EUROPEAN DATAWAREHOUSE

EUROPE'S FIRST SECURITISATION REPOSITORY

EUROPEAN DATAWAREHOUSE DATA AVAILABILITY REPORT



DATA AVAILABILITY REPORT

Our database hosts the loan-level data (LLD) of almost all public securitisations in the European Union.¹ The available fields follow the requirements of the ECB data templates² and data is reported at least quarterly. Although our database was primarily designed to satisfy the needs of securitisation professionals, it also offers unique insight into the European credit landscape. As such, we have been following the unfolding COVID-19 crisis and its consequences on European loans very closely,³ with a data reporting lag of ca. 40 days.⁴

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¹ We started collecting data from 2012 onwards, but due to data quality and completeness issues, we decided to use the submissions from Q4 2013 onwards for this report. We found data quality to be suitable to start our time series from Q4 2013 onwards for the fields we selected. Appendix 1 provides more details regarding our methodology.

² See https://www.ecb.europa.eu/paym/coll/loanlevel/transmission/html/index.en.html; in particular, we host the data for all the ECB repo-eligible securitisations.

³ See the articles on the consequences we published on COVID-19 on https://eurodw.eu/knowledge/research/

⁴ See <u>https://eurodw.eu/research-articles/data-timing-and-timeliness-report/</u>

EXECUTIVE SUMMARY

This report describes the evolution of data availability for our active loans⁵ from Q4 2013 to Q4 2020. The methodology is discussed in Appendix 1. An Excel appendix available on our website⁶ features all the exhibits of this report as well as more detailed information. In particular it shows the time series available for all the deals included in this report, including 569 deals with a 4-year or longer time series and 381 with a 5-year or longer time series.⁷

Our data shows that:

- The number of active loans reported to our database increased from 16.2 million in Q4 2013 to 31.5 million in Q4 2020, while the amount of active (outstanding) loans in our database decreased from € 990.7 billion to € 802 billion.⁸
- Mortgages represent 64% of the amount of loans in our database as of Q4 2020.
- The share of auto and consumer loans increased from less than 3% in Q4 2013 to 12% and 9% respectively by Q4 2020.
- The largest markets are Dutch RMBS accounting for €149 billion as of Q4 2020, Spanish RMBS with €107 billion, French RMBS with € 86 billion, and German Auto with €57 billion.
- Even in large markets with a substantial number of deals, we find a noticeable market concentration where one securitisation accounts for a substantial share of that market. This is often, but not always, the result of market concentration.

⁵ For the purpose of this study, "active loans" (outstanding loans) are defined as the loans with a value exceeding zero.

⁶ See link to Excel appendix on <u>https://eurodw.eu/research_articles/data-availability-report-q4-2020/</u>

⁷ For some deals, longer time series could be obtained if 2012 and early 2013 data is added.

⁸ The amount of the outstanding loans decreased even as the number of loans increased. This is because over this period, less RMBS loans were uploaded while more (on average smaller) consumer and credit card loans were uploaded. Given that mortgage loans are larger on average than consumer or credit card loans, the net effect is a decrease in the amount of loans (from less RMBS securitisations) and an increase in the number of loans reported for credit cards and consumer loans.

AVAILABLE DEALS

Exhibit 1a shows the evolution of the number of active (outstanding) deals in our database since Q4 2013. Overall, 1,436 public deals are represented in Exhibits 1a and 1b. The number of active deals stood at 643 in Q4 2020, from a maximum of 748 in Q4 2014.⁹ The composition in terms of asset classes has changed over the period Q4 2013 to Q4 2020, with an increase in consumer deals and fewer RMBS and SME deals.

Deal size can be extremely unequal, from less than ≤ 100 million to more than ≤ 50 billion for the largest deal (Dutch RMBS deal BEST 2010 B.V.). For this reason, the data in some markets can be very concentrated. Although we would expect the largest lenders in a given market to dominate the data sample, this is not always the case because not all lenders securitise loans; the market structure emerging from the securitisation data is therefore not always representative of that of the loan market as a whole.





Source: European DataWarehouse



Exhibit 1b: The Proportion of Consumer and Leasing Deals has Increased Over Time

⁹ These numbers are a "net" number of deals, the total number of deals that reported data up to that point less the number of deals that had become inactive by then.

Exhibit 1c shows the number of active deals by country of origin and that Spanish and Italian deals account for more than half the deals in our database.





Source: European DataWarehouse

Exhibits 6a to 6f in Appendix 3 show the number of deals per country for each asset class. They show that:

- Approximately half the auto deals are from Germany (Exhibit 6c).
- Spain and Italy report the greatest number of SME deals.
- Italy accounts for more than two-thirds of all leasing deals, and approximately half of all consumer deals.
- Almost half of all credit card deals are from France.

LOAN AMOUNTS

Exhibit 2a and 2b show the evolution of the outstanding amount of loans in our database since Q4 2013. The amount has slightly decreased over the period, from \notin 990.7 billion in Q4 2013 down to \notin 802 billion¹⁰ in Q4 2020. The composition of the sample has changed over this period, as the amount of mortgage loans has decreased whereas the amount of loans in other asset classes has increased.





Source: European DataWarehouse

Exhibit 2b shows which countries are represented in our database and that the share of a given country in the database does not necessarily match the size of its economy. This is because securitisation is not used to the same extent in all countries and for all asset classes.



Exhibit 2b: Outstanding Loan Amount Does Not Always Match Country Size

Exhibits 2c and 2d use the same data as Exhibits 2a and 2b, showing the evolution of total outstanding loan amount per market (combination country and asset class).

The three largest markets in our database as of Q4 2020 are RMBS markets, although the ranking has changed since 2013, with non-RMBS gaining importance and RMBS markets shrinking. The Dutch RMBS market is still first with €149 billion, although well below the €242.6 billion it represented in Q4 2013 and UK RMBS decreased in absolute and relative terms since Q4 2013, from €144 billion to €41 billion. French RMBS is still third with €86 billion, but considerably lower than in Q4 2013 when it amounted to €125 billion. The Spanish RMBS market has on the other hand remained stable over time, at €107 billion in Q4 2021 vs €106 billion in Q4 2013. Nevertheless, other markets have increased in importance since 2013; German auto has more than doubled to reach €57 billion and the Italian consumer segment represents €36.5 billion.



Exhibit 2c: Dutch, Spanish, and French RMBS are the Largest Markets

Source: European DataWarehouse



Exhibit 2d: Evolution of the Outstanding Loan Amount for the Main Markets

Source: European DataWarehouse

NUMBER OF LOANS AND BORROWERS

Exhibits 3a and 3b show the number of loans per asset class and per country and exhibits 4a and 4b respectively show the number of borrowers. The values in Exhibit 4 are lower as there can be several loans per borrower in a given deal. The loan and borrower identifiers are encrypted for privacy reasons, so it is not possible to recoup our data with other sources or even look for a given borrower across the various deals in the database.

Although some borrowers have multiple loans within a securitisation, most borrowers typically appear in one loan per securitisation. The key exception is the Netherlands, where mortgages are typically financed with several "loan parts" (typically one amortising and one interest only part). As such, there are typically several loans linked to the same property and borrowers within a Dutch securitisation.



Exhibit 3a: Consumer Loans Represent More than a Third of Active Loans

Source: European DataWarehouse



Exhibit 3b: Spain is Currently the Country with the Highest Number of Active Loans (8 million)

Source: European DataWarehouse

Exhibits 4a and 4b show the number of borrowers by asset class and country. The figures and stratification shown in these charts look very similar to exhibits 3a and 3b with somewhat lower figures to account for several loans per borrower.





Source: European DataWarehouse



Exhibit 4b: Number of Active Borrowers by Country

REPORTING FREQUENCY

Reporting entities are obliged to report their data at least quarterly, although some report monthly. Exhibit 5 shows the number of LLD uploads per quarter. The greater share of the auto sector in this exhibit is partly attributed to the more frequent reporting cycle for auto deals (monthly) compared to RMBS deals (quarterly).

For the deals that report monthly (this is the case for the deals with monthly IPDs), we select the last LLD available as of end of March, June, September, or December to avoid triple counting of the data. Submissions can also be late for technical reasons, hence there are occasional gaps in the reporting for some deals.¹¹

There is also a delay between the pool cut-off date of the LLD and the upload date, given that data providers should upload a data tape in the month following the interest payment date. The data for a deal is typically shown at the end of the collection period, with an IPD in the following month. The data provider has a month from the IPD to upload the data to our database. It is therefore possible that data as of 31 January may be submitted to our database on 15 March.¹²



Exhibit 5: Number of Loan Level Data Uploads per Quarter

¹¹ Possible fixes include linear interpolation or using the LLD with the nearest submission date.

¹² On this topic, please also refer to our Data Timing and Timeliness Report https://eurodw.eu/research-articles/data-timing-and-timeliness-Report https://eurodw.eu/research-articles/data-timing-and-timeliness-Report

APPENDIX 1: DATA SELECTION AND ADJUSTMENTS

DATA SELECTION

We selected data for the public deals of the main asset classes (auto, RMBS, SME, consumer, leasing, credit card). Private deals, covered bonds, ACC, and CMBS deals are not included in our data selection. Data is uploaded to our database monthly or quarterly. In order not to triple count the observations for the deals reporting monthly, we selected the last submission of the natural quarter (March, June, September, December) since Q4 2013 for all deals.

DATA ADJUSTMENTS

For this report, we adjusted some of the loan balances when necessary and feasible. We translated amounts to Euro that were obviously reported in Cents and converted the few loan balances systematically reported as a negative number to a positive number.¹³ Loan amounts from the UK, Norway, and Sweden were converted to Euro using the appropriate exchange rate. We believe that the values thus obtained provide an overall fairer picture of the available data. Please note in particular:

- Data providers occasionally used dummy values such as "9999999999999999"; "99.99"; "4040404040";
 "9.99" to avoid reporting "NA" for some of the loan amounts. We excluded these values from our queries for this report.
- A decimal point issue where a loan amount is reported in cents rather than Euro is easily rectified when it affects all the loans for a given LLD and a given period.

Our data sample excluded cases where the current balance was either 0 or a dummy value. Floorplan deals (securitisations of loans to car dealers) were included in the SME statistics.

¹³ In some deals, when a few loans with a loan balance smaller than 0, this typically refers to an overpayment. When all the loans in a pool are reported with a balance <0, it is a data quality problem, typically resolved in subsequent uploads.

APPENDIX 2: DATA LIMITATIONS AND BIAS

Our database includes the underlying LLD of the public ECB and repo eligible European securitisations. It can be used to some extent for research beyond securitisation, keeping in mind the limitations and bias stemming from the securitised nature of these loans. Securitisation affects the characteristics of the loans as follows:

- Loans are securitised only if they fulfil deal-specific "eligibility criteria",¹⁴ which may make them unrepresentative of the remainder of the originator's loan book (for eg. loans included in a securitisation at the closing phase are typically performing).
- Originators are only represented in our database if one of their deals is active in our database, keeping in mind that not all lenders securitise loans to the same extent.
- Loans can be repurchased by the originator following a loan modification, potentially linked to underperformance. These underperforming loans would then go back to the books of the lender and thus leave the securitised pool.

A loan is thus available in our database from the latest of a) the date it is first securitised, and b) the date when bonds of this securitisation became eligible as ECB repo collateral. We started collecting data for some deals as early as 2012, but data quality issues mean that data became generally satisfactory from the end of 2013 onwards.¹⁵

When downloading SME data from our database, it is also important to pay attention to the relative importance of the various securitisations and check the extent to which the sample obtained is representative for the topic to be studied. For instance, the market share of lenders may not be fully reflected in our securitisation data. This point was particularly clear in our report "ABS SME Data: The big Picture", where it appears that a handful of deals in some countries have disproportionately contributed to the sample. This is also applicable to other asset classes and is visible in Exhibits 7a and 7b, as well as in other charts of our Excel Appendix.

Some deals contain very specific types of loans. This is the case of securitised loans to car dealers, or floorplan deals, which are classified as SME for reporting purposes but are not comparable to other SME portfolios in that they contain only one type of industry (car dealers, identifiable by their NACE codes).¹⁶ The Geldilux deal (loans to German SMEs) is another example of an atypical deal. It includes very short-term bullet loans to SMEs that have so far performed noticeably better than typical German SME loans. These loans can therefore not be considered as representative for German SMEs.

¹⁴ Eligibility criteria may exclude some loans from the securitised pools such as those that are underperforming, or the loans that are too recent, or the loans with lower internal credit ratings for instance.

¹⁵ See for instance our data quality scores, see also our data commentaries to help with data interpretation.

¹⁶ NACE stands for the French "Nomenclature statistique des Activités économiques dans la Communauté Européenne" (Statistical Classification of Economic Activities in the European Community). See also the <u>list of NACE codes</u>. The NACE code used for the loans in Floorplan deals is typically G45 for "Wholesale and retail trade and repair of motor vehicles and motorcycles"

In previous publications, we found that the regional distribution of the loans for SME and RMBS loans matched the economic importance of these regions within a given country,¹⁷ but the regional stratification of the loans for a given deal can also reflect the regional focus of the originator (for instance, when it is a regional bank).

The securitised loans in our database were sometimes originated long before they were securitised. The pool composition is thus subject to "survivor bias" because securitisation eligibility criteria typically exclude delinquent loans at deal origination. The securitised pool may thus perform better than the average loans of the same vintage and originator. This "survivor bias" can be reinforced by the loan repurchases, when a loan is repurchased by the originator from the securitisation fund. This may occur when:

- There are limits on the share of a pool that may be modified in a given securitisation (often, for instance, less than 10% of the original amount of a securitised portfolio may be modified); the overall effect of modifications on a pool may also be limited. The originator may have to repurchase some of the loans it modifies to keep to these limits.
- When a pool is amortised to less than 10% of its original amount, the originator may repurchase it by using a "clean up-call" which interrupts the time series for the remaining loans, even when these are still not fully repaid or when the work out process is not over. It is also possible that before that time, no tranches from that deal remain ECB eligible and that the deal would have stopped reporting altogether.

APPENDIX 3: ACTIVE DEALS PER ASSET CLASS AND COUNTRY

This appendix includes some of the charts from the Excel Data Availability Report, available for download on our website. Exhibits 6a to 6f show the number of outstanding (active) deals in each asset class, by country.



Exhibit 6a: Number of Active RMBS Deals

Exhibit 6b: Number of Active SME Deals



Exhibit 6c: Number of Active Auto Deals



Exhibit 6d: Number of Active Consumer Deals



Exhibit 6e: Number of Active Leasing Deals



Exhibit 6f: Number of Active Credit Card Deals



APPENDIX 4: CONCENTRATION EFFECTS IN KEY MARKETS

Exhibits 7a and 7b illustrate that even in large markets, one single deal can be large enough to represent a very substantial share of the total. Often, this will reflect actual market concentration. The large RMBS deal for the Netherlands in Exhibit 7a was originated by Rabobank, which has an equally substantial market share in the Netherlands. The large German auto deal in Exhibit 7b was originated by Volkswagen.



Exhibit 7a: RMBS Concentration in the Netherlands

Exhibit 7b: Auto ABS Concentration in Germany



Source: European DataWarehouse

APPENDIX 5: DATA AVAILABLE AS % OF TOTAL

Securitisation is not equally important in all countries and to all lenders, but in some countries a substantial share of all outstanding loans is securitised and their data is reported into our database, as shown in Exhibit 8.



Exhibit 8: Data Availability For European Mortgages

Source: European DataWarehouse; European Mortgage Federation

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IMPORTANT DISCLOSURES

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