EUROPEAN DATAWAREHOUSE

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ITALIAN SME INDEX

European DataWarehouse (ED) introduces new ED Index for Italian SMEs

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EXECUTIVE SUMMARY

Our new Index, "European DataWarehouse INDEX ABS SME ITALY 2019-Q2", provides a unique overview of the performance of securitised Italian SME (Small and Medium-Sized Enterprise) loans. With time series starting in Q1 2013, it now covers more than six years of securitised Italian SME loan performance. Much like our other indices,¹ it differs from existing indices in that it uses loan-level data (LLD) rather than investor report data. Performance can therefore be shown for a subset of loans sharing a set of characteristics (e.g. loans of a specific region, industry or vintage), which is not feasible when using investor report data. The Excel version of the index also contains standardised stratification tables and performance measures for all active deals, making benchmarking and performance analysis easier.

Performance is shown using two performance trend indicators, delinquency 60-90 days and

delinquency 90-360 days, which are calculated as a percentage of the total active loans amount. Our 90-360 days delinquency index shows that performance was worst in Q3 2013 and has improved considerably since then. We also note that although the 60-90 days delinquencies are in the same range in Italy and Spain, delinquency levels in Italy have been higher than in Spain overall.²

Given the size of European DataWarehouse's Italian ABS SME universe,³ some of the conclusions drawn from this index should be applicable beyond the field of securitisation as far as relative performance and trends are concerned. We encourage you nevertheless to refer to Appendix 3 about data limitations and bias. In particular, we note that relatively large or strongly underperforming deals can have a visible effect on the overall index (see Exhibit 6 in Appendix 2).

¹ See our <u>Spanish SME Index</u> and <u>Spanish RMBS Index</u>. These index reports are also available in Excel and are updated on a regular basis. Custom made versions can also be produced, please do not hesitate to contact us for a quote.

² This result needs to be interpreted with caution because Spanish SME loans are not completely comparable in nature to Italian SME loans.

³ On average, about 145,000 SMEs are represented in each quarter. Please also refer to "ABS SME Data: The Big Picture" for more details on this topic

Our index shows that:

- 90-360 days delinquencies decreased from a peak of 6.25% in Q3 2013 to 1.3% in Q2 2019, showing considerable improvement.
- 60-90 days delinquencies also show a substantial performance improvement and decreased from 1.6% in Q3 2013 to 0.3% in Q2 2019. This delinquency bucket thus peaked at the same time as delinquencies 90-360 days and decreased in the same proportions since then.
- Performance improved in almost all industries and regions over this period, although not at the same pace.
 - The largest industry in our index is "Real Estate Development (RED)", representing about 20% of all loans; Lombardy is the largest region in the sample, with about 20% of all loans.

ED PERFORMANCE INDICES FOR ITALIAN SMES

Exhibit 1 compares our Spanish SME Index to our new Italian SME Index and Moody's 60-90 days ABS SME trendline for Italy. Our 60-90 days index for Italy is in the same range as our 60-90 days index for Spain. This index is calculated in a similar way for both countries. We note that Moody's 60-90 days delinquency trendline for Italy is also in the same range, although it is based on investor reports rather than LLD.

Although our 90-360 days indices in Italy and Spain are calculated in comparable ways,⁴ and although delinquencies were in the same range in both countries in Q4 2013 (close to their peak in delinquencies), performance has improved much faster in Spain than in Italy, with delinquency levels decreasing steadily and to lower levels. Spain has had a more robust recovery than Italy since 2013, this could have accounted for the faster performance improvement in Spain. We see that delinquency 90-360 days in Italy also peaked in Q4 2015 and Q3 2017. In Appendix 2 we show the index excluding some of the outliers that could have explained this pattern, but even excluding them, we obtain a very similar index, albeit with slightly lower delinquency levels.



Exhibit 1: ABS SME Indices - Comparison of Spain vs Italy

Source: European DataWarehouse; Moody's Global Structured Finance Collateral Performance Review - SME Loan and Lease ABS - Italy

⁴ Our Spanish SME index explicitly excludes defaults under deal definition from the calculation (defaults as per deal definition are removed from nominator and denominator), whereas we keep them in the calculation for the Italian index, which is simply the amount of loans more than 90 days overdue but less than or 360 days overdue compared to all active loans. Given than loans in Spanish securitisations are only treated as defaulted once they are 12 or 18 months overdue, both measures should be relatively comparable.

90-360 DAYS DELINQUENCY TREND INDICES

Our index report in Excel shows delinquency trend indices by vintage, industry, region and deal. The Excel-based Index makes it possible to sub-select some deals to compare them to the total index, and even to recalculate the index for a subset of deals. The "Total" index value is identical in all charts for a given index category, as the same loans are used (they are just grouped in different ways).

Exhibit 2a shows delinquencies 90-360 days grouped by loan vintage. The most recent vintages 2015-2018 perform noticeably better than the previous vintages. These vintages account for two thirds of our data as of Q2 2019. The loans issued during the crisis, vintages 2009, 2010, 2011, performed worst. The trends are

not always stable overtime though, and a surge in delinquencies in Q3 2017 affected loans with a 2014 vintage. This substantial spike in delinquencies is linked to the underperformance of one deal in particular, Claris SME 2015 S.R.L.. As of Q4 2017, this deal accounted for 1/10th of the amount of the loans in our index, and it's very high delinguency rate, particularly for loans of the 2014 vintage, was sufficient to have an effect on the overall index and on Vintage 2014.⁵ Claris SME 2015 S.R.L. is a securitisation originated by Veneto Banca S.p.A. and BancApulia S.p.A., a bank which was determined to be failing or likely to fail by the ECB in June 2007.⁶ Exhibit 6 in Appendix 2 shows the influence of this deal on the index.

Exhibit 2a: Delinquency 90-360 Days as % of Current Balance (by Loan Vintage)



Source: European DataWarehouse

Exhibit 2b shows performance by industry. We would expect to see differences in performance by industry as not all industries are equally risky or exposed to the economic cycle. We would also expect to see some similarities with the Spanish SME index in terms of performance rank by industry. Indeed, we see that:

 "Human Health and social work activities", "electricity and gas" and "water supply" performed noticeably better than the other industries. These sectors are known to be less affected by the economic cycle than others. The "Agriculture, forestry, and fishing sector", which in the case of Spain clearly performed better throughout the cycle, also performs better than the index from Q4 2014 onwards but performed worse before. This sector is also potentially affected by extra cyclical factors such as changes in the European Common Agricultural Policy.⁷

⁵ On the €260 million of loans of vintage 2014 in this deal as of Q4 2017, €50 million were 90-360 days in arrears. These loans in arrears represented more than 70% of the loans 90-360 days in arrears within Vintage 2014.

⁶ See ECB "ECB deemed Veneto Banca and Banca Popolare di Vicenza failing or likely to fail"

⁷ See for instance "European Commission : CAP in your Country Italy"

- Other industries such as "Wholesale and Retail trade", and "Manufacturing", also performed consistently better than the overall index.
- Conversely, "Construction", a notoriously riskier activity, performed consistently worse than the index, as did "Real estate activities". "Real Estate Developers (RED)", performed worse than the other industries from Q4 2014 onwards only. RED underperformance is therefore less marked than in Spain which, unlike Italy, was affected by a severe real estate sector boom and bust cycle. The "Financial and Insurance Activities Sector" also performed worse than the index since Q1 2013.



Exhibit 2b: Delinquency 90-360 Days as % of Current Balance (by Industry)

Source: European DataWarehouse

Exhibit 2c shows the same index by region. Lombardy has the largest economy in Italy and is reputed to be "the Bavaria" of Italy, with its dense network of world class SMEs.⁸ Indeed, SMEs in this region have consistently performed better than SMEs in other regions. Conversely, SMEs in Puglia, a region reputed to be weaker, have shown consistently worse performance. The very poor performance of loans in the Marche region is driven by the underperformance of one deal concentrated in there and originated by Banca delle Marche, a bank that encountered severe difficulties and was placed under temporary administration of the Bank of Italy in August 2013. In 2016 Q1, loans from that underperforming deal accounted for 58% of all the loans to the Marche region in our index.



Exhibit 2c: Delinquency 90-360 Days as % of Current Balance (by Region)

Source: European DataWarehouse

8 On this topic, see for instance "Uniqueness and Excellence", a documentary on Italian industry.

60-90 DAYS DELINQUENCY TREND INDICES

Delinquency 60-90 days is typically available in most deals' investor reports. It is a very responsive trend indicator, because it uses only one month of delinquent loans, shortly after the first unpaid instalment. For this reason, it is also more subject to noise in the underlying data. Delinquency peaks can occur when a large loan becomes delinquent within a category in which there are relatively few loans (see Exhibits 3a and 3b, in particular). Exhibit 3a shows performance by vintage. It generally appears that recent vintages (2015, 2016, 2017) perform better than older vintages, and that pre crisis vintages 2007-2008 still tend to underperform the overall index, possibly indicating less stringent underwriting standards in the pre-crisis years.





Source: European DataWarehouse

Some of the patterns visible in our 60-90 days delinquency indices mirror the observations made for the 90-360 days indices. In Exhibit 3b, we see that "Agriculture, forestry and fishing", the "Gas and Electricity" sector and "Human health and social work activities" perform better than the index while "Construction" performs worse. Beyond payment delays, the differences observed at the originator level could reflect specificities in terms of credit policy/loan management.



Exhibit 3b: Delinquency 60-90 Days as % of Current Balance (by Industry)

Source: European DataWarehouse

Exhibit 3c indicates that delinquencies 60-90 days have improved in most regions of Italy since Q4 2013. This Exhibit also indicates that performance in some regions appear stronger than in others.



Exhibit 3c: Delinquency 60-90 Days as % of Current Balance (by Loan Region)

Source: European DataWarehouse

Arrears can be contagious. An SME may be unable to make a payment in time when it is being payed late by one of its own clients.⁹ This happens when credit becomes less available, and when companies try to get credit from one another. As credit conditions have improved for Italian SMEs since 2013, we expect this to be less of an issue now. Indeed, the 2019 Intrum Justicia report mentions that Italian SME payment delays have noticeably improved since 2016.¹⁰ This is consistent with the performance improvement we see over this period.

INDEX COMPOSITION

Our index report also shows the evolution of the outstanding (active) loan amounts, by vintage, industry and region. In all "Loan Amount" charts, the total amount of loans is the same, as the charts show the same information grouped in different ways. The "Amount by Loan Vintage" chart shows the evolution of the amounts of loans originated in a certain vintage both in absolute (EUR amount – Exhibit 4a) and relative terms (percentage – Exhibit 4b). As of Q2 2019, the outstanding amount of active loans stood

at EUR19.2 billion, down from EUR34.4 billion in Q1 2013. SME loans tend to be shorter term than mortgages. Hence, recent loans dominate the sample. In 2013-Q1, vintages 2008 and before represented 39% of the total, versus less than 10% now. Vintages 2016-2019 account for almost 60% of the loans as of Q2 2019. There is typically a lag between the origination of a loan and its inclusion in a securitised pool, especially in particular when the pool is static.

⁹ See Intrum Justitia's 2014 "European payment index".

¹⁰ According to the Intrum Justicia Report, "The average time actually taken by consumers to pay" has fallen in Italy between 2016 and 2019 from 37 days to 24 days in the Business to Consumer segment, from 80 days to 48 days in the business to business segment, and from 131 days to 67 days for public sector clients.



Exhibit 4a: Outstanding Loan Amounts by Loan Vintage (EUR Billions)

Source: European DataWarehouse



Exhibit 4b: Outstanding Loan Amounts by Loan Vintage (as % of EUR Total)

Source: European DataWarehouse

Exhibit 4d shows the composition of our sample by industry. The share of the various industries in our index seems rather stable overtime. Real estate development stands out as the largest sector with about 20% of the total, followed by manufacturing with 15%, wholesale and retail trade/repair of motor vehicles and motorcycles accounts for a further 14%, and construction for 12%.



Exhibit 4c: Outstanding Loan Amounts by Industry (as % of EUR Total)

Source: European DataWarehouse

In a previous publication on the geocodes,¹¹ we found that loans tend to be represented proportionally in our database in relation to their importance in the Italian economy, with

the notable exception of Lazio, second by GDP behind Lombardy, and yet only fourth largest in our Index. We see few changes in terms of composition overtime.





Source: European DataWarehouse; In 2017 Q1, the spike in "others" is due to the use of NA for the regional reporting in one of the deals.

¹¹ See "ED Introduces Standardised Geographic Information for Italian Loan Level Data" July 2016

APPENDIX 1: INDEX METHODOLOGY

DATA SELECTION AND ADJUSTMENTS

To produce this index, we selected data for the public Italian SME deals in our database. Data is uploaded by the data providers monthly or quarterly. In order not to triple count the observations for the deals reporting monthly, we selected the last submissions of the natural quarter (March, June, September, December). Occasionally, we adjusted some of the loan balances when this was necessary and feasible.¹² Also, data providers occasionally used dummy values to avoid reporting "NA" for some of the loan amounts. We excluded these values from our queries for this report. Our data sample excluded cases where the current balance was either 0, or a dummy variable. ED will also endeavour to adapt its index calculations to reporting changes, if any.

INDEX CALCULATION

Given that deals have typically no delinquencies at closing, a minimal seasoning is needed to include a deal in the index. Otherwise, all things being equal, a seasoned deal will always show a higher level of delinquencies 90-360 days than a deal that is less than a year old. ED therefore, applied the following rules, for the calculations of the delinquency trend indices, namely:

- The 60-90 days delinquency index is calculated as the ratio of the amount of loans that are delinquent more than 60 days and up to 90 days to the current amount of the loans for the deals that report 60-90 days delinquencies at a given date. The deals that do not report these delinquencies, if any, as well as those that have less than 90 days of seasoning are excluded from this calculation.
- The 90-360 days delinquency index is calculated as the ratio of the amounts of loans that are delinquent more than 90 days but less than 360 days in arrears to the current amount of active loans. The deals that have less than a year of seasoning are excluded from this calculation.

Consequently, the 60-90 days indices will always include more deals than the 90-360 days delinquency indices. In all cases, however, our Excel Index shows the underlying data used.

¹² In some deals, when a few loans have 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. Other adjustable errors include LLDs where loan balances are reported in cents.

APPENDIX 2: DEAL CONCENTRATION

Exhibit 5 shows the evolution of the composition of our data sample for the Italian SME index. The 52 deals in our sample are very unequal in size and we note that some of these deals represent a large portion of the total sample.





Source: European DataWarehouse

As a result of deal concentration, some of these deals can have a noticeable influence on the index as seen in Exhibit 6.



Exhibit 6: Delinquency 90-360 Days as % of Current Balance (with vs without outliers)

Source: European DataWarehouse

Exhibit 6 shows the impact if we exclude BPL Mortgages S.r.l. (ED Code SME-SIT000195101120141) for 2016 Q1. In that deal, 90-360 days delinquency fell from 3.6% to 0.1% in Q1 2016. Also, even smaller deals can have a visible effect on the index when they are performing noticeably worse than the other deals. The increase in delinquencies observed for Q3 2017 is much less marked once Claris SME 2015 (in which delinquencies 90-360 days peaked to 16% of current balance in Q1 2018) is excluded from our index. The underperformance of the 2014 loans from this deal account for most of the underperformance of the 2014 delinquency index. Excluding the deals mentioned in Exhibit 6, the resulting index line shows delinquencies at a somewhat lower level, and the index shows also a smoother pattern without being fundamentally different from the main index.

APPENDIX 3: DATA LIMITATIONS AND BIAS

Our database includes the underlying loan-level data (LLD) of the public ECB 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 and the fact that we started collecting data in 2012 only. Securitisation affects the characteristics of the loans in that:

- Loans are securitised only if they fulfil deal-specific "eligibility criteria",¹³ which may make them unrepresentative of the remainder of the originator's loan book.
- In particular, the loans included in a securitisation at the closing of a deal are typically all performing, which makes them unrepresentative of the loan books of the originator at that stage.
- Lenders 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. European DataWarehouse started collecting data for some deals sometimes as early as 2012, but data quality issues mean that data became generally satisfactory from 2013 onwards. This means that the data available prior to 2014 should be critically reviewed before use.¹⁴

When downloading SME data from our database, it is also important to pay attention to the relative importance of the various securitisations and check to what extent 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 can disproportionately contribute to the sample. This point is illustrated in Appendix 3.

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,¹⁵ 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 some "survivor bias", because very short-term loans may not be securitised at all (except in very specific revolving securitisations), and the loans of the same vintage that would have become delinquent, would not have all been securitised, hence giving the appearance that the securitised pool is "better" than the average loans of the

¹³ Eligibility criteria may exclude some loans from the securitised pools such as those that are underperforming those with insufficient seasoning, or with lower internal credit ratings for instance.

¹⁴ See for instance our data quality scores, see also our data commentaries to help with data interpretation.

¹⁵ See "Standardised geographic information for European Loan Level Data"

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:

- A loan that was securitised may have to be repurchased for technical or performance reasons.
- Typically, there are limits on the share of a pool that may be modified in a given securitisation (often, for instance, not more than 10% of the original amount of loans may be modified), and there are also limits to the effect the modifications may have on a pool as a whole, for instance, preventing the weighted average margin of the loans from dropping below a certain level. The originator may have to repurchase some of the loans it modifies to keep to these limits.
- When a pool has 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.

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