



# EBA REPORT ON ASSET ENCUMBRANCE

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**EBA**

EUROPEAN  
BANKING  
AUTHORITY

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## Executive summary

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An analysis of asset encumbrance is critical for supervisors to monitor the consequences of changes in funding sources across the European Union (EU) and assess the ability of institutions to withstand funding stress. In 2015, the EBA started receiving data on asset encumbrance based on the implementing technical standards (ITS) published in October 2013. This is the second annual EBA report based on the quarterly data received, covering the time span from December 2014 to December 2015 for a sample of almost 200 EU banks.

Based on a comparison of the results of this report with the EBA report published in 2015, there is no indication of a significant increase in the level of asset encumbrance over the last year. The overall weighted average encumbrance ratio—i.e. all encumbered assets and collateral received relative to total assets and collateral<sup>1</sup> in the EU in December 2015—was 25.6% (against 25.2% in December 2014) but with a wide dispersion across institutions and countries, which remained similar to what was observed in the previous report. As already observed in the first report, the highest values of above 80% are mostly reported by specialised mortgage institutions. When the weighted averages are computed at country level, the asset encumbrance ratio ranges from close to 0% for Estonia to 55% and 47% in the cases of Denmark and Greece respectively. Similar to the previous report, in countries with relatively high levels of asset encumbrance, this is driven by large and established covered bond markets (notably Denmark and Sweden), by a high share of central bank funding in countries severely affected by the sovereign debt crisis (e.g. Greece), and by a high share of repo financing and collateral requirements for over-the-counter derivatives (e.g. the UK and Belgium).

Not all unencumbered assets can be used to generate funding. A proxy for the marketability of unencumbered assets, also under stressed conditions, can be the eligibility for central bank funding. In total, the encumbrance of central bank eligible assets slightly decreased over the quarters from 45% in December 2014 to 42% in December 2015, albeit again with a high dispersion across countries.

The main sources of asset encumbrance (i.e. balance sheet liabilities for which collateral was posted by institutions across the sample) continue to be repos, covered bonds issued and central bank funding, even though repos followed a steady decrease in importance over the terms. In particular, the use of asset and collateral in central bank funding shows a strong variation across countries. The highest values are still mostly reported by countries severely affected by the sovereign debt crisis. In particular, the levels of asset encumbrance reported by Greek banks increased significantly with respect to year-end 2014, which is mainly explained by an increased use of central bank funding during 2015.

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<sup>1</sup> The details on the calculation of the asset encumbrance ratio, together with the definition of encumbered assets and collateral and the description of the sample, are provided in Annex I and II.

Taking into account the limited time series for this report, the trend in the level of total asset encumbrance and particularly the availability of collateral for central bank funding, as well as the use of central bank funding, should be carefully monitored going forward in order to investigate the changes in funding structures across the EU.

# Analysis of the asset encumbrance of European banks

## Sample

The sample included in this report covers 185 out of 191 banks as of December 2015, 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.<sup>2</sup>

## Scope of the report

The banks covered in this report account for EUR 34.1 trillion of assets and an additional EUR 5.1 trillion of collateral received in December 2015, similar to the September 2015 EBA report. The composition of assets and collateral received across the sample is shown in Figure 1 and Figure 2. The report covers data for five quarters from December 2014 to December 2015. The cut-off for data updates received from banks is 7 June 2016.<sup>3</sup>

Figure 1: Distribution of total assets (encumbered and unencumbered) by asset type, December 2015

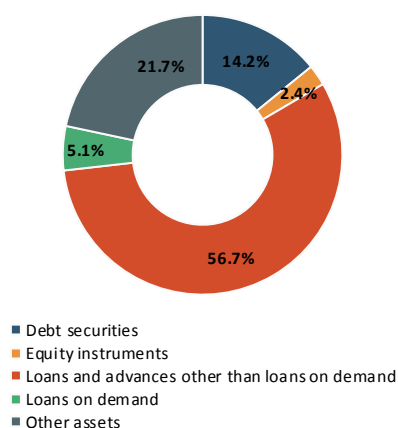
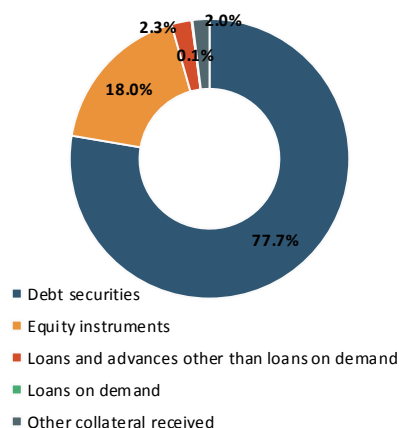


Figure 2: Distribution of total collateral received available for encumbrance (encumbered and unencumbered) by collateral type, December 2015



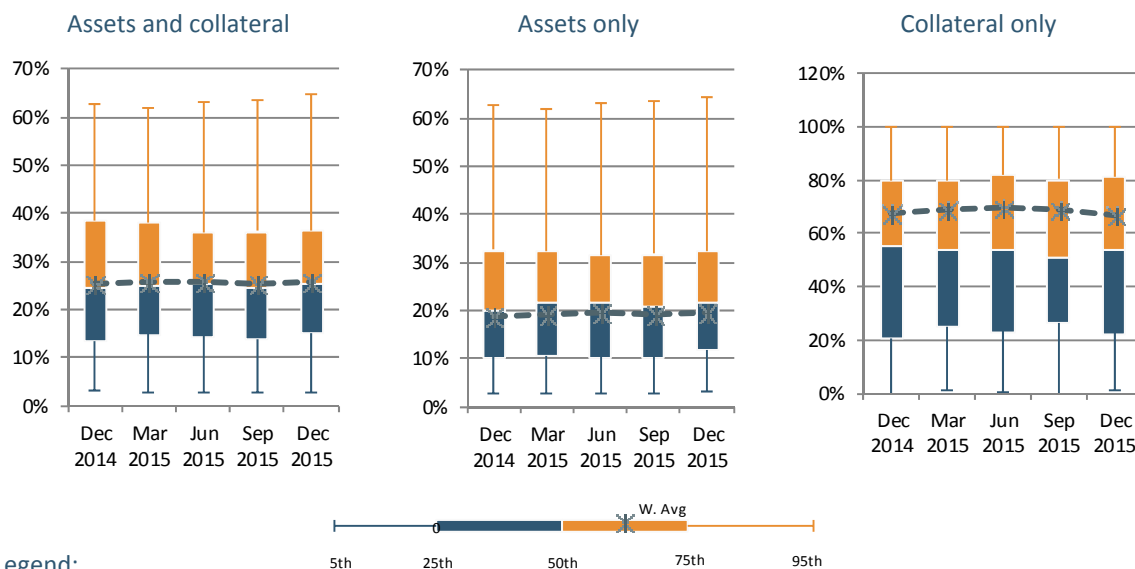
<sup>2</sup> Six banks were excluded, as they did not report sufficient data to calculate the overall encumbrance ratio. Additional banks with partial reporting were excluded from specific analyses.

<sup>3</sup> Historical data for this report was used as available at the cut-off date. Due to resubmitted data from banks, historical values can therefore differ from previous reports.

## Total encumbrance

The total weighted average asset encumbrance,<sup>4</sup> including assets and collateral received in the sample, was 25.6% in December 2015—a slight increase from 25.2% in December 2014. A wide dispersion across banks is visible in Figure 3. Banks in the 5th and 95th percentiles respectively show values below approximately 3% and above 65%. Consistent with the 2015 report, the highest values of above 80% and even 90% are mostly reported by specialised mortgage institutions, and encumbrance for collateral received is significantly above encumbrance for assets only. The slight increase in the overall encumbrance ratio during the year was driven by a combination of an increase in assets and a reduction of collateral. In absolute terms, EUR 6.6 trillion of assets and EUR 3.4 trillion of collateral were reported as encumbered in December 2015.

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)



Legend:

## Encumbrance by country

The picture across countries also differs significantly (see Figure 4). The asset encumbrance ratio ranges from close to 0% for Estonia to 55% and 47% in the cases of Denmark and Greece respectively. As in 2014, the relatively high levels of asset encumbrance observed in certain jurisdictions continue to be driven by:

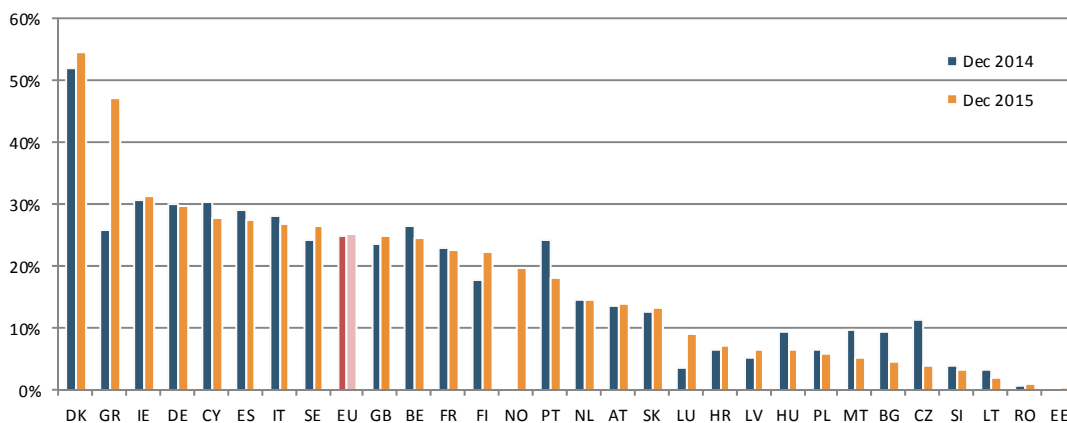
- Large and established covered bond markets (most notably Denmark and Sweden);
- A high share of central bank funding in countries severely affected by the sovereign debt crisis (e.g. Greece);

<sup>4</sup> All weighted averages are computed by taking the ratio of the sum of the numerator across the sample and the sum of the denominator.

- A high share of repo financing and collateral requirements for over-the-counter derivatives (e.g. the UK and Belgium).

By far the highest absolute change across the year was reported for Greece, for which the level of asset encumbrance increased by 21 percentage points. Changes in the sample may also explain the decrease reported by a number of countries. For instance, in Portugal, the level of asset encumbrance dropped by 6 percentage points while, based on a balanced sample, this decrease would be limited to 4 percentage points.

Figure 4: Weighted average asset encumbrance by country<sup>5</sup>



#### Box 1: Asset encumbrance vs profitability and capitalisation

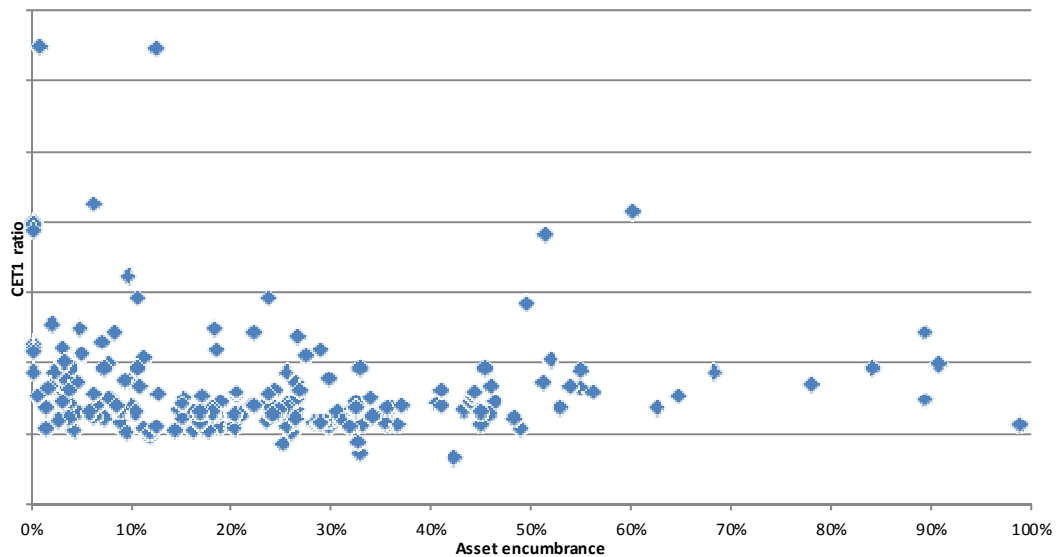
The level of asset encumbrance can be analysed in conjunction with banks' other risk indicators in order to identify possible common patterns. Therefore, in this box, asset encumbrance ratios are compared with return on assets (ROA) and Common Equity Tier 1 (CET1) ratios for all banks in the sample.

The outcome of this preliminary analysis should provide additional insights on the drivers of the asset encumbrance levels across the EU, and it could serve as the foundation for further and more specific studies on asset encumbrance. A relationship between capitalisation and asset encumbrance could be expected, as banks with lower levels of capital could have a reduced access to unsecured funding. However, as Figure 5 illustrates, this relationship is not visible on an aggregate basis. The level of asset encumbrance, therefore, seems to be mostly driven by business model or country specificities.

<sup>5</sup> Norwegian banks did not report data for December 2014.



Figure 5: Encumbrance level relative to CET1 ratio by bank, December 2015



Similarly, asset encumbrance can be related to the profitability of banks in two ways. On the one hand, cheaper secured funding could increase profitability; on the other hand, less profitable banks might have reduced access to unsecured funding. As can be inferred from Figure 6, banks with relatively high levels of ROA tend to report a lower level of asset encumbrance as of December 2015. This may imply that a bank with a relatively low level of profitability would be more likely to turn to secured funding than a bank with higher profitability levels. Of course, these differences might also be explained by different business profiles (which are not taken into consideration in the analysis). In particular, this negative relationship is also observed when investigating more specifically the levels of asset encumbrance that originate from central bank funding.<sup>6</sup> Other large sources of encumbrance, such as covered bonds or repos, show a less clear or inverted relationship. Similar, but less significant, relationships can be observed when analysing the return on equity (ROE).

<sup>6</sup> The negative relationship across the sample for the two regressions is statistically significant at a 1% level, even though asset encumbrance is able to explain only a low level of the variance of the profitability.

Figure 6: Encumbrance level relative to profitability by bank, December 2015

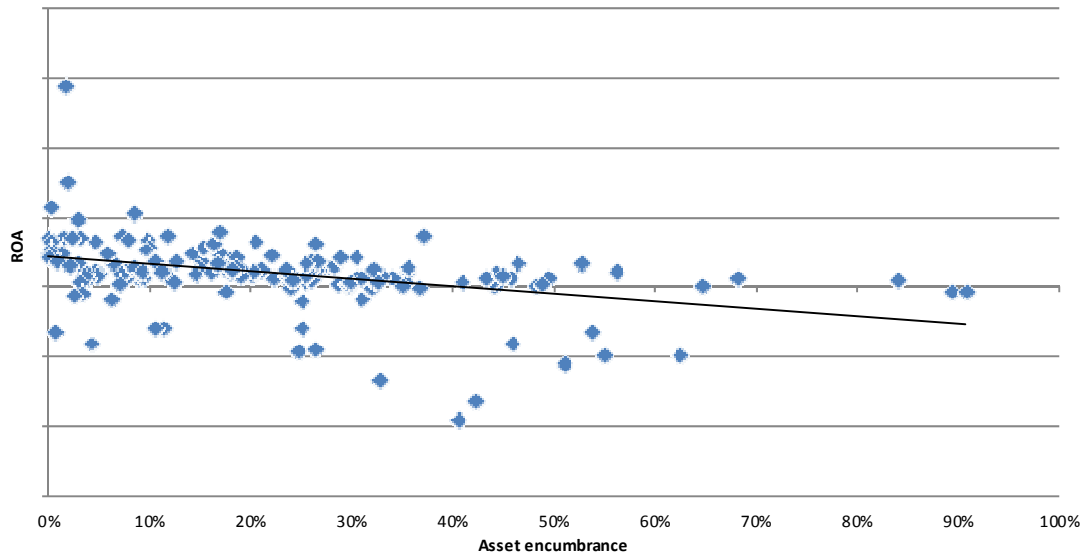
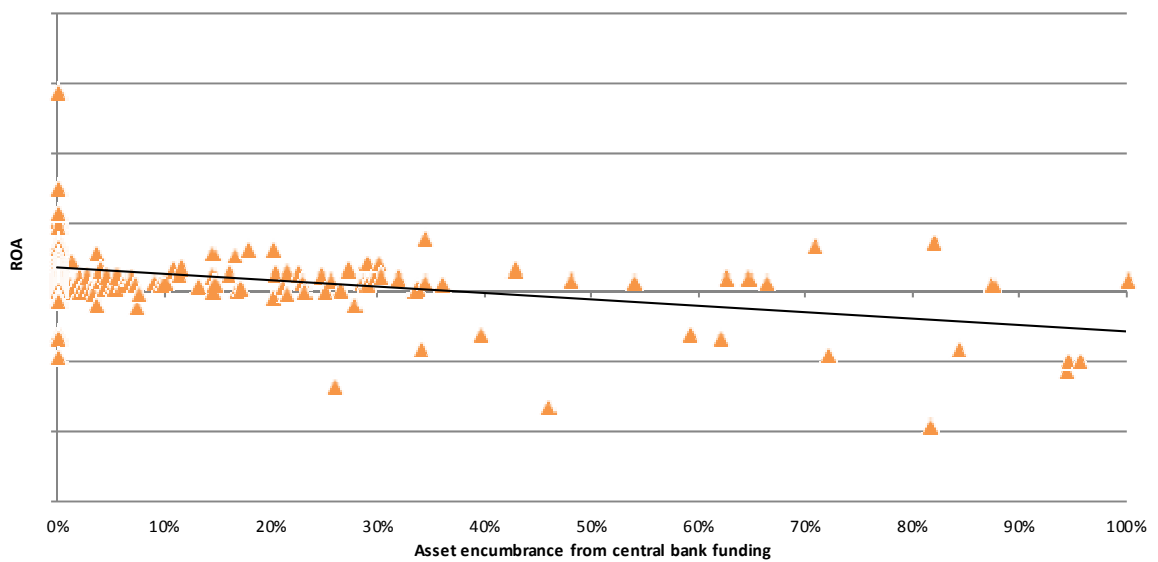


Figure 7: Encumbrance level originated by central bank funding relative to profitability by bank, December 2015



More analysis is needed to disentangle possible causality links and correlations between profitability and capitalisation on the one hand, and the level of asset encumbrance on the other.

## Encumbrance by asset classes

Debt securities and loans and advances continue to constitute the largest share of encumbered assets—the latter with a rising percentage over the year—while loans and advances by far explain the largest share of unencumbered assets (see Figure 8 and Figure 9). Not surprisingly, debt securities also account for the largest part of encumbered collateral received, even if showing a slight decrease over the year and especially in the first quarter of 2015.

Figure 8: Share of encumbered assets and collateral by type

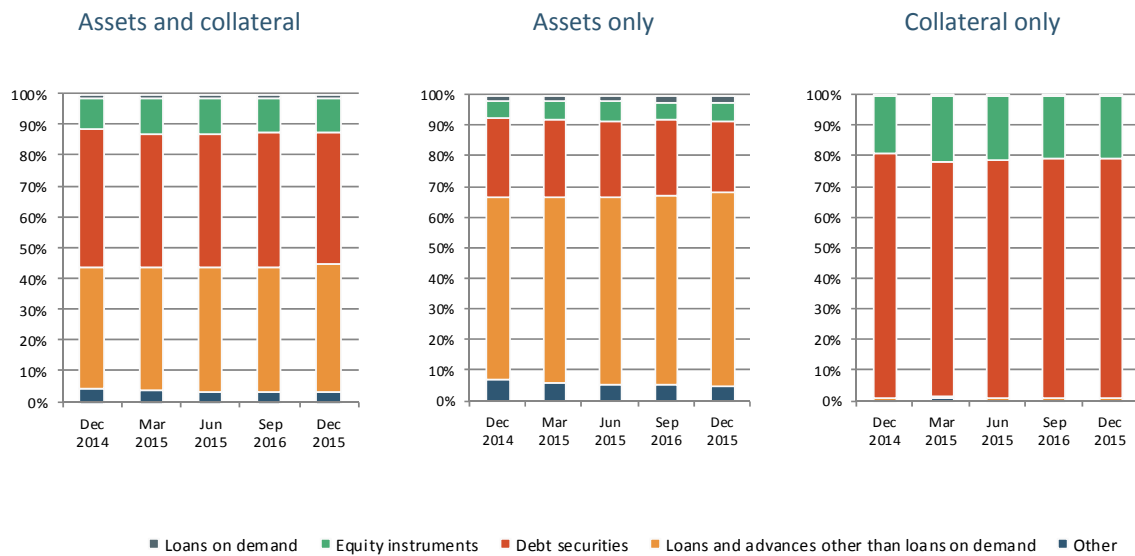
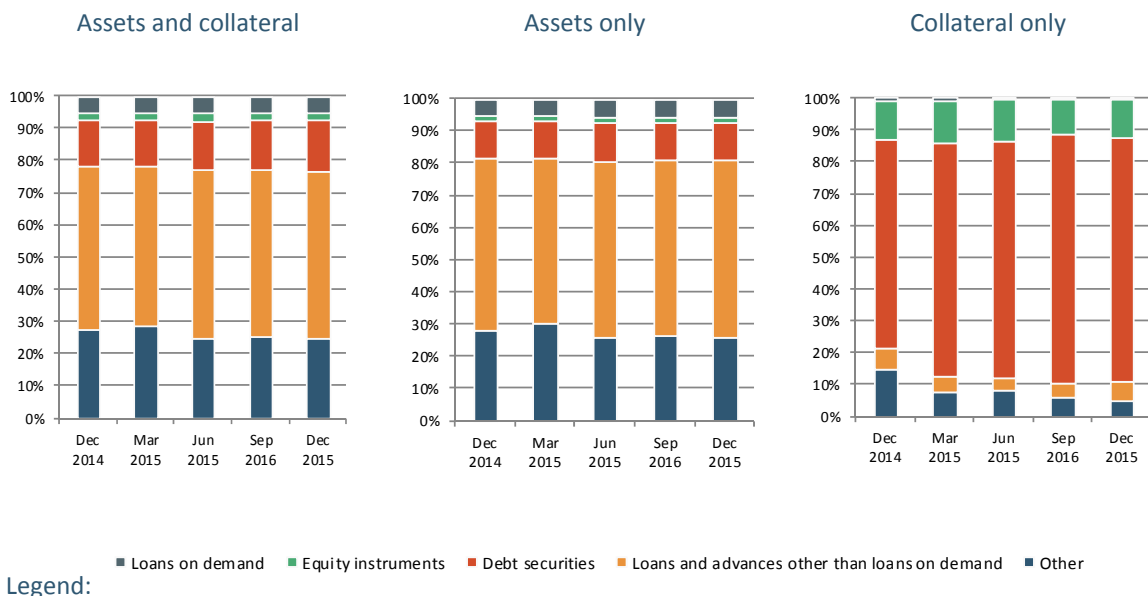


Figure 9: Share of unencumbered assets and collateral by type



Not all unencumbered assets can be used to generate funding. A proxy for the marketability of unencumbered assets, also under stressed conditions, can be the eligibility for central bank

funding. For instance, only 21.6% of loans and advances were encumbered in December 2015, but 44.4% of the central bank eligible loans and advances were encumbered in the same period (see Figure 10 and Figure 11).

Figure 10: Level of encumbrance of total assets and collateral by type

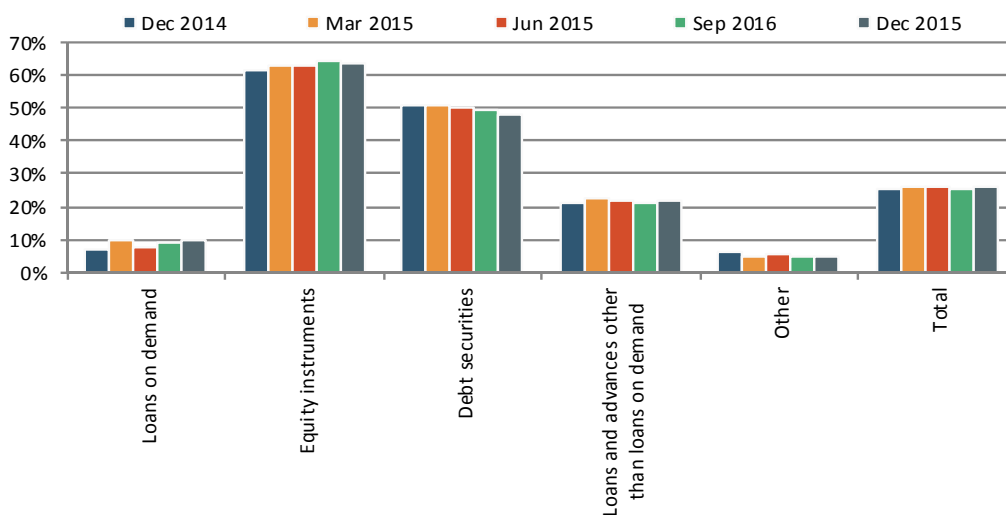
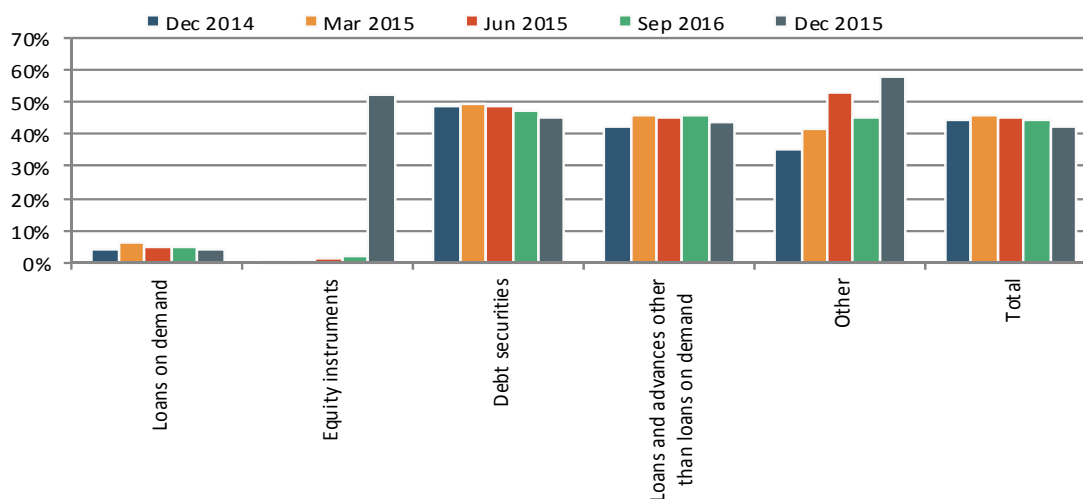


Figure 11: Level of encumbrance of total central bank eligible assets and collateral<sup>7</sup>



In total, the encumbrance of central bank eligible assets decreased over the year by around 2 percentage points to 42% (see Figure 11) with a large dispersion across countries, as also observed in the previous report.<sup>8</sup>

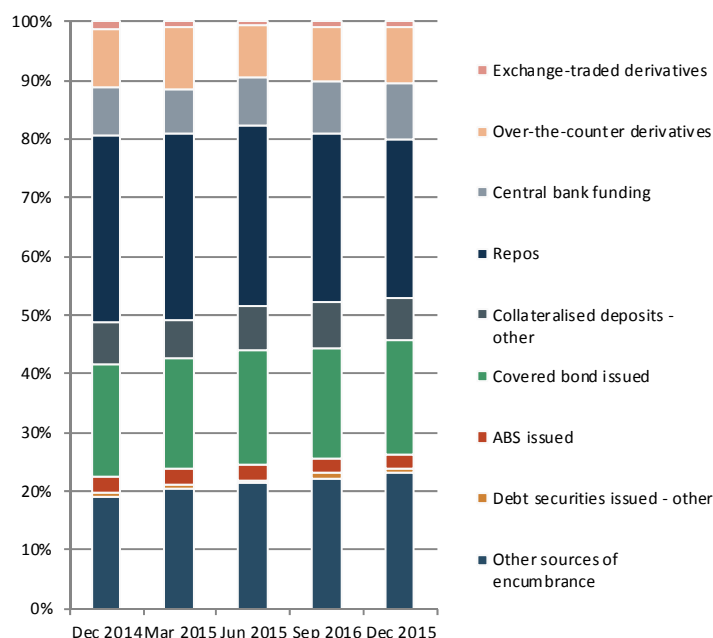
<sup>7</sup> The strong increase in encumbrance of equity instruments in December 2015 should be interpreted with care due to the very small number of banks reporting data for this type of instrument.

<sup>8</sup> It should be noted that this proxy for marketability is a relatively restrictive view of the 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.

## Sources of encumbrance

The main sources of asset encumbrance—i.e. balance sheet liabilities for which collateral was posted by institutions across the sample—are repos, covered bonds issued and central bank funding (see Figure 12). Here, the share of repos followed a steady decrease over the period, decreasing from 32.2% in December 2014 to 26.9% for the following year. This drop came in favour of other sources of encumbrance and covered bonds, and is consistent with the stable issuance volumes of the latter seen in the market for 2015. The share of central bank funding, after a decrease in the first term observed in last year’s report, has increased by more than 2 percentage points from March 2015.

Figure 12: Distribution of the sources of encumbrance



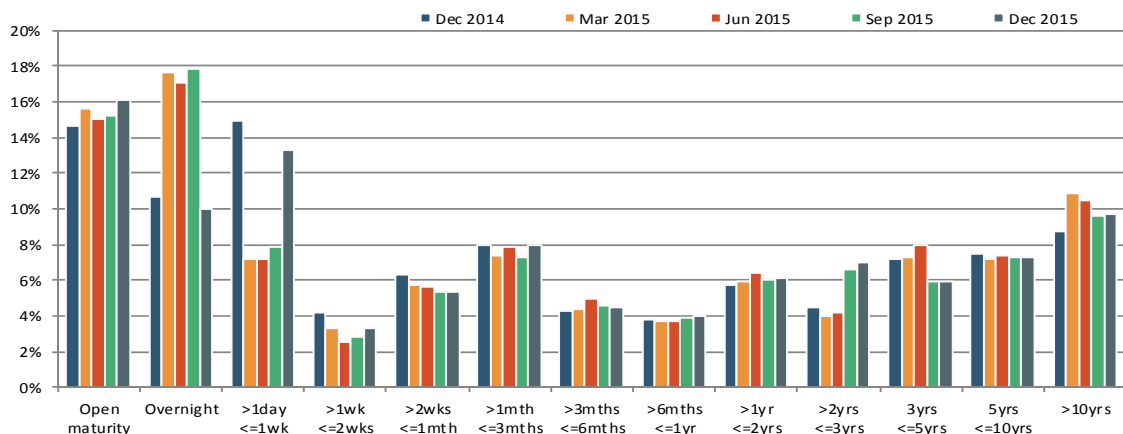
The level of overcollateralisation—i.e. encumbered assets and collateral relative to the matching liabilities that institutions have to give—did not change significantly overall over the year (see Figure 13) or across the quarters. While there was a significant decrease for exchange-traded derivatives, particularly in one quarter,<sup>9</sup> the level increased for central bank funding and other debt instruments issued (including asset-backed security (ABS)).

<sup>9</sup> While a number of banks did not report data relative to June 2015 for exchange-traded derivatives, many others seem to have substantially increased their volumes of exchange-traded derivatives in this specific term, while leaving the level of encumbrance fairly stable.

Figure 13: Encumbered assets and collateral relative to matching liabilities<sup>10</sup>

## Encumbrance by maturity

The largest share of assets and collateral are encumbered with an open maturity or a very short maturity, as shown in Figure 14. There seems to be a high level of volatility in the data, especially for maturities of up to 2 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.<sup>11</sup>

Figure 14: Distribution of encumbered assets and collateral by maturity<sup>12</sup>

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

<sup>11</sup> Changes in the reported maturity distribution can also be driven by data quality issues.

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

## Conclusion

The main rationale for the monitoring of asset encumbrance is related to the consequences of the changes in funding sources across the EU. In particular, an increase in the use of secured funding due to reduced access to unsecured instruments and a move towards collateralisation of other transactions such as derivatives could lead to a steep increase in asset encumbrance. Based on this monitoring, there is no strong evidence of a steep increase at the EU level during the five quarters covered by this report, even though asset encumbrance is high in some jurisdictions and has increased for certain banks.

Some countries, such as Greece, showed a substantial increase in the level of asset encumbrance over the year, while others faced a drop (which, in some cases, could be driven by the absence of data for certain specific banks). Altogether, the current analysis showed no significant increase in the level of the asset encumbrance ratio in the sample, which stayed at a weighted average of 25.6% across the EU.

On the other hand, the level of asset encumbrance due to central bank funding, as well as the encumbrance of assets eligible for central bank funding, is still relatively high for those countries that were severely affected by the sovereign debt crisis. Both developments need to be carefully monitored going forward.

The report shows that banks seem to have increased the level of asset encumbrance for loans advances due to covered bond issuance. The most significant sources of encumbrance (besides covered bonds) are repurchase agreements and central bank funding, which, during the year, have replaced the dominance of over-the-counter derivatives shown in the data reported by banks for 2014.

## Annex I: The asset encumbrance ratio

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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.<sup>13</sup> 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 in 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 definition of different metrics and the data reported can also be found in Annex III of the Commission Implementing Regulation (EU) No 2015/79.

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<sup>13</sup> Paragraphs 9-11 of Annex III.



## Annex II: The sample

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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.<sup>14</sup> 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 criteria 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 criteria selects the largest banks on an EU level;
- The institution's 4-year average of total assets is in excess of 20% of the 4-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 independent of the other two.

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 can differ slightly over the different periods.

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



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