



Asset Portfolio Rating Methodology

Ancillary Services

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This is the annual update of Scope's asset portfolio rating methodology and provides our analytical framework for the credit assessment of asset portfolios mainly comprised of fixed-income instruments. The update consists of clarifications, alignments with other Scope methodologies and editorial changes, which do not impact any of the outstanding ratings.

The main update concerns an alignment of the general rules for large single asset and risk presenter analysis (section 4.1.2) with the General Structured Finance Rating Methodology, following the update of that methodology.

Asset portfolio ratings are ancillary services. These ratings instead measure the credit risk stemming from a portfolio of – mainly – fixed-income instruments.

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

1 Areas of application

This document describes our method for rating and monitoring asset portfolios. The methodology defines asset portfolios as earmarked¹ portfolios of credit exposures, such as in debt funds or bank-originated portfolios of mortgages or consumer loans. In certain cases, they may be actively managed. Assets are typically fixed-income instruments with a defined promise to pay, such as bonds or loans (secured or unsecured, leveraged or unleveraged) exposed to individuals, corporates, movable property, project finance and infrastructure projects, or a mix of assets. Assets can have a wide range of maturities and amortisation systems.

This methodology is not applicable to asset portfolios in which many assets lack a contractual promise to pay (e.g. equity assets).

This document should be read, when relevant, in conjunction with other relevant Scope methodologies, including, but not limited to, our General Structured Finance Methodology, General Project Finance Rating Methodology and Methodology for Counterparty Risk in Structured Finance, freely available on www.scoperatings.com.

2 Rating definitions

The rating assigned to an asset portfolio reflects our forward-looking assessment of the portfolio's expected loss over its lifetime (see [Scope's idealised expected loss table](#), available on www.scoperatings.com). Our analysis considers the specific characteristics of both the individual assets and the portfolio as a whole. The rating is primarily driven by the credit quality of the asset portfolio and is expressed on a scale from AAA to D with additional '+' and '-' subcategories from AA to B, resulting in a total of 20 levels. The rating applies to the maximum committed amount of the portfolio, even if not yet fully drawn and invested.

We apply an 'AP' suffix to asset portfolio ratings to distinguish them from debt instrument ratings.

Our asset portfolio ratings address the weighted average credit quality of the assets and look at the cumulative expected loss stemming from the portfolio over its lifetime. They do not address the probability of default or the loss of a debt instrument that funds such a portfolio.

We also consider the impact that a portfolio manager or servicer may have on the evolution of portfolio credit quality, which is driven by its quality and capabilities. This can be an external asset manager (e.g. if the portfolio is owned by a fund) or other types of active management. Our analysis focuses on the portfolio investment strategy, and the manager's incentives and capabilities to successfully implement this strategy.

Asset portfolio ratings do not cover risks originating from the funding of asset portfolios such as liquidity risks, interest rate, currency and other market and re-financing risks, as well as funding instrument redemption risks. Counterparty risk and operational risk are only captured to the extent they are intrinsically part of the asset's risk.

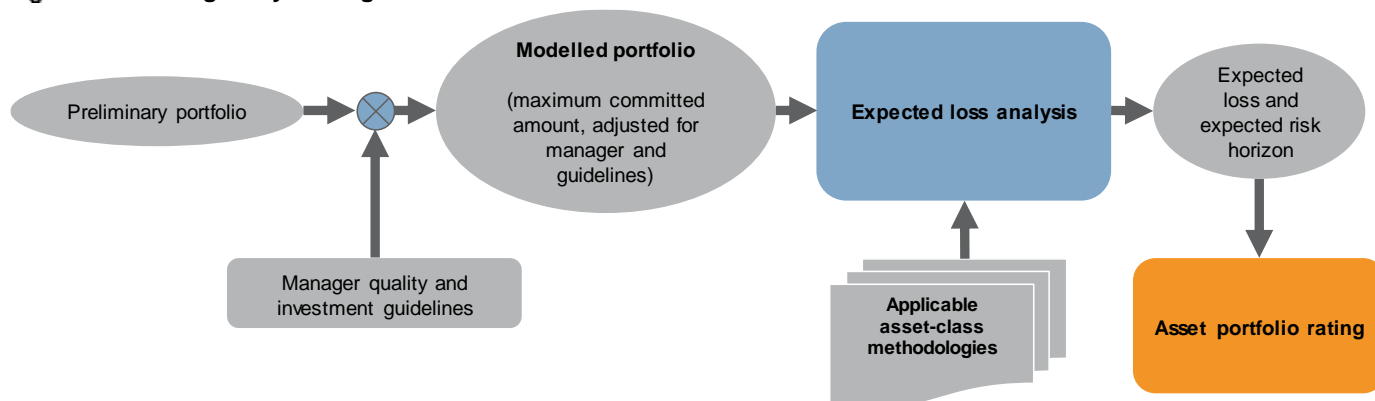
3 Overview of analytical framework

This methodology focuses on risk drivers commonly used to measure credit quality, which ensures a consistent and comparable analytical approach. We assess the default risk of portfolio assets and the associated expected severity by following the analytical considerations regarding the assets and, depending on the portfolio's composition, the principles and conceptual model outlined in the respective asset-class-specific methodology. This allows us to compute the portfolio's expected loss over its lifetime. We

¹ The concept of earmarking used in this methodology is broad. It refers to the precise identification of a set of credit exposures within the balance sheet of the fund(s), corporate(s) or, in general, SPV(s) where the portfolio is held, for the purpose of the credit risk analysis under this methodology.

benchmark the portfolio's expected loss and expected risk horizon against our idealised expected loss table. Both, methodologies and the idealised expected loss table are available on www.scoperatings.com.

Figure 1. Rating analysis diagram



Source: Scope.

4 Quantitative analysis

Our approach to determine the portfolio's expected loss and expected weighted average risk horizon depends on the type of assets in the portfolio, the portfolio's granularity, the maturity of the portfolio assets, and available public information. As outlined in Figure 1, the determination of the asset portfolio credit risk should apply an approach consistent with the principles of the asset-class-specific methodology.

4.1 Expected loss and expected weighted average risk horizon

4.1.1 Asset portfolio expected loss

The expected loss (EL) of the asset portfolio is equal to the weighted average expected loss of the portfolio assets. The expected loss of an asset is driven by the probability of the asset's default and the loss severity upon such a default as expected over the asset's life.

$$EL_{Asset\ portfolio} = \sum_{i=1}^n Portfolio\ weight_{Asset\ i} \times EL_{Asset\ i}$$

$$EL_{Asset\ i} = Expected\ lifetime\ default\ rate_{Asset\ i} \times (1 - Expected\ recovery_{Asset\ i})$$

The risk horizon of the portfolio results from the timing of cash flows under several scenarios². It is equal to the exposure-weighted average of the expected risk horizon of all the assets in the portfolio:

$$RH_{Asset\ portfolio} = \sum_{i=1}^n Portfolio\ weight_{Asset\ i} \times Expected\ RH_{Asset\ i}$$

The expected risk horizon of asset i is the probability-weighted average of the risk horizons for the asset under all scenarios:

$$Expected\ RH_{Asset\ i} = \sum_{j=1}^m probability\{Scenario\ j\} \times RH_{Asset\ i}^{Scenario\ j}$$

The risk horizon of asset i under scenario j is derived from all cashflows to the asset. This is equal to the duration of the asset under that scenario, assuming a 0% discount rate:

² Scenario' relates to a random state under which a portfolio asset could either default or survive.

$$RH_{Asset\ i}^{Scenario\ j} = \frac{\sum_{t=1}^T t \times CF_{total}^{Asset\ i, Scenario\ j}(t)}{\sum_{t=1}^T CF_{total}^{Asset\ i, Scenario\ j}(t)}$$

Where cashflows to asset i under scenario j are the sum of all cash flows:

$$CF_{total}^{Asset\ i, Scenario\ j}(t) = CF_{principal}^{A\ i, S\ j}(t) + CF_{interest}^{A\ i, S\ j}(t) + CF_{recovery}^{A\ i, S\ j}(t) + CF_{other}^{A\ i, S\ j}(t)$$

We assess the credit risk of each asset in the rated portfolio, either through a Scope rating, a Scope credit estimate, the mapping of historical credit performance data, or based on public information including external rating information from an External Credit Assessment Institution (ECAI) mapped to credit quality steps (CQS) by the European Banking Authority (EBA) equivalent to those of Scope Ratings.

4.1.2 Obligor and risk presenter concentration risk

Asset portfolios may have large single-asset exposures with different concentration levels that pose significant idiosyncratic risks. Additionally, a portfolio's assets may be exposed to the default of risk presenters. These we define as entities that are a major contributor to the risk of one or more direct exposures, like commercial real estate tenants or lessees for a CRE loan.

To capture these risk concentrations, Scope assesses the credit risk of large exposures and risk presenters individually, with a different approach depending on the level of concentration. Still, in case the asset-class-specific methodologies deviate from the considerations in Figure 2 and **Error! Reference source not found.**, the determination of the asset portfolio credit risk should apply an approach generally consistent with the principles of the asset-class-specific methodology.

Large obligor analysis

Figure 2 describes our standard approach for assessing and monitoring different concentration levels of direct single-asset risk securitised in an asset portfolio. We analyse an asset more closely when its share in the portfolio is higher and the exposure duration is long. This is because larger exposures influence the weighted average portfolio rating more heavily.

Figure 2. Standard approach for assessing and monitoring direct single-asset risk by level of concentration

| Top obligor concentration (% of portfolio balance) | Credit quality derived from: |
|--|--|
| Less than 2% | Mapping of external credit risk measures available to Scope* |
| Less than 5% | Mapping of external credit risk measures available to Scope* and consistency checked** by Scope's analysts |
| Less than 10% | Credit estimate or similar assessments by Scope or its affiliates ³ OR an external rating mapped to Scope's rating scale. |
| 10% to 25% | Public or private rating by Scope OR the second-best external rating mapped to Scope's rating scale, if there is more than one external rating available***, OR an external rating if there is only one available, adjusted, if necessary, by sensitivity analysis |
| Exposure >= 25% | Public or private rating by Scope |

* Such external risk measures may be internal rating models of the originator, portfolio assumptions from vintage data or public ratings from a regulated and supervised CRA. Scope may use those measures and adjust them as necessary.

** A consistency check reviews whether the exposures' considered credit quality level is consistent with credit quality benchmarks available for the obligor type.

*** If there are three or more external ratings that can be considered, we may adjust the mapped rating further, if we find that the worst mapped rating diverts more than one notches from the second-best mapped rating.

Source: Scope.

Concentrated risk presenters

To assess a risk presenters' creditworthiness, Scope uses its own ratings when a risk presenter's contribution to the total debt-service cashflow is larger than 25%. Otherwise, Scope relies on periodically updated credit estimates, available public ratings from other regulated and supervised CRAs or credit quality assumptions derived from other types of risk measures, such as originator's internal ratings or market benchmarks, as outlined in Figure 3. Scope may consider a different creditworthiness than the public rating if Scope's credit estimate deviates significantly from the external CRA's public rating.

³ See 5.1.6 Sensitivity analysis in the General Structured Finance Rating Methodology; credit estimates or similar assessments will be periodically updated.

When determining credit risk, we may also use scoring models or credit assessments from third parties, validated by a Scope mapping analysis, public credit ratings, or credit estimates and credit ratings from Scope.

For exposures that have a maturity of less than six months, we may also consider public short-term external ratings from reputable regulated and supervised CRAs with an EBA mapping equivalent to that of Scope Ratings only, to assess the credit quality of risk presenters.

Figure 3. Standard approach for assessing the creditworthiness of exposures to risk presenters

| Exposure to risk presenters ⁴ | Credit quality assessment derived from Scope Rating, or: |
|--|--|
| Less than 5% | Generic default risk assumption or mapping of external credit risk measures available to Scope ⁵ |
| 5% <= exposure < 10% | Credit estimate or similar assessments by Scope or its affiliates OR public rating(s) from a regulated and supervised CRA |
| 10% <= exposure < 25% | Credit estimate or similar assessments by Scope or its affiliates and public rating(s) from a regulated and supervised CRA, if any OR the second-best external rating mapped to Scope's rating scale, if there is more than one external rating available, OR an external rating if there is only one available, adjusted, if necessary, by sensitivity analysis |
| Exposure >= 25% | Credit rating by Scope (public or private) |

Source: Scope.

Risk presenters contributing more than 5% of total debt-service cash-flow may be subject to a general credit quality assumption of 'B-' if the approaches outlined in Figure 3 are not possible due to limited information available. This may apply to all corporates or financial institutions that have not publicly filed for bankruptcy or any other debt protection scheme. We supplement this assumption with the sensitivity analysis outlined in section 5.1.6 of the [General Structured Finance Rating Methodology](#).

4.1.3 Granular portfolios

In the case of a granular portfolio, we derive generic default and recovery assumptions from a mapping of historical performance data to Scope ratings or portfolio performance modelling-assumptions, or from asset and portfolio characteristics. These assumptions would apply to the entire portfolio.

Performance data considered in our analysis must be applicable to the particular asset in the respective jurisdiction. Granular data generally has the form of static vintage data for delinquencies and recoveries. The asset analysis section in the rating methodology applicable to a particular asset type outlines the process for calculating the expected default rate and the rating-conditional recovery rate.

The portfolio's expected loss for the respective target rating of a granular portfolio is equal to:

$$EL_{Asset\ portfolio} = Expected\ portfolio\ default\ rate \times (1 - Expected\ portfolio\ recovery\ rate_{Target\ rating\ scenario})$$

4.1.4 Recovery rate

We apply the relevant asset-class methodology to derive specific recovery rate assumptions when a recovery analysis is needed to capture the essential characteristics of certain secured exposures (e.g. project finance exposures). Otherwise, we would consider an idealised 50% recovery rate for Scope ratings or credit estimates.

4.2 Counterparty risk

This methodology considers counterparty risk only when the exposure is inherent to the portfolio assets. For example, we would consider the counterparty risk from a hedging agreement embedded in the contract substantiating the asset (see subsection 4.2.1),

⁴ Generally measured as % of cash flow available for debt service on the rated instrument.

⁵ See examples for large-obligor credit assessment information sources below Figure 2.

or a wrapper protecting an asset portfolio, when this is part of the ordinary business of the asset originator. In other words, this methodology only gives credit to forms of credit enhancement which are not structural add-ons.

A particularly relevant case is that of cash holdings. We will consider cash holdings to be risk-free when they result from the revolving nature of certain asset types and portfolios, irrespective of the creditworthiness of the holding counterparty. We would only consider the counterparty risk associated with cash deposits when they represent a financial asset in the portfolio being analysed (e.g. term deposits that are part of the portfolio because of the investment strategy).

When applicable, we analyse counterparty risk in accordance with our [Methodology for Counterparty Risk in Structured Finance](#), available at www.scooperatings.com.

4.2.1 Guarantees or hedging mechanisms

We adjust the credit quality of assets when they embed protections such as asset-level guarantees or insurance. The adjustment reflects the strength of the guarantee or wrapper and the credit quality of the guarantor. In such cases, our analysis treats counterparty risk in the same manner as our Methodology for Counterparty Risk in Structured Finance, or as indicated in the relevant asset-class rating methodology.

We consider asset-level credit enhancement to be effective when it covers the full life of the asset through contractual obligations such as eligibility criteria, or through executed guarantees or insurance contracts with limited replacement options. We also account for the stability of such enhancements, for example, the availability and effectiveness of collateralisation and replacement mechanisms. This approach is consistent with our Methodology for Counterparty Risk in Structured Finance.

4.3 Additional considerations

Our analysis of the credit risk of individual assets may also incorporate additional elements that depend on the nature and characteristics of the assets. The following sections cover the most relevant elements.

4.3.1 Assets with ratings under review for upgrade or downgrade

For the purpose of analysing the portfolio, we may adjust an asset rating that is under review for downgrade by one notch downwards.

4.3.2 Equity

We assess how equity assets impact the portfolio's credit risk on a case-by-case basis. For example, certain types of qualifying infrastructure equity benefit from predictable cash flows and could warrant inclusion in the credit analysis, while no change is made to a rating under review for upgrade.

4.3.3 Revolving portfolios and portfolios in ramp-up phase

At the inception of the asset portfolio (or during a warehousing phase), we will prepend an '(r)' modifier to the rating to inform investors that the portfolio is ramping up. This rating will be in place for as long as the asset balance is less than 80% of the committed or final amount. The (r) ratings assume that the asset composition will be in line with investment guidelines and eligibility criteria as well as account for the incentives, capabilities and objectives of the asset manager or lender (see Figure 1).

The '(r)' prefix signals to investors that the rating relies heavily on the successful implementation of the investment strategy, rather than on the credit performance of the actual assets already in the portfolio. As soon as more than 80% of the assets are funded, we typically assign a final rating, which considers the actual assets in the portfolio and a manager adjustment (if any).

4.3.4 Asset manager analysis (applicable for managed asset portfolios)

Our analysis of the portfolio's credit quality incorporates an ongoing assessment of asset manager's quality, if applicable. The approach aligns with our Asset Management Rating and is based on a critical and objective assessment of the key elements that impact a manager's ability to perform in the investor's interest.

If we have already rated the asset manager using our Alternative Investments Asset Management Rating Methodology, the asset portfolio rating will take that manager rating into account. Qualitative considerations may also affect the ratings. will form a view on the asset manager's ability to ramp up and maintain a portfolio in line with portfolio criteria and origination/investment guidelines.



In case of a good asset manager, Scope may maintain a certain asset portfolio rating, based on the investment strategy, even though the managed portfolio is currently worse than expected and does not meet strategic objectives. For a weak portfolio manager, our analysis will focus more on the portfolio's actual performance and quality. This will also be the case for a good asset manager if we determine during our monitoring process that the portfolio has substantially and consistently deviated from the management strategy.

The considerations are independent of the portfolio's granularity. However, we acknowledge that it is more difficult to steer a granular portfolio away from its current status. The considerations also apply to asset portfolios (granular and non-granular) which are originated and serviced by a bank.

We assess the impact of the asset manager on the portfolio's performance by analysing its asset management capabilities and incentives. The assessment focuses on six main aspects. Appendix IV outlines the minimum standards for avoiding a negative adjustment to the asset portfolio rating.

5 Monitoring

Asset portfolio ratings are monitored on an ongoing basis and reviewed at least once a year, unless clearly indicated that it is a point-in-time rating. We expect to receive at least quarterly portfolio updates and information with regard to any performance events, a material change in the portfolio's investment or origination strategy or any changes at asset manager level. The frequency of individual asset monitoring depends on the asset's share in the portfolio, contribution to the portfolio's expected loss, and the nature of its credit assessment. The latter is determined in the rating process and approved by a committee.

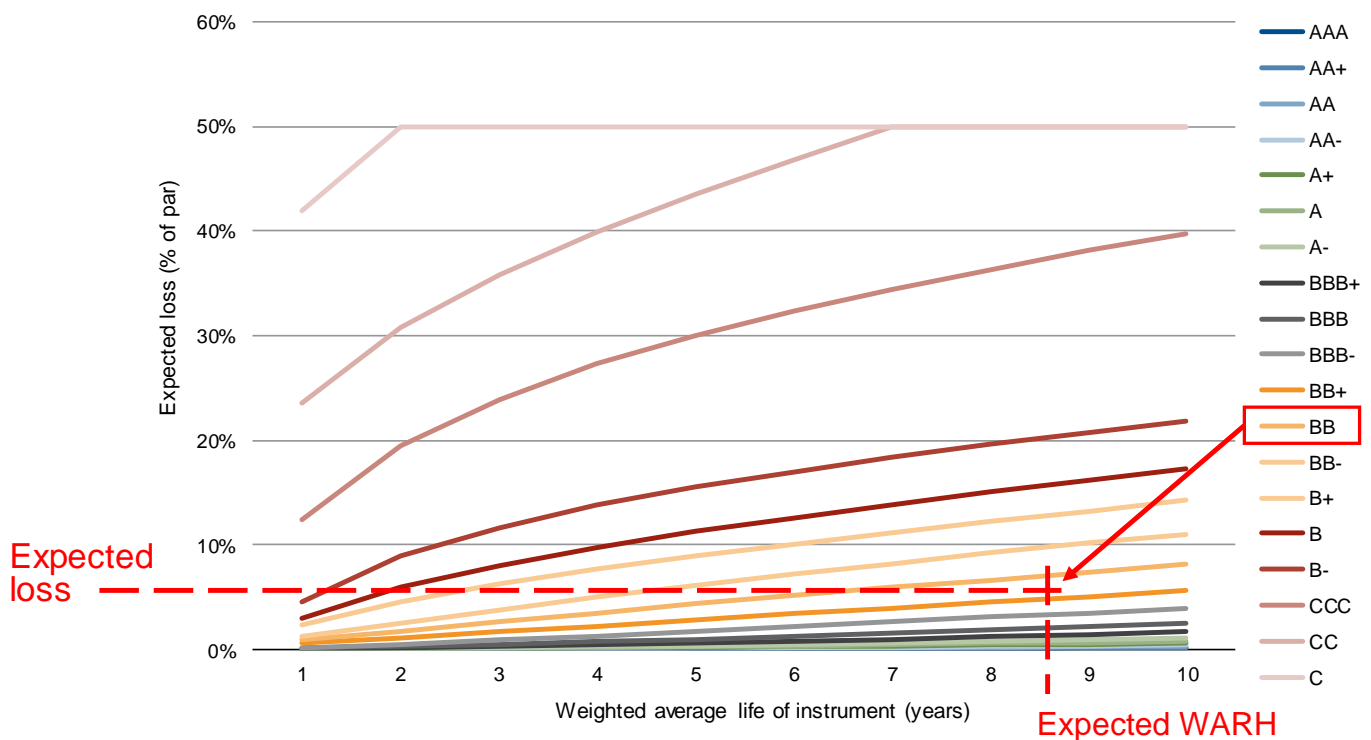
The committee also decides which assets need to be monitored more frequently and/or more closely. This is especially the case for assets that carry a credit estimate and/or represent a large portfolio concentration.

Appendix I Technical note on the expected loss framework

We analyse the probability-weighted average loss, i.e. the expected loss, and the probability-weighted average risk horizon (WARH), the *expected* WARH, for any given exposure to asset credit risk. We compare the expected loss and the expected WARH to our idealised expected loss table (see [Scope's idealised expected loss table](http://www.scoperatings.com), available on www.scoperatings.com) to derive a rating indication for the rated credit exposure.

The weighted average risk horizon differs from the weighted average life (WAL). The WARH considers the cash flows from principal and interest, while the WAL only considers principal cash flow.

Figure 4. Example of the determination of the indicative rating level from expected loss and expected WARH



Source: Scope.

Appendix II Portfolio probability of default vs. expected portfolio default rate

Scope does not constrain asset portfolio ratings because of the portfolio's probability of default or credit impairment. The probability that at least one of the assets in the portfolio will default or go through a restructuring process over a portfolio's lifetime is generally very high and rises, the more granular a portfolio gets.

The portfolio probability of default or impairment is independent of whether the investor will suffer any sizeable loss. The probability only refers to the likelihood of losing the first monetary unit. This probability lacks relevance for Scope's credit analysis because it increases with the number of assets in the portfolio, to the point that the probability tends to 100% for very granular portfolios, e.g. it is virtually certain that at least one of the assets that a large bank holds in its balance sheet will be in default or undergoing restructuring at any point in time. But most relevantly, this metric does not consider any of the two benefits of portfolio granularity: 1) the reduction in the volatility of expected portfolio return; and 2) the reduction in the severity of unexpected losses for any reference confidence level.

The portfolio probability of default or the portfolio impairment likelihood is calculated with the following expression, that represents the complementary probability to the probability that none of the assets in the portfolio defaults.

$$PD_{Asset\ portfolio} = 1 - \prod_{i=1}^n (1 - PD_{Asset\ i})$$

Where $PD_{Asset\ i}$ represents the lifetime default or impairment probability of asset i in the portfolio.

Notably, the portfolio impairment probability does not depend on the weight of each exposure in the asset portfolio, and it increases with the number of assets of the portfolio.

A more informative measure is however the expected portfolio default rate, as it provides the share of the portfolio which Scope expects to default and to which the expected portfolio recovery rate applies.

$$Expected\ lifetime\ default\ rate_{Asset\ portfolio} = \sum_{i=1}^n Portfolio\ weight_{Asset\ i} \times Expected\ lifetime\ default\ rate_{Asset\ i}$$

Appendix III Debt fund asset portfolio rating

A particular application case of this asset portfolio rating methodology is a debt fund, i.e. a portfolio of debt instruments financed through the issuance of a single, untranchcd, first-loss liability instrument (typically shares). Debt funds are typically managed and are therefore exposed to dynamic asset portfolios.

The asset portfolio ratings of debt funds address the weighted average credit quality of the fund's assets and consider the quality of the asset manager. We consider the characteristics of the various assets included in the fund's portfolio as well as the asset manager's investment guidelines and track record, for which we may adjust the rating of the asset portfolio upwards or downwards (see Figure 5).

Figure 5. Example of a debt fund analysis – asset portfolio rating notched up (simplified for illustration purposes)

The financial health, operations and risk management, investment management and client services of the debt fund manager are in line with our base line expectation. However, the manager's performance and track record are better than expected. The asset manager has consistently outperformed.

Consequently, we are likely to upgrade the weighted average credit quality of the portfolio (i.e. the strict asset portfolio rating) by one notch to reflect the asset manager's capability and performance. This improves on the portfolio quality as suggested by the investment guidelines.

Source: Scope.

Appendix IV Elements of asset manager analysis

Company profile

We form a view on the sustainability of the asset manager's business model and management by examining its organisational structure, and the quality and experience of its key personnel. We consider three years to be a satisfactory level of experience. The experience of the key executives and key personnel (as well as employee turnover) is crucial and forms a part of this analysis.

Financial health

We carry out a financial health assessment to determine an asset manager's resilience to a reduction in assets under management.

This analysis emphasises profitability and working capital requirements. Key aspects are the availability of adequate resources and funds to sustain operations, manage costs and deal with income volatility, as well as cash available, leverage and the diversity of sources of income.

The main factors in the analysis are:

- An income analysis;
- Financial ratios; and
- Cash.

Operations and risk management

We assess the asset manager's operational processes, focusing on

- Access to assets;
- The compliance function; and
- Risk management systems and processes.

Investment management

We assess the asset manager's approach to developing and executing its investment strategy, as well as the structure of the investment process. We evaluate the manager's ability to identify, source and administer investments in line with the portfolio's investment strategy, considering the availability of proprietary research and the manager's selection procedures for partners in the investment process.

A committee-based decision-making process with clearly assigned responsibilities and back-ups are a minimum standard for the investment process. Where possible, we also analyse the asset manager's internal rating model.

We review the manager's incentives to perform within the specific framework of the rated portfolio strategy, particularly how the manager is paid, the manager's interest in the performance of the portfolio, and how or to what extent the manager's interests are aligned with those of other portfolio stakeholders (such as investors) with respect to risks taken.

Performance and track record

We review the past performance and track record of the asset manager. For the asset portfolio to be rated, we pay particular attention to the asset manager's previous performance (a minimum of three years) in other similar portfolio strategies and in the same asset class. We also consider the track records which key personnel have built up in other organisations. The asset manager should have in place an asset sourcing and exit strategy in line with those of industry peers.

Client services

We assess the asset manager's distribution capabilities, investor communication regarding performance updates, the existence of key account management, the handling of complaints and the appropriate use of modern technology.



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