SME ABS Rating Methodology

Structured Finance

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1. Scope of application

This document describes our approach to analysing asset-backed securities (ABS) collateralised by SME credit portfolios, such as granular portfolios of secured and unsecured loans, leases, purpose-specific loans or credit lines. This approach may also be selectively applied to SME ABS outside Europe when institutional framework and SME definition are similar[1], and to granular portfolios that include exposures to larger corporates, as long as the effective number of obligors is not lower than 50[2]. Portfolios exposed to SME credit rights are typically passively managed[3]. For actively managed portfolios, the CLO Rating Methodology may apply.

This methodology complements our General Structured Finance Rating Methodology and our Counterparty Risk Methodology, superseding them in the event of conflict, inconsistency or ambiguity.

Rating scales and definitions of ratings are available separately on scoperatings.com.
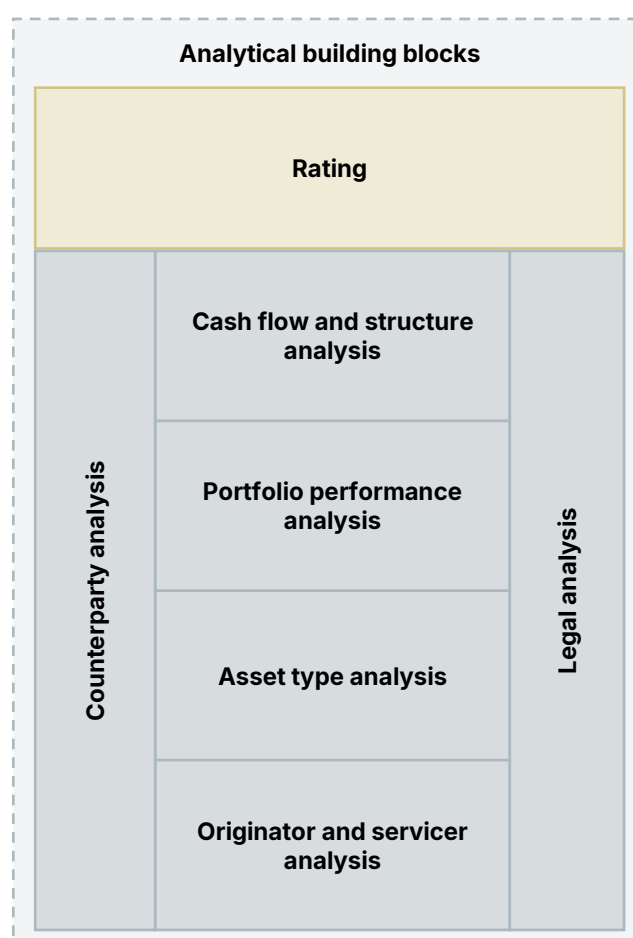
2. Key components

Our analytical framework covers six areas: i) originator and servicer analysis; ii) asset type analysis; iii) portfolio performance analysis; iv) cash flow and structure analysis; v) counterparty analysis; and vi) legal analysis.

The ratings reflect the expected loss on securitised debt instruments in the context of the instruments' expected weighted average life (WAL). The expected loss accounts for the time value of money at the rate promised to the investor. Our General Structured Finance Rating Methodology provides more detail on our expected loss framework.

We derive assumptions on the securitised portfolio using transaction-specific data as well as market data. When the portfolio is highly granular[4], we construct its default probability distribution using an inverse Gaussian distribution while if the portfolio is exposed to significant concentrations, we derive a default distribution with a Monte Carlo simulation of individual loan defaults using our portfolio model (Scope PM)[5].

We integrate the portfolio default distribution using Scope Cash Flow Models (Scope CFM and Scope CFM MW)[6], which also captures other portfolio assumptions such as asset recovery rates and timing, cure rates, default timing and interest rates, and reflects the transaction´s structural features.

Qualitative and quantitative inputs are both essential to the analysis. The rating outcome may depart from the strictly quantitative findings as it may reflect fundamental credit views on risks that are crucial, but not necessarily perfectly captured through quantitative parameters.

Analytical building blocks

Rating

Counterparty analysis

Cash flow and structure analysis

Portfolio performance analysis

Asset type analysis

Originator and servicer analysis

Legal analysis

3. Data sources

Assumptions for new rating assignments are typically informed by historical performance of the originator's SME loan book or of other SME portfolios with similar characteristics. This is complemented by discussions with the originator and servicer of the

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[1] The European Commission defines SMEs as micro, small and medium-sized enterprises which employ fewer than 250 persons and which have an annual turnover not exceeding EUR 50 million, and/or a balance sheet total not exceeding EUR 43 million (European Commission Recommendation 2003/361/EC)
[2] See Appendix 7.1
[3] We define passive management transactions as transactions in which the portfolio is static or, if revolving, where the issuer can only buy new loans from the originator(s) during the revolving or the warehouse period subject to strict eligibility criteria, and where the sales of loans is not allowed, or limited to minor amounts. This is typically the case for balance sheet securitisations.
[4] In the context of SME ABS, we typically consider a portfolio to be highly granular when the effective number of exposures is higher than 500.
[5] See General Structured Finance Rating Methodology for a technical note on on Scope PM.
[6] See General Structured Finance Rating Methodology for a technical note on Scope Cash Flow Models implementing the expected loss framework.

securitised portfolio (see section 5.1.) and by other market or macro-economic data. When monitoring the performance of outstanding transactions, we typically adjust initial assumptions based on the reported performance of the securitised portfolio, in the context of the SME sector outlook and the evolving macro-economic conditions. We do not require specific data templates and can adapt to a wide range of information formats produced by the originator systems. We check the reliability of all available information. If the information conflicts with our assessment, we request clarification or more information.

Our assumptions may also be informed by discussions with other external parties — such as issuers, investors and regulators — and our analysis of financial and nonfinancial information. Further data considerations are discussed under section 6.2.

4. Executive summary

This document is the latest update of Scope Ratings' (Scope) SME ABS Rating Methodology. Relative to the methodology published in May 2024, it incorporates clarifications, editorial changes and a reorganisation of the structure of the methodology to enhance transparency and clarity, and in particular the following:

- A rephrasing of sections 5.1, 5.2 and 5.3 on the originator and servicer analysis, the asset type analysis and the portfolio performance analysis, respectively.

- A rephrasing of section 5.4.1. to clarify how we analyse revolving portfolios.

- Further details on the monitoring activities described in section 6.4.

None of the amendments introduce changes to our rating approach and no ratings are impacted as a result of the update.

4.1 Methodology highlights

Transaction-specific rating differentiation. Our analysis relies on transaction-specific input assumptions, which allows for rating and transaction differentiation, even for transactions by the same originator and in the same country. We follow a bottom-up analytical approach to the different risks associated with the assets and the transaction structure, which are then considered in the context of the originator and the relevant jurisdiction.

Efficient and flexible rating process. We can work with data in any proprietary template format to capture market-standard metrics for the analysis of credit risk in SME portfolios. In addition, the qualitative analysis of the originator is a key part of the rating process. As a result, we may complement data-driven assumptions with credit views based on the originator's market positioning, origination strategy, client portfolio, risk management and recovery functions.

No mechanistic rating caps. We do not mechanistically limit a transaction's achievable rating based on counterparty or sovereign credit risks. If relevant[7], we assess the likelihood of credit events associated with these risks, their severity and their marginal contribution to expected loss, in the context of the tenor of each rated tranche and the transaction's asset and structural features.

5. Detailed analytical framework

5.1 Originator and servicer analysis

For new rating assignments, we conduct a full operational review of the originator and servicer's capabilities.[8] This analysis offers valuable qualitative insights, enabling us to form an informed credit perspective on the assets of each securitisation, which complements the quantitative analysis of transaction-specific and market performance data. We assess the information provided by the originator to understand the differentiating factors that may affect the credit performance and, where appropriate, we incorporate the findings in our default and recovery analysis.

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[7] For instance, we may quantify counterparty commingling risk or stress the underlying assets´ probability of default located in sub-investment grade jurisdictions.
[8] The originator and servicer are usually the same entity in SME ABS transactions. If this is not the case, we assess the servicing capability of the entity in charge of the servicing.

Figure 1 shows the main themes and purpose of the originator and servicer review.

Figure 1: Areas of originator and servicer analysis

Theme	
Market positioning and strategy	We form a view on the originator's capabilities, business strategy and general risk appetite. We review data on originated volumes, whether products and obligor segments have been time-tested, and assess the sustainability of its origination model over time.
Risk appetite	We rank the risk appetite of the originator compared to other originators in the SME market. We assess risk factors such as low credit-score cut-off levels intended to increase market share at the expense of the loan's credit quality, or a high concentration of loans to borrowers who are under pressure to refinance or consolidate existing debt.
Staff, systems and processes	We form our view of the originator's operational competence, capacity, and expertise in managing assets relevant to the transaction.
Underwriting standards	We assess whether the originator adheres to market best practices regarding internal controls, data, documentation and processes and the degree of independence of the risk function.
Origination stability and performance	We rank and compare the credit performance and the volume of the originated assets with the credit performance of the entire market and/or of market peers.
Monitoring and recovery strategy	We review the servicer's processes, from early delinquency strategies to loss mitigation for defaulted loans, which should be reflected in roll rates and recovery vintage data. Proactive servicing generally limits the number of delinquent loans rolling into default and increases recoveries.
Risk models	We analyse and form a view on the originator's credit risk models, including frequency of review and validation, used by the originator in order to incorporate the originator's information into our analysis, e.g. internal ratings, scores, probabilities of default, compensation for possible forbearance.
Fraud prevention	We review measures to prevent and monitor fraud.
Alignment of interests	We assess the alignment between the originator, the servicer, manager and investor, to determine whether there are incentives across the transaction parties[9] that could affect future transaction performance.

5.2 Asset type analysis

In addition to origination standards, specific asset type features may also impact the performance of an SME portfolio. This part of the analysis focuses on understanding the characteristics of the securitisation´s credit contracts.

We pay close attention to several product-level characteristics, such as: i) amortisation profiles; ii) maturity and prepayment options; iii) interest-related characteristics (i.e. interest rate type, payment frequency); iv) the type and value of the security; v) the relation to specific obligor groups; vi) the relation to possible linked contracts; vii) the origination channel; and viii) any observed obligor behaviour with respect to a particular product type. These features inform our assumptions about defaults, recovery expectations, and prepayment behaviour. They also support portfolio segmentation and help identify product-specific risks or concentrations that could materially affect the overall risk profile of the transaction.

We form a view on the expected performance of the transaction's most relevant product types over the transaction's WAL, using information from the originator and relevant public data, such as macroeconomic indicators. This view is directly informed by the product characteristics listed above and serves to quantify the inputs to the cash flow analysis

5.3 Portfolio performance analysis

5.3.1 Default analysis

The default analysis involves determining the type of applicable default distribution framework -parametric or non-parametric, reconciling the transaction's default definition with that of available performance data, and deriving default timing assumptions.

5.3.1.1 Parametric default distribution

For highly granular portfolios, we apply a parametric lifetime defaults distribution, typically an Inverse Gaussian distribution.

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[9] This analysis focuses on interest alignment elements beyond the regulatory required risk retention.

We consider an SME portfolio to be highly granular when the effective number of obligors is higher than 500 and there are no significant single asset, obligor or industry concentrations. The parameters of the Inverse Gaussian default distribution -the mean default rate and its coefficient of variation- are typically calibrated using historical vintage data from the originator, analysed in the context of the originator and the asset type analysis. Portfolio default rate assumptions take the effect of seasoning into account and thus do not represent the full lifetime of securitised products. In other words, our assumptions correspond to the marginal life-to-maturity that is left from the portfolio's seasoning point.

The mean default rate reflects the expected performance of the portfolio of assets for the life of the transaction given the economic environment. For example, reflective of our forward-looking approach, we complement recent historical performance with other qualitative considerations if justified by macroeconomic growth prospects or the possibility of a recession and commensurate with the expected life of the portfolio. In addition, we consider adjustments to the base case default rate if the product mix of the transaction's portfolio deviates from the originator's asset book that underlies the performance data.

The coefficient of variation is typically calibrated based on historical performance data volatility, but as for the mean we may adjust it to incorporate additional information from the originator and asset type analysis, such as internal risk measures, as well as our forward-looking view on macro- and microeconomic conditions. Certain product types involving refinancing risk (in the case of credit lines), may require adjustments both to the mean default rate and the coefficient of variation.

If the portfolio includes assets with heterogeneous credit characteristics, we may split it into homogeneous segments with similar default or recovery characteristics. We apply the highly granular approach to portfolio segments if these are also granular, or for any given portfolio segment which has a relatively low materiality in the context of the total portfolio. We derive a mean default rate and its coefficient of variation for each segment. They are then combined by assuming that the portfolio segments are perfectly correlated.

5.3.1.2 Non-parametric default distribution

For portfolios which feature significant obligor or industry concentrations, we use a non-parametric approach, deriving the lifetime defaults distribution through a Montecarlo simulation model. We may apply the non-parametric approach to transactions which at closing have only partially ramp-up portfolios, creating a dummy portfolio that takes also into consideration the transaction's eligibility criteria and the historical data provided by the originator.

Under the non-parametric approach, we simulate loan-level defaults using Scope PM, a multi-factor, single-step Monte Carlo default-simulation model within a Gaussian copula correlation framework. Our obligor-specific default assumptions generally reflect a through-the-cycle view. The General Structured Finance Rating Methodology provides further details regarding the Scope PM.

In order to derive each obligor-specific default assumptions, we analyse the originator's internal credit systems and extract information about the obligor's relative credit quality and probability of default. This process often involves a mapping of the originator's internal rating categories or an adjustment of its internally assigned probabilities of default, as rating systems can have very different objectives determining the level and meaning of default probabilities. For example, some originators use 'management' probabilities of default to adjust underwriting or pricing to the bank's current risk appetite, whereas other originators aim to produce through-the-cycle indicators of the obligor's propensity to default.

Our analysis requires a review of the rating models' discriminatory power, which we expect to be satisfactory for banks operating under the advanced Internal Ratings-Based Approach (IRB) approach. Back-testing data showing the observed default frequencies and rating migration for the originator's different rating categories provides the best information for understanding the internal rating scale. The discriminatory power of the model also allows us to decide on the reliability of the originator's extreme rating categories for which the statistical significance may be weaker, i.e. very high and very low rating categories.

We may complement the back-testing information with the analysis of vintage or dynamic delinquency data representing the assets in the portfolio. We then decide on adjustments needed to transform the originator's probabilities of default so that they represent our view of the specific asset portfolio.

When deriving obligor-specific default assumptions we also verify the relative size of the exposure. When exposures individually represent up to 2% of the total portfolio balance, we typically leverage on the originators internal credit systems, while for larger exposures, we may complement this approach with alternative measures of credit risk such as internal credit estimates or external ratings mapped to Scope's rating scale. The alternative methods to analyse single asset exposures by level of concentration are discussed in more detail in our General Structured Finance Rating Methodology.

To capture obligor idiosyncratic risks, we typically apply stresses to each loan above 5% of the total portfolio balance and to the 5 largest exposures, as shown in Figure 2[10] . In addition, we may apply a stress to the pair-wise correlation of the largest obligors to addresses the risk that such obligors default with a higher correlation, and a recovery rate haircut to address the risk that they might default at lower recovery rates than those assumed in our base case.

Figure 2: Top obligor stress applicable to the non-granular approach

Element	Value
Top obligor concentration range	Top five obligors and each loan above 5% of portfolio balance
Correlation add-on among top obligors	20%
Haircut to rating-conditional recovery rates	10%

The correlation parameters are also essential inputs to the Gaussian copula function used to obtain the portfolio's default rate distribution. The correlation framework includes three different marker risk factors: global, country/region and industry. For further details on the correlation framework, please refer our CLO Rating Methodology.

5.3.1.3 Transaction default definition

We perform a default rate analysis based on the transaction's default definition, generally ranging from 90 to 360 days past due. If available, we also analyse roll rates from early arrears to default, which provide an early warning of deteriorating performance.

If the default definition in a transaction does not match that of the vintage data provided for the analysis, we may quantify cure rates. Cure rate assumptions are kept constant for all rating categories. Cure rates indicate the recovery from obligors that become performing again and have not rolled into a default based on the transaction's default definition. Cured delinquency positions repay all due and payable interest and principal, becoming current.

Our analysis may incorporate the impact of cure rates on a portfolio's cash flow. Like defaults, delinquencies impact a transaction's liquidity, as overdue instalments move through the delinquency buckets to ultimately default – or cure.

5.3.1.4 Default timing

Under the parametric approach, we generally apply a front-loaded portfolio default timing vector, reflecting a constant default intensity that follows the portfolio's amortisation. Under the non-parametric approach, the Monte Carlo simulation produces an aggregated default timing vector based on the underlying exposures' line-by-line information and the timing profile of Scope´s idealised default probability tables. For rating instruments that are deemed particularly sensitive to default timing assumptions, we may factor in alternative default timing assumptions into our analysis.

5.3.2 Recovery analysis

We derive portfolio recovery rates using a statistical approach and/or a fundamental approach, as described in more detail in our General Structured Finance Rating Methodology. The statistical analysis can apply to both secured and unsecured exposures while the fundamental analysis can only be used for secured exposures. We may also create a recovery term structure by considering the overall level and timing of the recovery. The actual recovery pattern depends on the type of asset and the point in the economic cycle. Guarantees, if supported by sufficient historical data, may be considered when determining the overall recovery rate.

5.3.2.1 Statistical recovery analysis

We use vintage analysis to derive our recovery assumptions if the recovery vintage data broadly reflects the portfolio's characteristics. We derive the portfolio's base case recovery rate and apply recovery rate haircuts that increases as a function of the instrument's targeted rating (rating-conditional stress), as shown in Figure 3 below.

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[10] In case of a ramp-up portfolio, this stress cannot be applied at the first rating assignment directly, but limits are considered when setting both the recovery rates and the mean default probability and coefficient of variation for the portfolio default distribution. It may be applied, if relevant, during the subsequent monitoring when the ramp-up period is terminated.

Figure 3: Rating-conditional recovery rate haircuts

Rating level stress	B	BB	BBB	A	AA	AAA
Haircut to base case recovery rate	0%	8%	16%	24%	32%	40%

The presence of large exposures can require a deviation from statistically derived assumptions, particularly for obligors with low credit quality. This could be the result of idiosyncratic factors affecting the obligor or, in the case of mortgages, the security's conditions and characteristics. We may also increase recovery rate haircuts beyond the indication in Figure 3 if we identify significant volatility in the historical recovery data or lower haircuts if data is sufficiently granular and shows stable recovery rates.

5.3.2.2 Fundamental recovery analysis

The fundamental approach relies on analysing asset price movements and asset liquidity. This approach is most appropriate when data limitations prevent a statistical analysis. For further details about Scope's fundamental recovery analysis please refer to our General Structured Finance Rating Methodology.

Under the fundamental approach, we may also apply portfolio-level limits to recovery rates that depend on the type of security available to the underlying credit rights in the portfolio. For example, we may constrain below 100% the recovery rate of a portfolio, calculated from the stressed value of an underlying pool of mortgaged assets where the target rating is AAA_{SF}.

5.4 Cash flow and structure analysis

We model the transaction's asset and liability structure using Scope Cash Flow Models, described under our General Structured Finance Rating Methodology. Below we describe in more detail some common features in SME transactions and notable portfolio risk factors relevant to our cash flow and structure analysis:

5.4.1 Revolving portfolio

SME ABS structures may feature revolving portfolios. During the revolving period, the portfolio's cash flows are reinvested to buy new assets instead of amortising the notes.

We typically model the transaction's cash flows from the beginning of the amortisation phase and benchmark the instrument's expected loss against its expected weighted average life over the amortisation phase. We potentially adjust our assumptions for risks introduced by the revolving period exposure, in particular, i) the risk of a negative migration of the portfolio characteristics, and ii) the risk that cumulative losses during the revolving period erode the transaction´s available credit enhancement.

To address the portfolio migration, we may assume potential changes in the key portfolio characteristics adjusted according to (i) the duration of the revolving period, (ii) the expected turnover rate, which affects the share of the portfolio we expect will be replaced with new assets (iii) the eligibility and portfolio criteria to be maintained.

The risk of credit losses during the revolving period is mainly driven by (i) the duration of the revolving period and the expected reinvested amounts, (ii) the historical performance and (iii) the strength of the performance-based early amortisation triggers. As an example, weak performance-based early amortisation triggers combined with a long revolving period may lead us to determine additional losses in line with the triggers.

5.4.2 Pro-rata amortisation

The pro-rata amortisation of a securitisation structure's liabilities releases credit enhancement that is otherwise only available to more senior tranches. The release of credit enhancement could leave a senior class exposed to tail concentration risk. We analyse the cash flow mechanics of the structures in order to assess losses resulting from the scenarios allowed by the conditions governing pro-rata amortisation, particularly those that test the minimum level of credit enhancement necessary for pro-rata amortisation, and those that stop pro-rata amortisation to prevent excessive tail risk for senior tranches.

5.4.3 Conditional pari-passu instruments

Some structures incorporate two or more tranches, which initially amortize sequentially, but which would become pro-rata and pari-passu upon the breach of certain performance triggers. Our analysis may result in different ratings assigned to such instruments, even if their expected loss rate would be equal under stress scenarios. This is because our expected loss framework factors in the different amortisation speeds (i.e. the instruments' expected WAL); expected losses being equal, the instrument with the longest expected WAL may be assigned a higher rating, in accordance with Scope's idealised expected loss table.

5.4.4 Early termination options

We do not model early termination options, when the transaction documents specify that a rated notes should be repaid in full upon the exercise of the call option. However, certain structures do allow junior instruments to become exposed to market value risk upon the exercise of an early termination option.

5.4.5 General-purpose reserve facilities

SME ABS structures sometimes feature generic cash reserves that not only support liquidity but can also be used to accelerate the amortisation of the notes. The cash reserve may be depleted as a result, thus leaving the structure without liquidity support. However, this risk is generally remote, as these structures also feature a combined priority of payments that allows principal collections to be used to pay interest on senior tranches.

Our General Structured Finance Rating Methodology provides further detail on our assessment of liquidity risk and rating-conditional liquidity support.

5.4.6 Exposure to interest rate risk and foreign currency risk

Interest rate risk is the risk that the interest rate payable on the notes differs from the interest rate on the securitised assets, while foreign currency risk typically occurs when the securitised asset portfolio is (partly or fully) denominated in a currency other than that of the rated instrument.

Our General Structured Finance Rating Methodology provide further detail on our assessment of exposure to interest rate risk and foreign currency risk, respectively.

5.4.7 Excess spread

Generally, excess spread (interest collections available after the notes' senior fees and interest are paid) is available on a 'use it or lose it' basis. Therefore, investors benefit from priorities of payments that are designed to use excess spread to cover cash flow shortfalls arising from portfolio defaults and delinquencies and to re-fill transaction cash reserves. Some structures also feature triggers that keep all excess spread in the structure if portfolio performance deteriorates, making it available to cover possible future payment shortfalls.

5.4.8 Prepayments

We may assume a medium constant prepayment rate for the full duration of the transaction as our base case. Such constant prepayment rate is defined primarily from historical data provided by the originator. If relevant, e.g. due to notes being largely dependent upon excess spread or loans characteristics, we may test lower or higher prepayment assumptions in the quantitative analysis. High prepayment stresses typically cover historical highs. Low prepayment stress is typically a 0% constant prepayment rate assumption.

5.4.9 Portfolio yield compression

The portfolio yield may compress if the loans with higher interest rate tend to be prepaid or to defaults more quickly than other loans. Yield compression may also result from the originator and debtor renegotiating a loan, which is generally allowed by transaction documents up to a certain limit.

For static portfolios, we typically account for potential yield compression by applying a haircut to the portfolio's weighted average margin or weighted average coupon. For revolving portfolios, we consider potential changes in the yield vector caused by the addition of new assets. Transaction documents usually set a minimum guaranteed yield either on aggregate or for each new loan.

5.4.10 Fees

We estimate fees as part of our analysis. We assume fees will be paid to senior transaction parties such as the trustee, the account bank, the corporate servicer, the cash manager, and the servicer. If the servicer is also the originator, servicing fees are usually lower, given the servicer's interest in the transaction. In either case, our analysis assumes increased senior costs, particularly to address servicer replacement at market-level fees. We generally model servicing fees as a percentage of the outstanding portfolio amount, sometimes supplemented by minimum senior fee expressed as an absolute amount.

5.5 Counterparty risk analysis

We evaluate how risks are linked between the rated instruments and the various parties to the transaction. We assess the materiality of a counterparty exposure as excessive, material or immaterial. We distinguish financial risk from operational risk and assess the transaction's ability to mitigate or reduce counterparty risk. Key risks for SME ABS include servicer commingling

risk, liquidity risk arising from servicer disruption or replacement, and set-off risk when borrowers hold deposits or other cross-claims with the originator. For more detail, refer to our Counterparty Risk Methodology.[11]

5.6 Legal risk analysis

Legal risks can arise from three main sources: i) the assets and the transfer of these assets to the special purpose vehicle; ii) the special purpose vehicle issuing the rated debt and its legal structure (e.g. bankruptcy remoteness); and iii) the transaction parties. We review legal opinions to gain comfort on assumptions regarding relevant legal issues.

For further details, refer to our General Structured Finance Rating Methodology.

6. Complementary Analysis

6.1 Integration of ESG factors in our analysis

We integrate environmental, social and governance (ESG) factors into our credit analysis. We incorporate the risks arising from a transaction's exposure to ESG factors as part of the analytical approach as described in our General Structured Finance Rating Methodology.

6.2 Data guidelines

We are able to use a wide range of data formats produced by the originator's systems. We use market and macroeconomic data to extrapolate performance references. This is complemented with a thorough, fundamental study of the originator's strategy, the evolution of underwriting criteria over time, and the servicer's processes and systems. Our analytical approach allows us to establish a credit view of the originator, the assets and the portfolio. We assess the adequacy of the information received to meet this objective. We may explain the limits of available data and request more detail if information is insufficient to analyse a transaction.

6.2.1 Vintage sample

We use vintage data that describes the assets that will be securitised in a transaction. Information specific to certain portfolio segments is relevant if the weights of the segments in the portfolio differ from those in the originator's entire book. This is also the case if the weights of the segments have changed materially over time. For example, we would need segment-specific data to capture performance differences if a portfolio is exposed to mortgage and non-mortgage loans and the weights of these segments have not remained constant over time.

We also check that the granularity of performance references is sufficient to derive statistically significant base cases. For example, we may not be able to give credit to recovery performance over a period in which few foreclosures were observed, as is generally the case for benign periods.

6.2.2 No portfolio data template

We do not use a proprietary portfolio template for SME portfolios, and we welcome data that adheres to portfolio reporting standards set by the ECB taxonomy and adopted by the European Data Warehouse as long as the information is relevant for analysing the assets' risk characteristics. We can also work with templates that allow a comparison between the credit characteristics of portfolio assets and those in the originator's entire book.

6.2.3 Data checks

We assess the plausibility of the information we receive from the originators and other sources. We may request additional information or clarifications from an issuer or its agents if the information conflicts with our assessment.

Agreed-upon procedures performed by reputable, independent auditors highlight differences between the data provided by the originator/seller that we use for our rating analysis and the original documents or computer files containing such data.

We believe that the reliability of the information increases with the degree of the originator's alignment of interests with noteholders, and/or the independence, experience and financial strength of the parties providing information. For example, independent legal opinions generally support our legal analysis whereas representations by an affected party would not be deemed robust.

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[11] In the case of deviations between this document and the latest update of Scope Counterparty Risk Methodology, the latter prevails.

Conference calls and operational review visits also provide us with more details on the information received. We may review files to gain insight into the processes presented during the operational review visit or the assets being securitised.

6.3 Rating sensitivity analysis

Scope supplements the analysis by testing the sensitivity of the base case results to variations in the key assumptions' parameters.

This information provides investors with another perspective on the resilience of the rated tranches. We typically disclose the following sensitivities: an increase in the mean default rate and a reduction in the mean recovery rate. We may also disclose the maximum default rate at which no loss is seen for a given tranche (break-even default rates), or any other relevant sensitivities.

Figure 4: Typically disclosed sensitivity tests

Analytical assumption tested	Shifts considered
Mean default rate	+50%
Recovery rate	-50%

6.4 Monitoring

We monitor SME ABS transactions using performance reports such as those produced by the management company, the trustee or the servicer. When available, we may also use European Data Warehouse reporting. Our ratings are monitored on an ongoing basis and are reviewed once a year or earlier if warranted by events.

Outstanding credit ratings rely on the same methodologies, tool and models as new credit ratings. However, the analysis can be conducted at a higher level in certain cases compared to the depth of the analysis at closing. If changes to the underlying portfolio´s performance assumptions and to the transaction´s capital structure are deemed immaterial for the current ratings, we may not require to re-run or update the tools and models supporting the current ratings. This is usually the case for transactions that are in early stages of ramp-up or revolving period.

Monitoring activities focus on a review of the transaction's key rating drivers and of its key quantitative assumptions -typically portfolio's lifetime default rate and rating-conditional recovery rates- along with any relevant changes to the transaction's structural features and counterparty exposures.

Updates to performance assumptions relative to the closing analysis are informed by reported performance metrics on the securitised portfolio, assessed alongside any relevant updates to our SME outlook and broader macro-economic outlook that may impact future performance. For transactions with revolving portfolios over extended periods, we may request an updated originator loan book data and revisit the originator and servicer analysis conducted at closing. For transactions initially modelled under the non-parametric approach at closing, we may update our default analysis using a parametric default distribution if we consider the updated securitised portfolio to be sufficiently granular and no longer exposed to obligor or industry concentrations. This may be particularly the case for transactions where the ramp-up or revolving periods have terminated.

The cash flow analysis incorporates updates to the key quantitative assumptions, the outstanding asset and liabilities balances, the rebased portfolio amortisation profile, relevant market data such as spot interest rates when applicable, and any other material updates to key transaction features, such levels of available excess spread, or our assessment of specific trigger levels, which may impact the priority of payments.

Finally, we review counterparty risk and monitor any associated triggers, which may result in required actions, such as collateral posting, or counterparties' substitution, as well as other relevant transaction's specific triggers.

Further details of the monitoring process are provided in the General Structured Finance Rating Methodology.

7. Appendix

7.1 Analysis of portfolio concentrations

We analyse a portfolio's granularity before choosing the approach to use to determine the portfolio default distribution. The granularity metric that we use is the diversity index with an order of diversity of two, for more details please refer to our General Structured Finance Rating Methodology

We may apply the highly granular approach and rely on an idealised portfolio-default distribution if the effective number of obligors is higher than 500 (Figure 5). Otherwise, we may consider a portfolio simulation approach applicable to non-granular portfolios.

We address very low obligor diversity levels by complementing our statistical analysis with a fundamental credit analysis of large obligors. This analysis is performed in cooperation with our corporate ratings team. We also apply higher correlation assumptions to portfolios if the effective number of industries is less than three. In extremely rare circumstances, we may limit the maximum rating achievable by securitisations if the effective number of obligors, industries or regions indicates very high concentrations, i.e. diversity indices below the thresholds defined in Figure 5.

Figure 5: Diversity thresholds for granularity assumption

Concentration factor	Typical effective number (highly granular threshold)	Diversity threshold
Obligor	500	100
Industry	9	3
Region	4	*

* We assess regional concentrations qualitatively taking population and macroeconomic factors into account, rather than diversification across subjective administrative divisions of a territory.

Industry Mapping

Our industry mapping consists of 27 separate sectors of activity. It is broadly based on the NACE 2009 industry classification, rearranged in terms of the type of economic sector: primary, secondary and tertiary. Figure 6 provides a list of activity sectors.

The activities in real estate are segmented into development and non-development. This is because the business model of development activities is what makes the sector vulnerable to cyclical boom and busts, following patterns of credit expansion and contractions in the economy. The long development cycle for real estate assets makes it very difficult for companies to adjust investment plans when the economic cycle changes. This is because development projects rarely take less than two years, even if starting from urban land. Conversely, non-development real estate activities are generally stable because real estate assets amortise over very long periods of time.

Figure 6: Activity sectors considered when we assess industry concentrations in SME ABS transactions

Activity sectors		
Accommodation, leisure & entertainment	Food, beverage & tobacco	Real estate: non-development
Aerospace & defence	Government & public sector	Software & hardware
Agriculture & farming	Healthcare equipment & services	Telecommunications & networking
Automotive	Industrial manufacturing	Transportation & logistics
Banking & finance	Media	Utilities
Chemicals, plastic & rubber	Mining & metals	Wholesale & retail trade
Construction & materials	Packaging & containers	Wood & paper products
Consumer durables	Pharmaceuticals & biotechnology	
Consumer services	Professional services	
Energy	Real estate: development	

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