Credit Ratings & Research

# Rating Methodology

# Rating Criteria: CORPORATES

Version: 6

**Rating Methodology**

Corporates

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Corporate Scorecard
From Equifax

## Overview

This document provides an overview of Equifax Credit Ratings & Research's (EACR) criteria for assessing the ratings of non-financial corporations (Corporate). The document outlines the process, principles and methodology applied in a rating assignment.

The rating methodology constitutes the framework for analysing credit risk drivers. Credit risk drivers are those factors that serve as indicators of a corporate's capacity and capability to meet its financial obligations as and when they fall due.

# Contents

## Scope

Equifax Credit Ratings & Research's corporate rating methodology is an analytical framework that serves to assess a corporate obligor's capacity and willingness to honour its financial commitments in a timely manner as well as stakeholders' recovery prospects in the event of corporate default.

Equifax Credit Ratings & Research's top-down approach is supplemented by rigorous, bottom-up, evidence based analysis. Inputs to Equifax Credit Ratings & Research's rating calculus include audited or management accounting data, management estimates and projects, peer analysis, internal cash flow forecasts, scenario modelling, and stress testing.

## Types of Rating Assignments

Equifax Credit Ratings & Research assigns credit ratings, instrument ratings and commitment ratings.

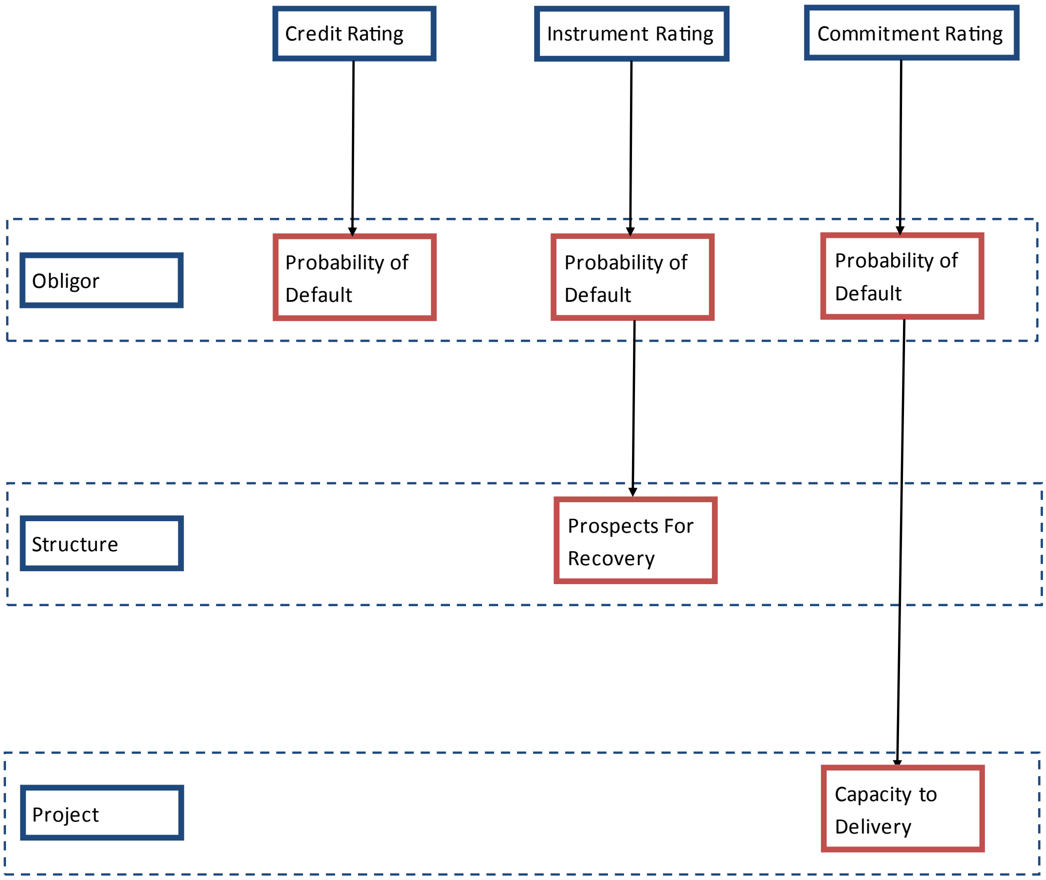


**Figure 1: Types of Rating Assignments**

**Credit Ratings** measure an obligor's likelihood of default.

**Indicative Credit Ratings**, denoted by a "**^**" (e.g. BBB^), are high-level estimates of official Credit Ratings. They are not official credit rating assignments. Indicative Credit Ratings provide a high level, point-in-time, overview of the financial viability and capacity of a corporate.

**Instrument Ratings** estimate the credit risk modified ultimate recovery value of a rated instrument. They overlay recovery prospects on credit ratings. Recovery estimation and related adjustments to ratings are covered under the heading Issue Ratings.

**Commitment Ratings** assess an entity's financial capacity to undertake contractual commitments. They examine the risks associated with the corporate undertaking a non-financial commitment, which exposes it's counterparty to a performance risk, with pre-specified terms of payment. Equifax Credit Ratings & Research's commitment ratings are accompanied by recommendations that are aimed at mitigating the risks identified.

Commitment ratings do not incorporate possible risk mitigation strategies. Hence, adoption of some or all of Equifax Credit Ratings & Research's risk mitigation recommendations may have the potential to improve the counterparty's risk exposure.

A commitment rating does not differ materially from the associated credit rating unless the corporate's Liquidity[1] is less than one times or annualised revenue associated with the commitment exceeds:

- its adjusted[2] net working capital[3] by ten times, or
- its net tangible worth[4] by twenty times, or
- 25% of its average total revenue for the past three years.

**Sector Ratings** (SR) are rating assessments corresponding to the typical operating and financial risk profile of industry participants. SRs are discussed further in Industry Rankings and SR.

## Rating Outlooks

Equifax Credit Ratings & Research's forward estimates help ascertain the trajectory of ratings as well as the risks to ratings. Ratings with a positive trajectory are assigned 'Positive Outlooks'. Ratings with a negative trajectory are assigned 'Negative Outlooks'. Where Ratings are expected to remain unchanged, a 'Stable Outlook' assigned.

Rating trajectories are closely related to the outlook for the corporate's earnings. Earnings growth that is within sustainable growth parameters together with an attenuation of earnings volatility provide upward rating pressure and so may warrant the assignment of

[1] $Liquidity = \frac{Current\ Assets}{Current\ Liabilities}$

*2 Adjustments include but are not limited to unutilised facilities, unencumbered cash and related party assets and liabilities*

[3] *Working Capital = Current Assets – Current Liabilities*

[4] *Net Tangible Worth = Net Worth – Intangible assets*

***A 'Positive Watch' indicates a greater than even chance of a rating upgrade over the next 12 months. A 'Negative Watch' flags pressure on rating that may result in a downgrade over the next 12 months.***

a Positive Outlook.

The formulation of earnings outlooks is discussed further under the heading Forecasts, Scenarios and Outlooks.

## Rating Watch

A rating 'Watch' is assigned to highlight uncertainty relating to a known event such as a merger, divesture, or take-over. The event may have taken place recently or may lie in the proximate future. In some instances, the potential rating migration may have, on the balance of probability, a clear directional outcome. In such cases a 'Positive' or 'Negative' rating watch is assigned to communicate Equifax Credit Ratings & Research's view of the directional outcome of the rating. Where the outcome of the catalytic event is less clear, Equifax Credit Ratings & Research may assign an 'Evolving' rating watch.

## Overview of Risk Drivers

Equifax Credit Ratings & Research's analysis of risk drivers examines their univariate impacts on cash flow, interdependencies and relationships with other risk drivers. Possible mitigating factors are then identified by exploring the options available to management to respond to systemic shocks, cyclical externalities and idiosyncratic stresses.

**Contextual Risk Drivers**

- Economy
- Macro Industry analysis
- Sector Ratings

**Business Risk Drivers**

- Strategy
- Governance
- Scale and Diversification
- Competitive Position
- Sustainability
- SupplyChain Risks and Counter Party Exposure
- Opportunities and Execution
- Related Party Dependencies
- Complexity of Organisational Structure

**Operating Risk Drivers**

- Activity
- Profitability
- Cost structure
- Asset Quality

**Financial Risk Drivers**

- Capitalisation
- Leverage
- Coverage
- Serviceability
- Liquidity
- Flexibility
- Coverage of contractual payments relating to financial arrangements (e.g. interest and lease rentals)

**Forecasts and Outlook**

- Cash driver expectations for the industry
- Scenario analysis
- Stress Testing (estimation of loss given default)

## Contextual Risk Drivers

### Economy

This step in the research process aims to reveal key macroeconomic themes that are crucial to formulating assumptions for the cash flow forecast of the corporate being rated.

The scope of the economic analysis conducted on a corporate is defined with an eye on the nature of competition within the industry within which it operates. Some industries are more globalised than others facing competitive threats and fielding opportunities from domestic, regional and international peers. Exporters of mineral resources and agricultural commodities, for instance, face international demand and supply curves and so warrant a review in light of a global economic context.

An analysis of the broader economy includes reviews of:

- leading and lagging indicators of macro demand,
- terms of trade and exchange rates,
- state of the current and capital account,
- state of the sovereign's balance sheet and the outlook for fiscal policy,
- money supply and lending rates,
- inflation and other cost drivers, and
- investment by both government and private sector.

### Macro Industry Analysis

Macro industry analysis aims to identify risk factors for business operating in that industry for use in forecasting the corporate's cash flows.

A review of the industry characteristics helps to identify its strengths, weaknesses, opportunities and threats.

The findings from this stage of the rating research process are incorporated into the assignment of Sector Ratings (refer to Industry Rankings and SR).

The nature of competition between industry participants has a strong influence on an industry's risk profile. Michael Porter[5] identifies two principal bases of competition; corporates either invest in differentiation or compete on price. Additionally, corporates can choose to target the broader industry or just a subset of that market.

When forecasting the cash flows of a corporate that competes on price, Equifax Credit Ratings & Research's stress tests explore the impacts of a contraction in contribution margin and the corporate's ability to adjust its fixed cost base to cope with this contraction and insulate operating cash flow. For businesses that adopt a differentiation strategy, revenue growth and capital expenditure are the main cash flow drivers that are stressed.

Industry opportunity and industry risk analysis includes an examination of an Industry's:

- market structure, concentration and competition,
- profitability and trends in margins,
- cyclicality,
- revenue and growth prospects,
- industry lifecycle and maturity,
- regulatory and natural entry barriers,
- value chain and bargaining positions and,
- disruption from new entrants and substitutes,
- half-life of differentiation strategies,
- technology and obsolescence risk,
- industry trends,
- structural market risk exposures (e.g. fuel prices in the airline industry)

When assessing the stability of industry profits, analysts look to market structure as well as the cyclicality of the industry. Market structure is represented by the number of competitors, product/service differentiation and market segmentation and the relative bargaining powers of entities along the corporate's value chain.

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[5] Porter, M. E. (1980), Competitive Strategy.

Industry concentration usually results from entry barriers and the level of demand for the product or service. Typically, a tightly regulated, small market will tend to exhibit more concentration and profit stability than a less regulated and large market.

The level of concentration in an industry is mainly evidenced by low historical profit margins. Equifax Credit Ratings & Research reviews the trend and composition of profit margins – looking for sources of sustainable profits and their underlying causes.

Cyclicality refers to the level of volatility in an industry's earnings. Higher earnings volatility corresponds to greater credit risk. Cyclicality may also impact balance sheet drivers of a corporate's cash flows. For example, during a downturn, cash conversion may slow with debtors taking longer to make payments and inventory taking longer to sell. Sustained poor operating cash flow increases the corporate's vulnerability to default.

An industry's risk is dependent on its maturity. Mature industries tend to have established supply chains, pricing structure, and clearly defined product segments. These characteristics increase the predictability of sector earnings.

Growth industries with more recent inception dates tend to be characterized by higher corporate failure and exit rates. Growth outside sustainable parameters may also flag heightened risk .Moreover industries in the start-up and growth phases tend to have material capital investment requirements combined with weak operating cash flow generation. Start-up costs and the lack of a track-record of profitability constrain the capitalisation of these businesses.

The threat of disruption weighs on most industries owing to the dismantling of entry barriers by rapid advances in technology. Industry value addition is viewed through a broad contextual lens accounting for potential product substitutes and the threat of new entrants. Equifax Credit Ratings & Research evaluates switching costs and the sustainability of new entrants in an effort to measure this aspect of industry risk.

Equifax Credit Ratings & Research examines the bargaining power across a corporate's value chain seeking sources of risk to margins. The bargaining power of customers refers to both the: capacity and willingness of customers to adjust to rising prices in an industry under pressure; as well as customers' ability to influence the Corporate's price point. The

***Equifax Credit Ratings & Research's benchmarks are calculated using data from nearly all listed and private Australian corporates***

bargaining power of customers is considered to be high in cases where customer concentration is high, switching costs are low, customers have weak profitability and the industry products don't exhibit much differentiation.

Supplier [supply chain] bargaining power increase competition within an industry by threatening to raise prices or reduce the quality of goods and services. Equifax Credit Ratings & Research evaluates the bargaining power of suppliers by considering the level of supplier concentration, input (input to target industry) product/service differentiation and the strength of distribution channels.

## Industry Rankings and SRs

Equifax Credit Ratings & Research conducts regular and ad-hoc industry ranking exercises. The result is a forward-looking industry ranking by credit risk. Equifax Credit Ratings & Research utilises these ranks to assign prospective Sector Ratings. Sector Ratings serve as a benchmark for individual corporate credit ratings.

Equifax Credit Ratings & Research analysts construct this benchmark from a composite of the trimmed means of financial indicators and a business risk profile that is typical of the industry.

The validity of this rating process is enhanced by Equifax Credit Ratings & Research's near complete coverage of Australian public and private corporate financial, meta-financial and non-financial data.

SRs serve as strategic loci in rating individual firms operating within rated sectors. Having these points of reference both accelerates the timeframe within which a corporate rating can be assigned and provides confidence in the accuracy and consistency of rating assignments.

## Business Risk Drivers

*Equifax Credit Ratings & Research's extensive data base of Commitment Ratings plays a vital role in assessing a Corporate's supply chain risk exposures*

The purpose of business risk analysis is to identify the drivers of a corporate's cash flow volatility. The risks examined are business specific and emanated from its management's strategic response to industry risks and opportunities.

### Strategy

The aim of this component of credit research is to ascertain the opportunities and risks associated with management's strategic response to industry structure and trends. Areas examined include:

- clarity of strategic intent,
- appropriateness of strategy,
- adherence to market guidance,
- risk appetite,
- execution,
- adaptability.

### Governance

The focus of this section is to assess management's transparency, competence, and independence to successfully execute the Corporate's strategic intent. The areas examined include:

- transparency,
- skill set and skills mix,
- other engagements and workload[6],
- independence,
- accountability,
- delineation of duties.

### Scale and Diversification

Diversity of operations across product and geographic segments may provide strong - intrinsic - cyclical loss mitigation. Corporates with strong national and regional presence rate well in this category.

Bigger balance sheets and more diversified asset bases are better able to absorb larger

[6] Number of other board memberships and the synergies and conflicts of interests that result from these appointments

system related (undiversifiable) losses making these organizations more resilient.

## Competitive Position

A corporate's market share and future prospects are strongly influenced by its competitive position. Michael Porter's Five Forces Model (Porter M,Competitive Strategy,1980) is a useful framework to analyse the alignment of management's strategy with the key success factors for industry participants.

## Sustainability

Assessing a Corporate's meta value chain risk involves stepping back from the internal value chain of a business (sequence of value additive processes) and looking at the ecosystem within which a Corporate operates. Identifying the location of the Corporate's product or service offering in the client's value chain is key to this process. Changes in industry trends and client needs and preferences as well as altering technology, environmental, social, legal and political circumstances may act as catalysts for earnings erosion.

## Supply Chain Risks and Counter Party Exposure

Supply chain risks influence a Corporate's ability to deliver goods and services to its customers. When a Corporate's supply chain fractures it result in lost revenue, lasting impairment to brands and other intangible assets, and, in some instances, the incurrence of liquidated damages for non-performance under a pre-negotiated contract.

A key step in supply chain risk analysis is the identification of critical suppliers and assessing the financial capacity of these suppliers to undertake contractual commitments. Equifax Credit Ratings & Research maintains an extensive database of Commitment Ratings contribute to this assessment.

## Opportunities and Execution

The consistency of a corporate's sales growth versus the industry median together with a clear understanding of the corporate's competitive position and management's competitive strategy serve to inform Equifax Credit Ratings & Research's central estimates for business growth. Equifax Credit Ratings & Research's stress tests this central estimate for growth to establish its sensitivity to execution risks.

### Related Party Dependencies

When related party exposures are considered material to an issuer's rating analysts consider the impact of a default on related party assets or the withdrawal of related party support.

Where the implications of a related party default are material to the issuer's rating then this risk is highlighted in the rating rational. In some instances, due to the uncertainty associated with the related party, the rating conclusion may be subject to the confirmation of the credit rating of the related party. In such instances the rating will be qualified as conditional (denoted by"**#**", e.g. BBB#).

### Complexity of Organisational Structure

A detailed analysis of ownership structures adds support to the use of consolidated financial statements in evaluating the financial strength and capacity of a corporate group. Complicated and convoluted family trees may belie stranded and subordinated assets and cash flows. Analysts follow the cash by tracking related party payments such as inter-group loans, dividends and cross-holdings.

Where there is evidence of strong legal or strategic ties, analysts will identify this as strength or a weakness of the rating depending on the relative strength of the related party.

## Operating Risk Indicators

### Activity and Stability

High asset utilisation and stable earnings are characteristics of a strong credit profile. High asset utilisation supports the cash flow and debt capacity of a Corporate. Stable earnings may indicate a low exposure to industry cyclicality or a high level of operational diversification. On the other hand, earnings volatility and low asset utilisation may signal a poor strategic response to changes in the competitive landscape or nature of the commercial environment. Indicators used to assess activity and earnings stability include:

- **Activity:** $Sales\ /\ Total\ Assets$
- **Revenue Volatility:**

  $Standard\ deviation\ (5\ years\ revenue)/\ Average\ (5\ years\ revenue)$

### Profitability and Cost Structure

Profitability is a key driver of operating cash flow and an indicator of the competitive position and competitive environment within which the Corporate operates. Long-run, above industry profitability may indicate a sustainable competitive advantage that would support the Corporate's credit profile. Cost structure is closely related to earnings stability. A high level of fixed costs reduces the cost competitiveness of a Corporate and increase the risk of losses. Measures of profitability include:

- **Gross Profit Margin:** $Gross\ Profit\ /Sales$
- **Operating Profit Margin:** $EBIT$[7] $/Sales$
- **Pre-Tax Profit Margin:** $Profit\ Before\ Tax\ /Sales$
- **Degree of Operating Leverage:** $Gross\ Proft/\ EBIT$

### Efficiency

Efficiency measures seek to uncover issues relating to Corporate's cash conversion cycle. The indicators used for this purpose include:

- **Debtor Days:** $Trade\ Debtors * 365\ /\ Sales$
- **Creditor Days:** $Trade\ Creditors * 365\ /\ Cost\ of\ Goods\ Sold$
- **Inventory Days:** $Inventory * 365\ /Cost\ of\ Goods\ Sold$

### Cash Flow Generation

[7] Earnings Before Interest and Tax

The magnitude, stability and adequacy of cash flow generation are material drivers of a Corporate's credit risk profile. Strong operating cash flow supports the value of a Corporate's tangible and intangible asset base as well as that of its cash generating units. Sufficiency of cash flow to cover financial obligations and to support current operations and investment in growth is essential for the success, sustainability and long-term competitiveness of a Corporate. Indicators used to assess cash flow generation include:

- **Contractual Obligation Coverage:**

$$(Cash\ Flow\ From\ Operations + Cash\ Tax + Cash\ Interest) / (Interst + Rental\ costs + Trade\ Creditors\ + Prefered\ Dividends + Other\ contractual\ commitments\ over\ 12\ months\ )$$

- **Debt Service:** $(Cash\ Flow\ Frm\ Operations + Cash\ Tax + Cash\ Interest)\ /\ (Current\ part\ of\ long - term\ debt + Interest)$

- **Maintenance Capital Coverage:**

$$(Cash\ Flow\ From\ Operations + Cash\ Tax + Cash\ Interest\ /\ Maintenace\ Capital\ Expenditure$$

- **Working Capital Coverage:**

$$(Cash\ Flow\ From\ Operations + Cash\ Tax + Cash\ Interest)\ /\ Working\ Capital$$

## Financial Risk Indicators

### Financial Leverage

High financial leverage contributes to earnings volatility and exacerbates the adverse impacts of high operating leverage (refer Profitability). Capital structure risks emanate from a mismatch of the sources of a Corporate's capital and its operating risk profile. A heavy debt burden relative to a Corporate's asset base and operating cash generation increases refinancing risk by reducing headroom for further borrowing. Indicators of risk from financial leverage include:

- **Gearing:** $Total\ Liabilitis/Total\ Assets$
- **Leverage:** $Total\ Debt\ /EBITDA$[8]

### Capital Sufficiency

Capital structure risk also stems from the sufficiency of internal capital generation and retention. Low capital retention may hamstring growth or lead to Corporate over trading or attempting to grow outside sustainable levels. Overtrading increases the risk of default from lack of working capital. Growth without internal capital generation and retention may result in ever increasing levels of leverage and gearing that increase the propensity for default on financial obligations. Indicators of risk from insufficient capital include:

- **Working Capital Sufficiency:** $Working\ Capital$[9] $/\ Sales$
- **Reinvestment:** $Accumulated\ Retained\ Earnings\ /\ Sales$
- **Sustainable Growth:** $Retained\ Earnings$[10] $/\ Sales$

### Debt Servicing and Repayment Burden

Debt serviceability measures the relative burden of servicing and repaying borrowings on a Corporate's earnings. A heavy debt servicing burden may place stress on a business and affect its cost competitiveness in a cyclical or seasonal downturn. Low serviceability headroom may also threaten the viability of the Corporate when the cost of funding rises. Indicators of debt serviceability include:

- **Interest Cover:** $EBIT/Interest\ Expense$

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[8] Earnings Before Interest Tax and Depreciation
[9] Current Assets – Current Liabilities
[10] For the fiscal period

- **Repayment Capacity:** $Profit\ Before\ Tax/\ Total\ Liabilities$

**Liquidity Risks**

The lack of resources to meet creditor, lender or operating cash flow needs will usually render a Corporate being classified as legally insolvent. The following ratios may flag weak or insufficient liquidity:

- **Liquidity:** $Current\ Assets/Current\ Liabilities$
- **Quick:** $Current\ Assets - Inventory\ /Current\ Liabilities$
- **Cash Flow Coverage:** $Operating\ Cash\ Flow/\ Current\ Liabilities$
- **Trade Creditor Exposure:** $Trade\ Creditors/\ Total\ Assets$

## Benchmarking of Risk Indicators

A corporate's operating and financial risk metrics are benchmarked against existing peers and potential new entrants (similar industry but different markets) to reveal the relative, intrinsic, competitive advantages and disadvantages of the business. The corporate is ranked against its peer group based on its relative strengths and weaknesses.

## Forecasts, Scenarios and Outlooks

Equifax Credit Ratings & Research uses contextual and other data, collected in the rating process, to formulate assumptions relating the corporate's prospective operating cash flows. Operating cash flows are before investment and financing needs. These cash flows are primarily a function of the businesses earnings before interest, tax and depreciation (EBITDA).

Operating cash flow is a material resource in meeting a corporate's financial obligations. In order to ensure high quality forward estimates Equifax Credit Ratings & Research cross-checks assumptions and uses public information where available.

Equifax Credit Ratings & Research uses multiple sets of assumptions to support credit rating assignments. Each set of assumptions corresponds to a scenario. Assumptions are checked for consistency with the scenario. For example, a cyclical commodity downturn would include assumptions around weaker recovery values for mining hardware. This scenario would also make assumptions relating to labour costs such as slower rates of wage growth.

The most likely scenario ('rating case') and the adverse shocks scenario ('adverse case') are reviewed at a rating committee. The operating and financial metrics from the rating case are used for benchmarking the corporate to its sector peers.

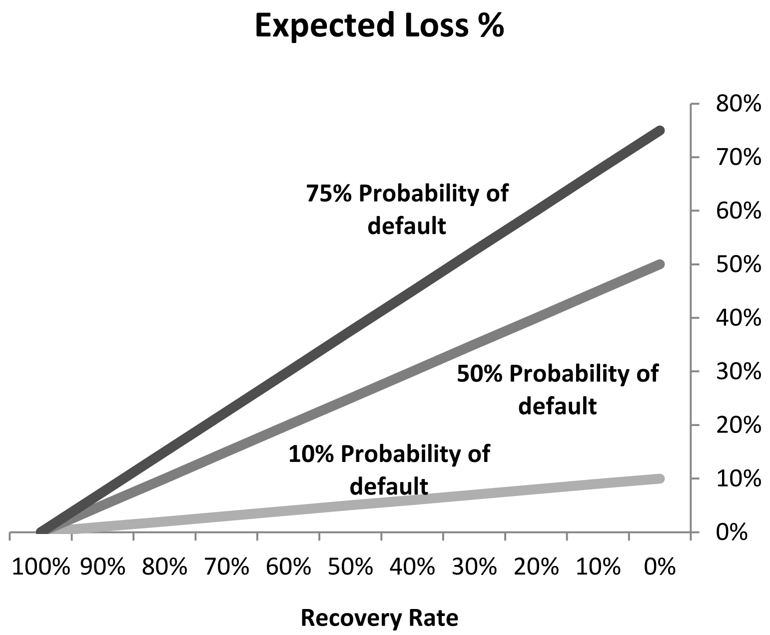
The downside case is instructive in identifying catalysts for upward and downward rating migration. Equifax Credit Ratings & Research communicates these findings by way of upside and downside rating risks.

## Issue Ratings

Credit Ratings when combined with Recovery analysis yield estimates of expected loss. Issue Ratings reflect debt investors' expected loss just as Credit Ratings reflect a Corporate's probability of default.

### Recovery Prospects and Credit Ratings

When recovery prospects are near zero, Issue Ratings and Credit Rating converge[11]. The behaviour of expected loss (proxy: Issue Rating) and probability of default (proxy: Credit Rating) is illustrated in the chart below. Hence, Security Ratings maybe mapped to Credit Ratings by calculating cumulative probabilities of default equivalent to our expected loss estimates but assuming zero recovery.




Issue Ratings are calculated by:

1. Calculating expected loss,
2. Calculating the implied cumulative probability of default assuming zero recovery,
3. Mapping the probability estimate in step 2 to a Credit Rating based on cumulative historical probabilities of default.

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[11] $Expected\ Loss = Probability\ of\ Default * (Exposure\ at\ Default - Recovery\ Estimate)$

$; \frac{Expected\ Loss}{Exposure\ at\ Default} = Probability\ of\ Default * \frac{(Exposure\ at\ Default - Recovery\ Estimate)}{Exposure\ at\ Default} - -Revocery\ Estimate)$

$; Expected\ Loss\ \% \ = Probability\ of\ Default * \ (1 - Recovery\ Rate\%)$

*; When the recovery rate is zero then the expected loss % is equivalent to the probability of default.*

For example: An issuer is assigned a Credit Rating of BBB-, which maps to a historical cumulative probability of default of say 2% over three years. If the calculated dividend to security holders in the event of default (recovery rate) is 20% then the expected loss falls to 1.6%. This level of loss over a 3 year period corresponds to, say, a Credit Rating of BBB+. Therefore, the result of the 20% recovery rate is a single notch uplift of the Credit Rating.

## Expected Loss Estimation

The percentage expected loss on an fixed income instrument is 1 – dividend (%) to security holders (DTSH) given default. The DTSH is calculated as follows:

**Dividend (%) to security holders** = Estimated Residual Distributable Value / Principal and 6 months accrued interest

The estimated residual distributed value is calculated as follows:

| Item | Details |
|---|---|
| Salvage value of assets | Refer below for calculation. |
| Less priority claims | Includes employee entitlements and an internal estimate of the cost of liquidation. |
| Less senior ranking debt | Accumulated prior ranking debt. |
| Less equal ranking secured debt | Accumulated security entitlement for equal ranking debt. |
| **Estimated residual distributable value** (ERDV) | |

**Salvage Value of Assets**

The salvage value of assets is determined as follows:

1. Assets are grouped into categories based on characteristics such as tangibility, liquidity, and depth and state of secondary market.
2. Each category is assigned a distressed sale discount that corresponds with the characteristics of that asset class.
3. The salvage value is the sum of the individual asset category values.

Further details are available on our website. Alternatively, please contact your Equifax Credit Ratings & Research's representative to assist you with any further enquiries.