional banks with partial reporting were excluded from specific analyses.

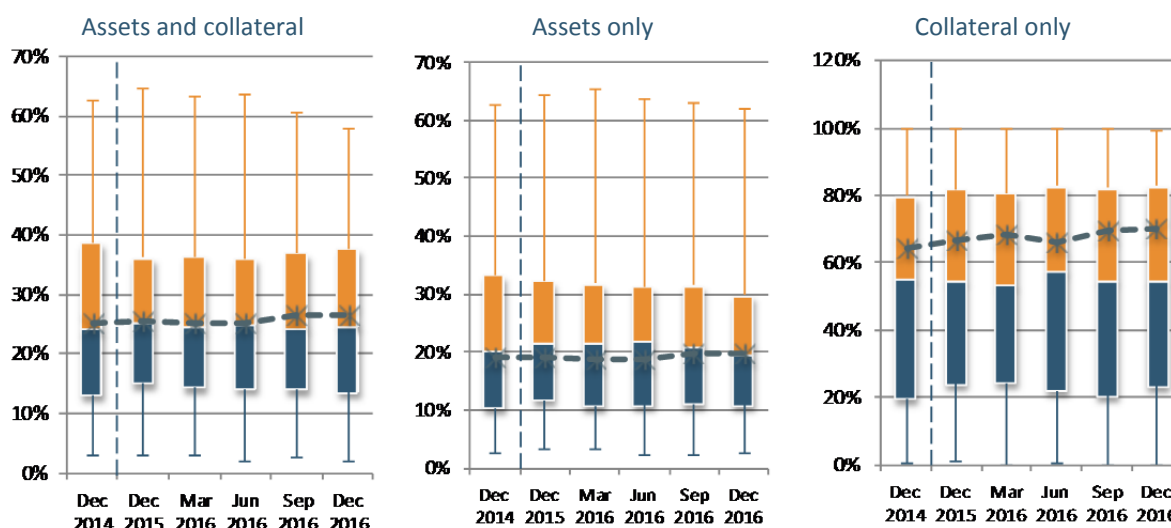
⁵ Historical data was used for this report as available at the cut-off date. As a result of resubmitted data from banks, historical values may differ from those in previous reports.

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 26.6% in December 2016. This represents an increase compared with last year's report, where the total weighted average asset encumbrance ratio was 25.4% for December 2015 (see Figure 3). The corresponding value for December 2014 was 25.1%. The increase in the ratio was driven by a higher volume of both encumbered assets and encumbered collateral, i.e. EUR 6.8 trillion and EUR 3.8 trillion in absolute terms in December 2016. Considering the slight increase in the total volume of collateral received available for encumbrance, the increase in volume of collateral received and reused for encumbrance was the main driver of the increase.

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 58%. Consistently with previous reports, the highest values, i.e. those above 80% or even 90%, are mostly reported by specialised mortgage institutions, and encumbrance for collateral received is significantly higher than encumbrance for assets only. Compared with the previous year and especially with the last two quarters, the distribution of encumbrance across the EU has narrowed. This was driven in particular by banks with levels of asset encumbrance among the highest in the sample (in particular, some banks with specialised business models and banks under restructuring), which reported lower values for 2016, closer to the rest of the sample.

Figure 3: Distribution of the asset encumbrance ratios of 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 once again reported in jurisdictions with:

- large and established covered bond markets (most notably Denmark and Sweden);
- a high share of central bank funding, in countries severely affected by the sovereign debt crisis (e.g. Greece);
- a high share of repo financing and collateral requirements for over-the-counter derivatives (e.g. the UK).

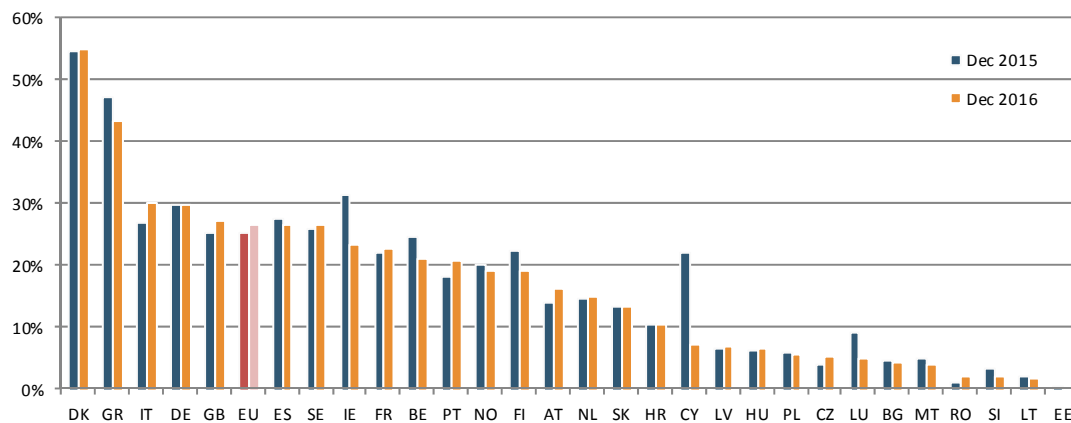
Other countries report higher than average asset encumbrance due to a combination of reasons. For instance, German banks report a relatively high share of covered bonds but also relatively high shares of collateralised deposits and over-the-counter derivatives. Asset encumbrance ratios range from close to 0%, in Estonia, to 55% and 43%, in Denmark and Greece respectively.

Countries with large banking sectors and small percentage increases on last year (such as Italy and the UK) are driving the overall increase in the ratio of asset encumbrance because of their relative size. Italian banks reported a steady increase in the asset encumbrance ratio for the five quarters covered in this report.

Conversely, the impact of reductions in encumbered assets in countries affected by the sovereign debt crisis only marginally affected the aggregated figures. For example, Cyprus reported a reduction of 15 percentage points on last year, following a decreasing trend in almost every quarter since December 2014. All Greek banks and most Spanish 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 is a reversal of the trend reported last year, especially concerning Greek banks. A number of countries, such as Portugal, show a change in the ratio driven by a combination of an increase in encumbrance and a decrease in total assets and collateral available for encumbrance. Banks from Finland showed a drop in the ratio, particularly in the last quarter, returning to lower levels of asset encumbrance as seen for the year 2014. Finally, some countries (e.g. Germany, Sweden and France) continued to report a stable trend in the level of asset encumbrance.

Changes in the sample may also explain the decrease reported by a number of countries. For instance, in Ireland, the ratio of asset encumbrance dropped by 8 percentage points, while, based on a balanced sample (i.e. if the same banks from Ireland had been included in the analysis for both periods), this decrease would have been limited to 5 percentage points. A similar argument could be made with regard to Luxembourg.

Figure 4: Weighted average asset encumbrance by country



Encumbrance by asset class

The largest portion of encumbered assets and collateral is once again made up of loans and debt securities, both at 42% of total encumbered assets and collateral. The class of loans and advances other than loans on demand has shown a rising trend over the past two years as a share of encumbered assets, while it has slightly decreased in the past year as a share of unencumbered assets (Figure 5 and Figure 6). Some Nordic countries, such as Denmark and Sweden, reported particularly high and increasing shares of encumbered loans and advances other than loans on demand, at around 80% of total encumbered assets and collateral. Debt securities have followed a decreasing trend as a share of encumbered assets since December 2014, while they formed a stable and slightly increasing share of encumbered collateral, for which they constitute by far the largest class.

Unencumbered assets and collateral show a more dispersed distribution among different types, so that other classes of assets also play a bigger role (see Figure 6). Trends in shares of encumbered asset classes are also true for volumes, as for loans and advances a 12% increase since 2014 can be observed, while debt securities have decreased by 18% in the same period.

Figure 5: Encumbered assets and collateral by type

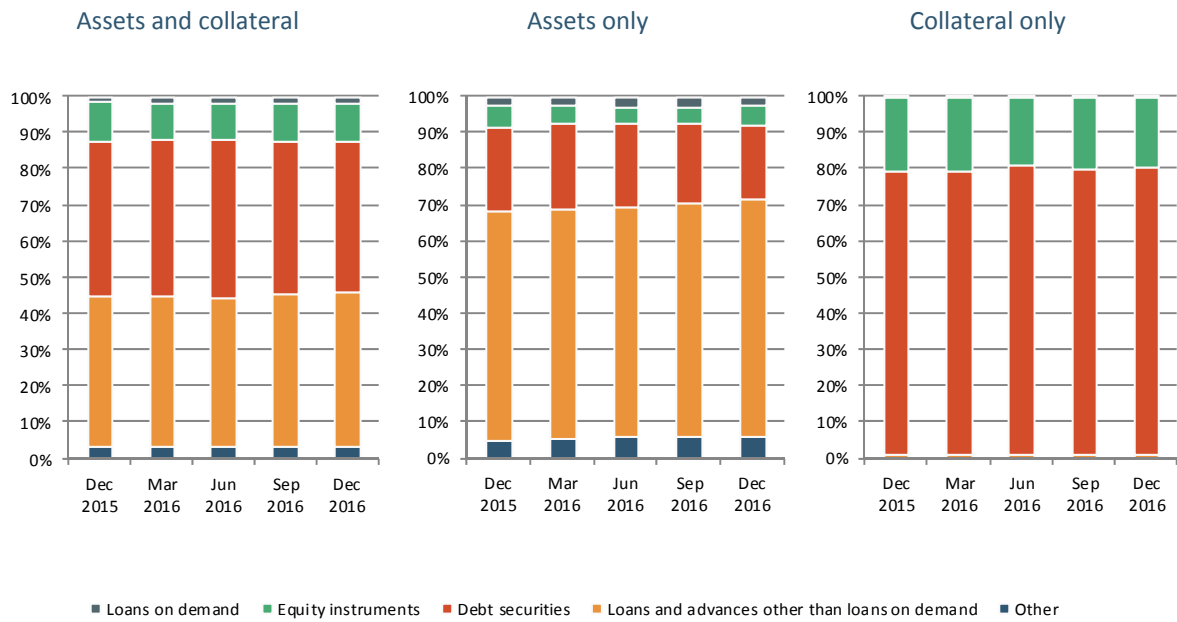
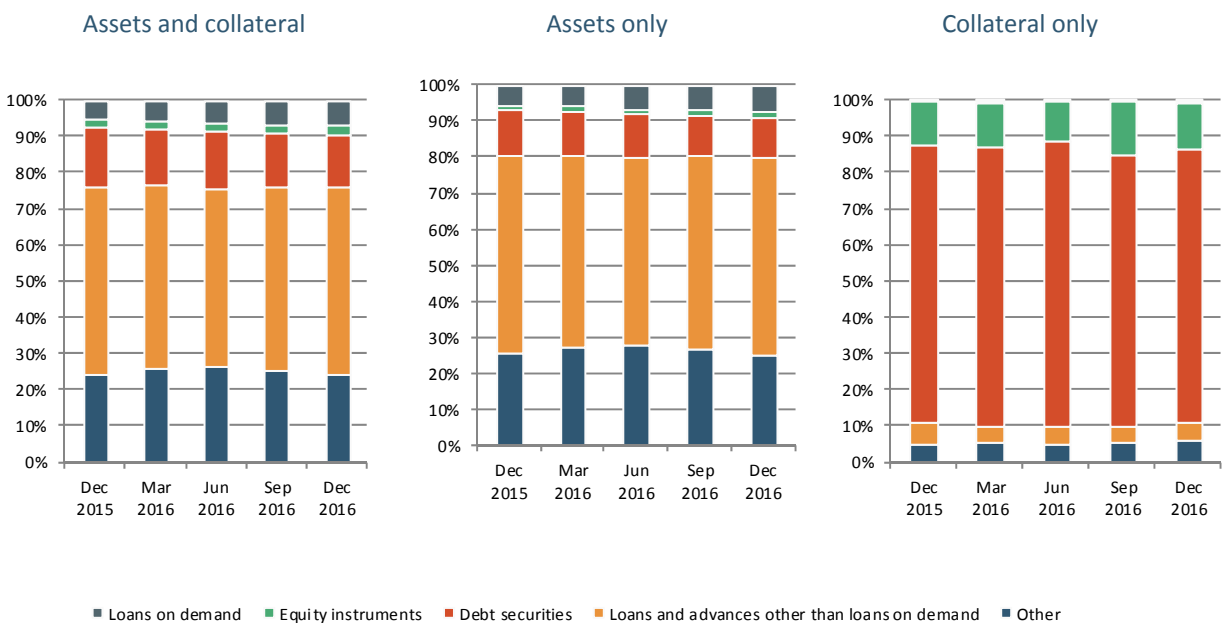


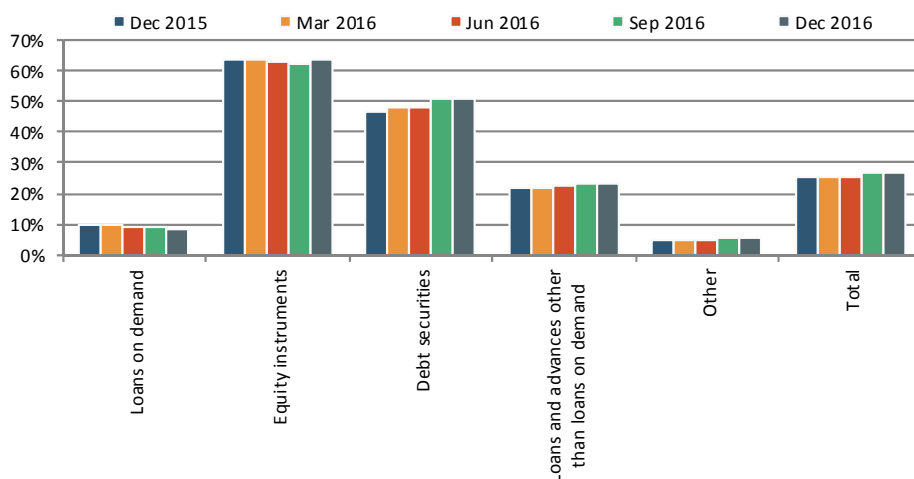
Figure 6: Unencumbered assets and collateral by type



Assets' eligibility for central bank funding is a suitable proxy for the marketability of unencumbered assets. This 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 23% of loans and advances were encumbered in December 2016, but 47% of central bank eligible loans and advances were encumbered at the same point in time (Figure 7 and Figure 8). The shares of both encumbered debt securities and encumbered loans and advances have increased

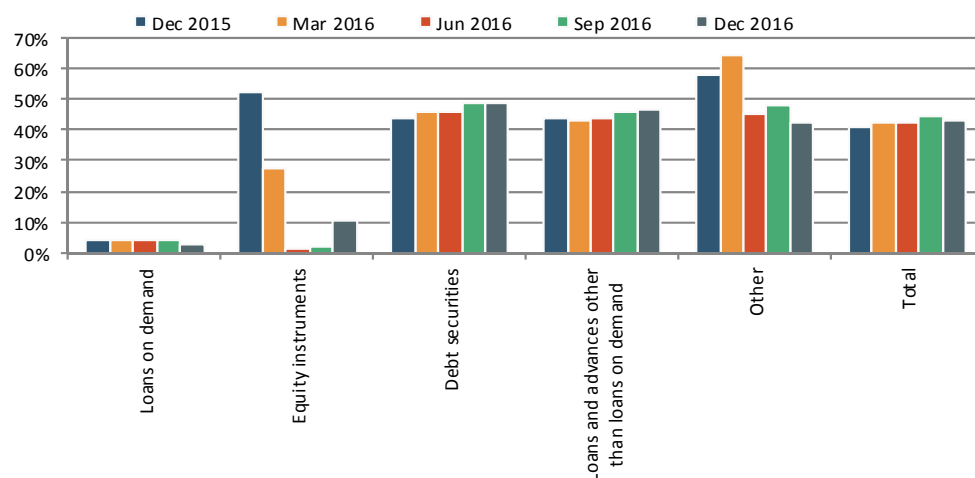
over time (see Figure 7), but, whereas the former is the result of an increase in the volume of encumbered assets over the past two years, as seen previously, the latter originates in an increase in the volume of encumbered collateral, while encumbered assets have decreased over time. The decrease in the share of loans on demand was mainly driven by an increase in the volume of unencumbered assets significantly larger than the small increase also shown in the volume of encumbered assets.

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 2 percentage points to 44% (see Figure 8), albeit with wide dispersion across countries, as also observed in the previous report.⁷

⁷ It should be noted that this proxy for marketability takes a relatively restrictive view of funding capacity, and that encumbrance here does not necessarily imply that the assets and collateral were pledged to obtain central bank funding. Instead, they could have been used for any other source of secured funding.

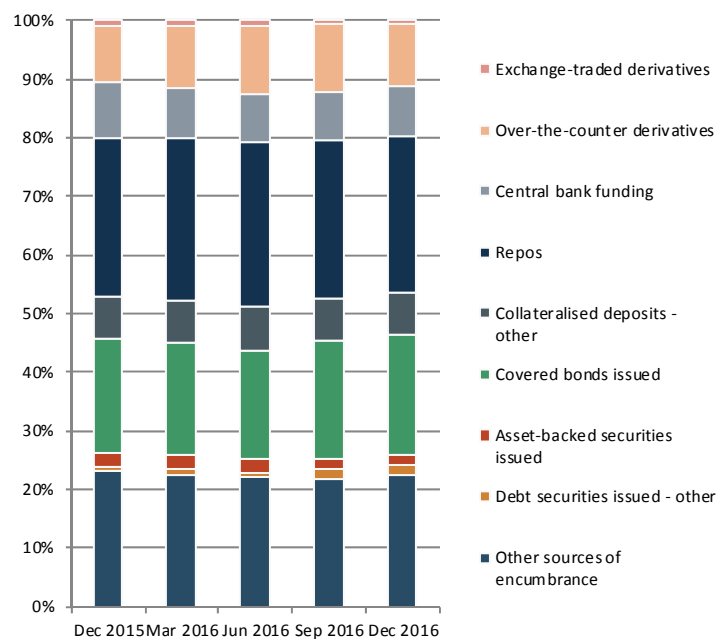
Figure 8: Level of encumbrance of total central bank eligible assets and collateral by type⁸

Sources of encumbrance

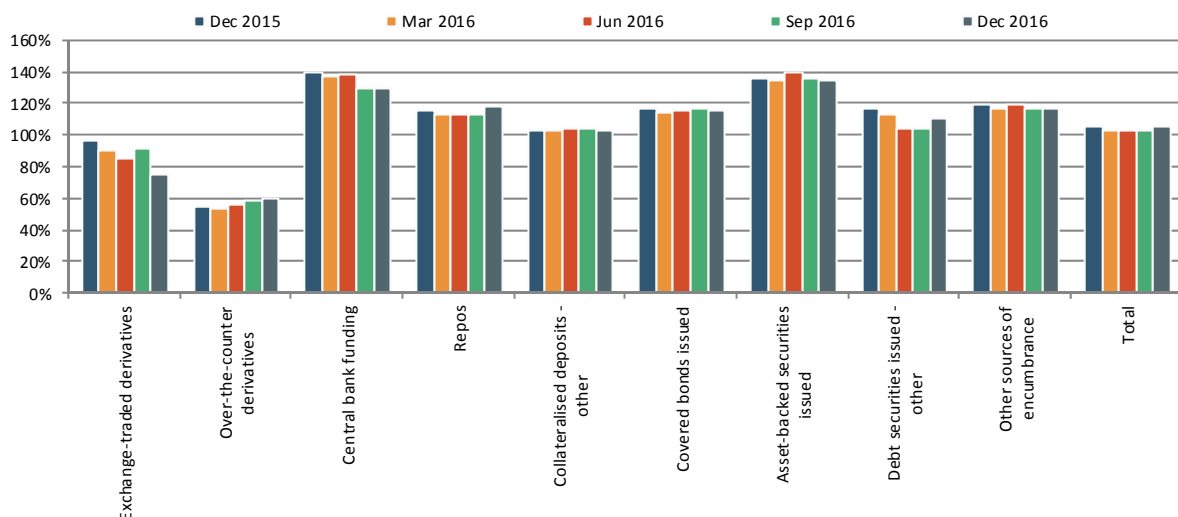
The main sources of asset encumbrance — i.e. balance sheet liabilities for which collateral was posted by institutions across the sample — were repos (Figure 9), even after a slight decrease over the period. The share of repos as a source of encumbrance was particularly high in countries such as the UK (39%) and Italy (32%). The shares of over-the-counter derivatives (10% of the total sources in December 2016) and covered bonds issued (21%) increased over the period for the whole sample. The volume of covered bonds as a source of encumbrance was particularly high in the last two quarters of 2016, reaching even higher levels than those seen at the beginning of 2015 (when issuances, as seen in the market, were particularly high). The volume of covered bond issuances as a source of encumbrance in the sample was EUR 2.2 trillion in December 2016, compared with EUR 2.0 trillion in December 2015 and EUR 1.9 trillion in December 2014. A similar increase in volume can be seen for over-the-counter derivatives, which were particularly high during the course of 2016, especially compared with end 2015, reaching a peak of EUR 1.2 trillion in September 2016, compared with EUR 1.0 trillion in December 2015. The share of central bank funding decreased moderately during the course of 2016, reaching 8% from the 10% seen in December 2015. Most of the countries affected by the sovereign debt crisis show a significant decreasing trend in the volume of central bank funding as a source of encumbrance.

⁸ The change in the level of encumbrance of eligible equity instruments after December 2015 should be interpreted with care, as a result of the very small number of banks reporting data for this type of instrument (only 8 banks reporting for December 2016 and 13 for December 2015).

Figure 9: Distribution of the sources of encumbrance



The level of overcollateralisation — i.e. the ratio of encumbered assets and collateral to the matching liabilities that institutions have to give — did not change significantly overall over the year (Figure 10) or across the quarters. While there was a significant decrease for exchange-traded derivatives, particularly in the last quarter,⁹ the level increased for repos and over-the-counter derivatives.

Figure 10: Encumbered assets and collateral relative to matching liabilities¹⁰

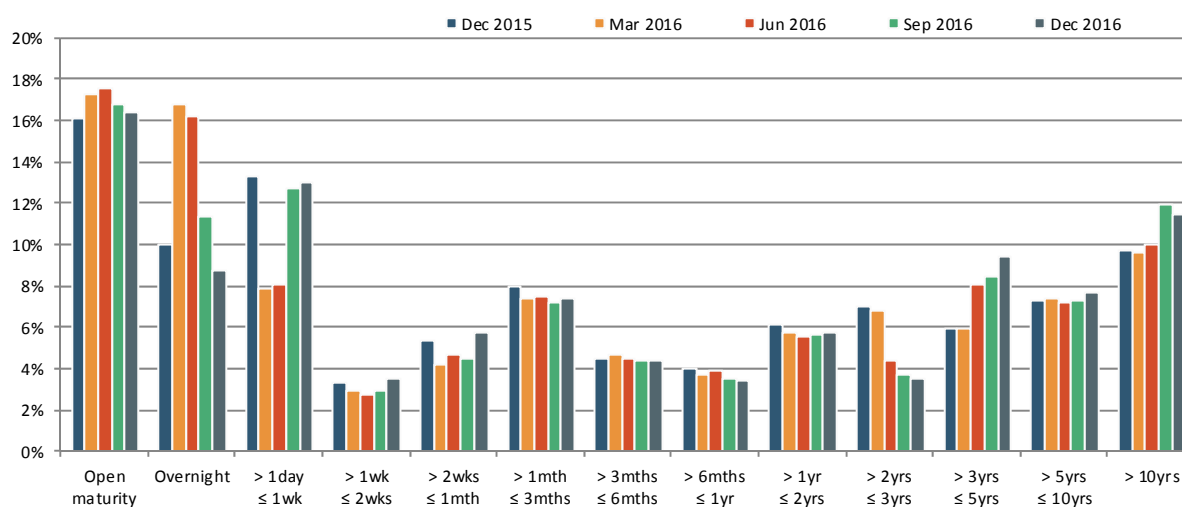
⁹ While a number of banks did not report data for December 2016 for exchange-traded derivatives, many others seem to have substantially increased their volumes of exchange-traded derivatives in the last quarter, while leaving the level of encumbrance fairly stable.

¹⁰ For derivatives, it should be taken into account that liabilities are reported on a gross basis under International Financial Reporting Standards, while collateral might be netted.

Encumbrance by maturity

The largest share of assets and collateral are encumbered with an open maturity (on demand, without a specific maturity date) or a very short maturity, as shown in Figure 11. There seems to be a high level of volatility in the data, especially for maturities of up to two weeks. On the other hand, other maturities followed more stable trends, and long-term encumbrance (> 10 years) increased across the year, which seems consistent with an increasing share of covered bonds.¹¹

Figure 11: Distribution of encumbered assets and collateral by maturity¹²



¹¹ Changes in the reported maturity distribution may also be driven by data quality issues.

¹² Reported data excludes institutions with total assets of less than EUR 30 billion and an encumbrance level below 15%.

Conclusion

Altogether, the current analysis shows an increase in the weighted average ratio of asset encumbrance of slightly more than 1 percentage point, from 25.4% in December 2015 to 26.6% in December 2016. 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.

However, the modest increase in the level of asset encumbrance reported during the five quarters to end 2016 is not an immediate cause for concern in the EU funding structure, as this change is in line with similar changes observed in the sample over time.

Additionally, the change in ratio reported for December 2016 compared with December 2015 was mainly driven by countries with large banking sectors (such as Italy and the UK) reporting small percentage point increases in their asset encumbrance ratios. Some countries, such as Greece, Cyprus and Spain, showed a drop in the level of asset encumbrance and in particular a decreased dependence on the use of central bank funding, which could reflect a general improvement in the funding situation in these countries.

The report also shows that banks have increased the level of asset encumbrance in the form of loans and advances as a result of covered bond issuance; the level of over-the-counter derivatives) has also increased. The level of loans and advances seems to be getting closer to the (decreasing) level of repurchase agreements, still the most significant source of asset encumbrance. The increase in the volume of over-the-counter derivatives as a source of encumbrance is observed in the majority of countries (including some of those driving the increase in encumbrance), and should be monitored.

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 2015/79.¹³ 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 it 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 (CCPs) and other infrastructure institutions as a condition for 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 Commission Implementing Regulation (EU) No 2015/79.

¹³ 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 2014.¹⁴ 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. 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 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 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 even if they don't 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.

¹⁴ <https://www.eba.europa.eu/regulation-and-policy/supervisory-reporting>



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