SME ABS Rating Methodology

Structured Finance

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1. Executive summary

This document provides the latest update of Scope SME ABS Rating Methodology. It incorporates editorial changes, including the synthesizing of some sections which are already addressed in detail in Scope's General Structured Finance Rating Methodology and Scope's Counterparty Risk Methodology. The most relevant changes are the following:

- redrafting of the 'Definitions and applicability' section, to improve clarity in particular regarding the differences in applicability criteria with Scope´s CLO Rating Methodology;

- a simplification by removing the option to use two different default rate distributions (point-in-time and long term), instead of a single default rate distribution, as the former alternative approach is not in use;

- removal of former Appendix 4.2 (addressing vintage analysis), which is now described in Appendix V of Scope's General Structured Finance Rating Methodology;

- clarification of section 2.4.6, referencing to the Scope's interest rate stress framework described in General Structured Finance Rating Methodology (Appendix VI);

- reduction of section 2.5 as the section was overlapping to a large extent with Counterparty Risk Methodology.

None of our ratings are impacted as a result of the updates.

1.1 Definitions and applicability

This document describes our approach to analysing asset-backed securities (ABS) typically collateralized by highly granular portfolios of secured and unsecured loans, lease, purpose specific loans, credit lines or other form of credit rights over SMEs, defined[1] 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 an annual balance sheet total not exceeding EUR 43 million. . This approach may also be selectively applied i) to SME ABS outside Europe when SME definition and institutional framework are similar; or ii) to granular SME portfolios which additionally include a limited number of exposures to medium to large corporates, resulting in an effective number of exposures 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 Scope's General Structured Finance Rating Methodology, superseding it in the event of conflict, inconsistency or ambiguity and should be read in conjunction with our Counterparty Risk Methodology.

Rating scales and definitions of ratings are available separately on www.scoperatings.com.

1.2 Methodology highlights

Credit differentiation. Our analytical approach allows for significant rating and transaction differentiation, even when considering transactions by the same originator and in the same country. We follow a bottom-up approach to capture the rating impact of different asset, portfolio or structural characteristics avoiding the application of one-size-fits-all assumptions.

No mechanistic link to sovereign credit quality. We capture the credit impact of macro-economic factors in the context of the tenor of each rated instrument. We consider that the sovereign rating of the country in which the assets are located is not an adequate anchor for a securitisation rating ceiling, particularly in the eurozone. Please see also section 3.1 of the General Structured Finance Rating Methodology.

Counterparty risk accounting for resolution regime. We assess counterparty risk in the context of various bank recovery and resolution regimes. Traditional counterparty risk analysis and rating triggers in the context of these regimes provide significant comfort that roles such as the transaction account bank or servicer can be performed by resolvable financial institutions without

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[1] European Commission Recommendation 2003/361/EC
[2] See Appendix 4.1
[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 and where the sales of loans is not allowed, or limited to minor amounts and subject to strict eligibility criteria. This is typically the case for balance sheet securitisations.

limiting the highest rating achievable by a securitisation, provided adequate structural protection against losses and liquidity shortfalls are in place.

Originator analysis. We incorporate the originator's knowledge of its customers. We analyse the originator's market positioning, product portfolio, origination strategy and policies, risk management and monitoring, and recovery. We work closely with our entity-specific analysts in order to gain an understanding of the originator's business model and its use of securitisation. The entity-specific analysts provide an additional perspective on portfolio default and recovery assumptions.

Efficient and flexible rating process. We can work with data in any proprietary template because originators already produce many valuable metrics for the analysis of credit risk in SME portfolios. Our originator analysis is a key part of the rating process; we ensure that it is efficient and focuses on the points relevant to the securitisation.

2. Overview of the analytical framework

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

Our structured finance ratings reflect an investor's expected loss on a securitisation in the context of the investment's expected weighted average life (WAL). The expected loss accounts for the time value of money at the rate promised to the investor on an instrument. Scope General Structured Finance Rating Methodology provides more detail on our expected loss framework.

We derive performance 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 by modelling individual loan defaults with Monte Carlo simulations using our portfolio model, Scope's portfolio model (Scope PM)[5].

We integrate the portfolio default distribution using our cash flow model, Scope's Cash Flow Model (Scope CFM)[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.

Analytical building blocks

Rating

Counterparty analysis

Structure analysis

Portfolio and performance analysis

Contract-type analysis

Originator analysis

Legal analysis

We assess qualitative and quantitative inputs that are material for the analysis of the transaction and then decide on the rating by considering its sensitivity to key analytical assumptions. Quantitative results alone do not dictate the final rating assigned to an instrument because the rating outcome also reflects our qualitative and fundamental credit views of the key risks in an SME ABS transaction.

2.1 Originator and servicer analysis

The analysis of the originators and servicers capabilities provides us with the qualitative background to develop an informed credit view of the assets of each securitisation[7], and complements the quantitative analysis of transaction-specific and market

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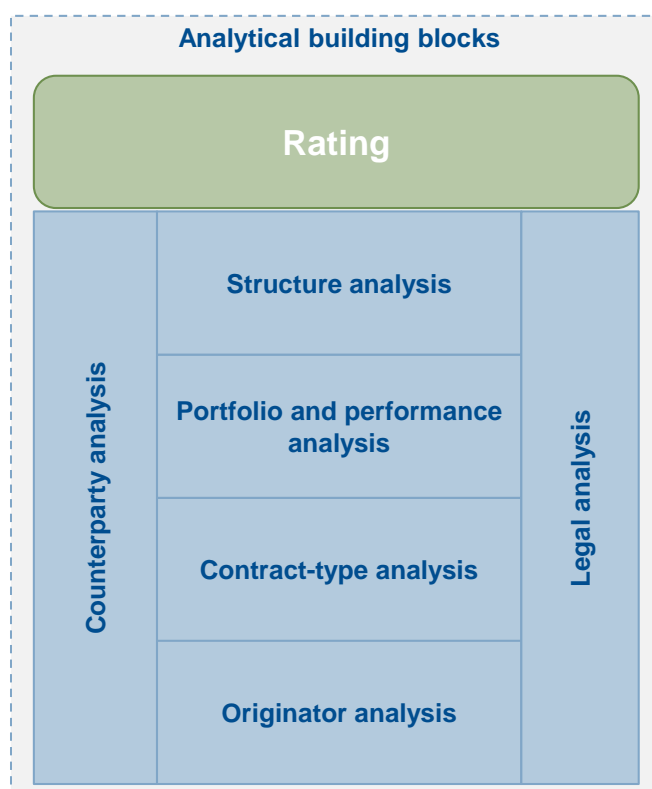
[4] In the context of SME ABS, we typically consider a portfolio to be highly granular when the effective number of exposures is higher than 500.
[5] See General Structured Finance Rating Methodology, Appendix III Technical note on of Scope PM.
[6] See General Structured Finance Rating Methodology, Appendix II Technical note on Scope CFM implementing the expected loss framework.
[7] 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.

performance data. Section 2.3.1 provides detail on how qualitative findings may be factored into our assumptions. For new rating assignments, we conduct a full operational review of the originator and servicers capabilities.

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

Figure 1. Areas of originator and servicer analysis

Theme	Objective
Market positioning and strategy	Analyse the strategy's stability over time; whether products and obligor segments have been time-tested; the originator's general risk appetite. We use past data on originated volumes and the originator's performance to form a view on the stability of the originator's business model and of the assets' performance.
Risk appetite	Rank the risk appetite of the originator compared to other originators in the SME the market. Low credit-score cut-off levels aimed at gaining market share at the expense of the loan's credit quality, or a high concentration of loans to borrowers under pressure to refinance or consolidate existing debt may result in volatile portfolio performance.
Staff, systems and processes	Form our view of the originator's operational competence, capacity, and expertise in managing assets relevant to the transaction.
Underwriting standards	Assess whether the originator adheres to best practice on the market with respect to internal controls, data, documentation and processes and the risk function's degree of independence.
Origination stability and performance	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	Assess whether the monitoring and recovery processes are oriented towards preserving the relationship with the obligor (thus allowing for forbearance) or towards the early solution of problems affecting asset credit performance (pre-NPL management and recovery management).
Risk models	Analyse and form our view of the rating 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	Review measures to prevent and monitor fraud.
Alignment of interests	Assess the alignment between the originator, the servicer, any eventual manager and/or investor, to determine whether there are incentives across the transaction parties[8] that could affect future transaction performance.

For our analysis, we investigate the information provided by the originator in order to understand the differentiating factors that may affect the credit performance and, where necessary, we incorporate the findings in our default and recovery analysis.

2.2   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: i) their amortisation profile; 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 characteristic obligor behaviour with respect to a particular product type.

We develop a view on the long-term average performance of the transaction's most relevant product types and on the forward-looking performance over the same period as the transaction's WAL. For this purpose, we use information from the originator, as well as other public data such as macro series.

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

Risks associated with similar product types can vary among originators. For instance, an originator's expertise may allow it to operate with more complex or riskier products, and to manage their performance according to its appetite for risk. Conversely, even simple products could pose challenges for inexperienced originators, for example, they might not anticipate the possibility of sudden shifts in default trends or the need for specialised recovery agents in times of stress.

Credit losses could be very sensitive to the servicer's monitoring processes where recovery prospects after an obligor default are very slight. The capability of the servicer in promptly identifying distress positions, particularly when unsecured, may reduce the loss, compared to a less proactive servicing. In the case of mortgage loans, credit losses could depend considerably on the assessment of the value of the collateral. The analysis of product types also allows us to identify risks from obligor defaults besides credit losses. We analyse set-off risk if there are direct exposures, such as customer deposits, which can be set off against securitised credit rights. Losses from such set-off can also be material for product types like purpose-specific loans, for example, if these loans result from indirect exposures to linked insurance contracts.

Appendix VIII '*Legal considerations in structured finance*' in our General Structured Finance Rating Methodology provides further details regarding the asset analysis.

2.3 Portfolio performance analysis

We derive transaction-specific distributions of portfolio defaults following the principles outlined in our General Structured Finance Rating Methodology. For highly granular portfolios we apply a parametric lifetime defaults distribution, typically an Inverse Gaussian distribution, whereby for portfolios which feature significant concentrations we derive a non-parametric lifetime defaults distribution, using a Montecarlo simulation model.

2.3.1 Default analysis using the parametric default distribution

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, analyzed 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. Rather, these 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 a default rate coefficient of variation assumption for each segment. They are then combined by assuming that the portfolio segments are perfectly correlated.

2.3.2 Default analysis using the non-parametric default distribution

We apply a non-parametric approach if the portfolio is exposed to obligor or industry concentrations. To derive the portfolio's lifetime default distribution, 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's Appendix III provides further details regarding our portfolio model 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.

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.

In addition, we typically consider for capturing obligor idiosyncratic risks to apply stresses to each loan above 5% of the total portfolio balance and to the 5 largest exposures, as shown in Figure 2[9] . We consider applying 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.

We may apply the non-parametric default distribution also with portfolio that at the transaction closing does not exist or are only partially ramp-up, creating a dummy portfolio that take also into consideration the portfolio criteria included in the transaction documents and the historical data provided by the originator.

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 pp
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 Scope's CLO Rating Methodology.

2.3.3   Other considerations regarding default analysis

2.3.3.1   Transaction default definition and cure rates

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.

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[9] 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.

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 rates indicate the recovery from obligors that become performing again and have not rolled into a default according to the transaction documents. 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. Cure rate assumptions are kept constant for all rating categories. Like defaults, delinquencies impact a transaction's liquidity, as overdue instalments move through the delinquency buckets to ultimately default – or cure.

2.3.3.2   Default timing

We take the assets' amortisation characteristics into account in our default timing assumptions. We derive default timing from either: i) vintage analysis; ii) the amortisation profile from the portfolio that is compounded with a constant, unconditional default frequency; or iii) the portfolio simulation.

Default timing assumptions cannot be decoupled from the balance of an exposure at risk of default. We do not arbitrarily allocate defaults in the life of the portfolio as this would result in unrealistic default intensities for some periods.

If appropriate, for example if the portfolio contains a significant amount of bullet exposures with concentrations around a given maturity date, we may also apply more concentrated default timings.

2.3.4   Recovery analysis

We derive portfolio recovery rates using a statistical approach and/or a fundamental approach, as described in more detail in Appendix VII of our General Structure Finance 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 and can consider guarantee if supported by sufficient historical data.

2.3.4.1   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, typically using recovery vintage data, 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.

The rating-conditional recovery rates are derived using the following expression:

$$Rating\ conditional\ recovery\ rate = Base\ case\ recovery\ rate\ (1 - rating\ category\ haircut)$$

For example, if the derived base case recovery rate is 50%, the recovery rate when analysing portfolio losses under a AAA stress is 30%, calculated as 50% x (1-40%).

Figure 3.   Rating-conditional recovery rate haircuts

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

Banks often use different mechanisms to reduce the severity of a default. Whereby some of these mechanisms do not allow a fundamental analysis of a particular security type, the effect of these mechanisms is well captured by the recovery vintage data. Data obtained from banks have shown that certain guarantees made by a business owner, or a close relative can effectively lower the rate and severity of a default.

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.

2.3.4.2 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. The security value is the stressed value of the underlying asset. For further details about Scope's fundamental recovery analysis please refer to Appendix VII of 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$_{SF}$.

2.4 Cash flow and structure analysis

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

2.4.1 Replenishing portfolios

SME ABS structures may feature replenishing or revolving portfolios. These structures introduce additional uncertainty and typically result in life extension and an increased risk exposure compared to the static-portfolio equivalent. We analyse transactions with replenishing portfolios, accounting for the risk that the portfolio composition may deteriorate and its characteristics may change. The risk of deviations beyond these limits is incorporated in our asset analysis based on our expected portfolio migration mainly linked to originator loans portfolio and covenant levels.

Revolving portfolios pose the risk of changes to the portfolio's characteristics, also known as portfolio migration. Portfolio migration – due to changes in market conditions, obligor demand, or origination and underwriting strategy – is typically limited by asset and portfolio covenants. We analyse SME ABS portfolios by considering the potential of portfolio migration in the context of the originator's history and strategy, the characteristics of the asset type, as well as asset and portfolio covenants in the structure.

Structures typically feature early amortisation triggers to limit deterioration during the revolving phase. We assume a reasonable level of deterioration in the portfolio's performance within the limits set by early-amortisation triggers. We thus analyse the amortisation phase under the portfolio assumptions resulting from the considered deterioration.

In the cash flow analysis, we typically model the amortisation phase of the assumed portfolio and benchmark the expected loss on the rated instrument with its expected WAL over the amortisation phase only.

2.4.2 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.

2.4.3 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 amortization 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.

2.4.4 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.

2.4.5 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.

Section 2.2.2.1 of Scope's General Structured Finance Rating Methodology provides further detail on our assessment of liquidity risk and rating-conditional liquidity support.

2.4.6 Exposure to interest rate risk and foreign-exchange risk .

Interest rate risk is the risk that the interest rate payable on the notes differs from the interest rate on the securitised assets. The most common are:

i) basis risk: both the portfolio and the notes have a floating rate but they are linked to different reference rates.

ii) fixed-floating risk: the portfolio pays a fixed rate, whereas the notes pay a floating rate (or vice versa).

iii) reset date mismatch: both the portfolio and the notes have floating rates linked to the same reference rate, but the reset dates are different.

To mitigate interest rate risks, the issuer may enter into a hedging agreement. We assess the contractual terms of the hedging agreement to determine how effectively the risk is mitigated. For instance, a swap whose notional differs from the notes' balance may not provide a perfect hedge. Unless fully covered structurally or hedged, we analyse the sensitivity of the transaction to material changes (upward or downward) in interest rates throughout the transaction's life (see Appendix VI of the General Structured Finance Rating Methodology).

We consider the effective coverage provided by the structure's natural hedges and/or characteristics when assessing the materiality of an exposure. For example, we acknowledge the high correlation between certain indices that ultimately refer to Euribor indices in the eurozone.

Section 2.2.4 of Scope's General Structured Finance Rating Methodology provides further detail on our assessment of exposure to foreign currency risk.

2.4.7 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.

2.4.8 Prepayments

We consider high and low prepayment scenarios. High prepayment stresses typically cover historical highs. Low prepayment stress is typically a 0% constant prepayment rate assumption. We apply a different prepayment framework if this is justified by specific asset, and/or macroeconomic concerns, i.e. the risk that interest rates change in the context of a significant fixed-rate exposure.

2.4.9 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 if the originator and debtor renegotiate 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.

2.4.10 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 with caps and floors. We also assume a minimum senior fee expressed as an absolute amount (in local currency).

2.5 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. For more information, see Scope's Counterparty Risk Methodology.[10]

If the servicer is unrated and unregulated, a jump to default would result in losses for investors or a temporary interruption of payments. Further, a defaulted servicer must be replaced quickly to limit delinquencies and defaults; otherwise a transaction's losses could increase.

2.5.1 Servicer commingling risk

Servicer commingling risk is the risk that a servicer becomes insolvent, and the bankruptcy court rules that the issuer's funds held by the servicer are to be considered part of the servicer's bankruptcy estate. Commingling may result in transactional liquidity risk and/or credit loss if the commingling loss is irreversible or if the commingled amount will return to the Issuer later than as expected originally. We assess the materiality of this risk and consider structural mitigants in our analysis. If the risks cannot be fully delinked from the servicer, our analysis incorporates any uncovered exposure to the servicer by considering the servicer's likelihood of default and the amount of collections at risk. For more detail, refer to Scope's Counterparty Risk Methodology, available at www.scoperatings.com

2.5.2 Set-off risk

Set-off risk emerges when borrowers, besides having loans, also possess deposits or any other cross-claim with the originator. If the originator face bankruptcy, borrowers might be able to offset the amounts owed to them up to the amount of the cross-claim. Among other factors, we analyse if set-off risk crystalises upon borrowers being notified about the sale of the loans or if set-off risk is partially covered through relevant deposit guarantee schemes. If set-off risk cannot be entirely eliminated, it is typically factored in as an additional asset loss in our analysis. For additional details, refer to Scope's Counterparty Risk Methodology, available at www.scoperatings.com.

2.6 Legal risk analysis

In our view, 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, please consult Scope's General Structured Finance Rating Methodology.

3. Complementary Analysis

3.1 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 section 3.2 of the General Structured Finance Rating Methodology, available at www.scoperatings.com.

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

3.2 Data adequacy, data guidelines and portfolio data template

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, underwriting criteria and processes and how these have changed 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.

3.2.1 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.

3.2.2 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 European Central Bank taxonomy and adopted by the European DataWarehouse 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.

3.2.3 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.

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.

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.

3.3 Rating sensitivity analysis

Our quantitative analysis framework for structured finance transactions is designed to result in rating stability for high investment grade ratings. Two mechanisms allow for this: i) rating-conditional stresses; and ii) an asset default distribution representing a through-the-cycle view.

Our rating action releases includes sensitivity tests, typically to the mean default rate and expected recovery rate. Those results illustrate only the sensitivity of the ratings to those input assumptions, but they are not indicative of expected or likely scenarios. Figure 4 shows the typical scenarios in the rating sensitivity test.

Figure 4.   Typical sensitivity tests considered during analysis

Analytical assumption tested	Shifts considered
Mean default rates ("DR") (i.e. expected mean DR and long-term mean DR)	+50%
Recovery rate	-50%

This information provides investors with another perspective on the resilience of the rated tranches. We may also assess the maximum default rate at which no loss is seen for a given tranche (break-even default rates) – under the rating-conditional recovery assumption or under zero recoveries.

3.4   Monitoring

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

Portfolio and performance analysis. Transactions' reviews typically assess the main transaction parameters, such as: i) cumulative and constant default rates[11], ii) recovery rates, iii) arrears trends. We consider any material changes in the macroeconomic environment and ESG factors that could affect future performance.

We may modify the transaction's assumptions depending on the transaction's performance and the comparison of observed performance indicators with our latest expectations as of the last review. During the life of the portfolio, for transaction where ramp-up period is terminated, we may apply a parametric distribution instead of the non parametric, to calibrate the default rate, since the portfolio history contribute in determining the input for the distribution.

Counterparty risk analysis. 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.

Cash flow and structure analysis. Cash flow analysis incorporate the update of liabilities, the main asset assumptions described above, and other asset characteristics, such as the assets' yield, prepayments, and the rebased portfolio amortisation profile. See Section 2.4 for more details on the cash flow analysis. We incorporate transaction specific trigger levels, which may impact the priority of payments.

Further details of the monitoring process are provided in section 3.5. of the General Structured Finance Rating Methodology, available at www.scoperatings.com.

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[11] The constant default rate measures the percentage of receivables that default in a pool of receivables on an annualised basis.

4. Appendix

4.1 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 section 2.1.1 of the 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.

4.1.1 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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