# IFRS 17 Discount Curves

A GUIDE FOR INSURERS

MOODY'S ANALYTICS

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The Moody's Analytics Discount Curve Service for IFRS 17 is a new solution that delivers easy-to-use calibration content for reporting teams to support the valuation of an insurer's cash flows to meet the new accounting standard.

This three-part guide outlines why the discount curve is a key element of IFRS 17, practical challenges of constructing and implementing the curves as well as developing market trends.
To learn more about Moody's Analytics Discount Curve Service for IFRS 17, please visit:

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# Part I: IFRS 17 and discount curves

The discount curve is a key element of IFRS 17. The calculation of the fulfilment cash flows under IFRS 17 requires insurers to discount their cash flows to reflect the time value of money. Discount rates also feature in the calculation of the contractual service margin. Thus, the choice of curve will have a direct impact on the realization of profit. IFRS 17 introduces the requirement for insurers to use a discount rate that is both consistent with market prices and reflects the characteristics of their liabilities, particularly cash flow and liquidity characteristics.

## Challenges faced by insurers in choosing an approach

A key challenge is that the standard is principles-based rather than prescribed. As a result, it is up to insurers to define a suitable methodology that aligns with these principles. This change is a different approach to Solvency II where the reference curve is prescribed and published by the European Insurance and Occupational Pensions Authority (EIOPA).

The first requirement within the IFRS 17 standard—to reflect market prices—will be familiar to any European insurer, as it is necessary for regulatory reporting under Solvency II. However, this still presents challenges in terms of what instruments to use and the availability of appropriate market data. The second requirement—to reflect characteristics of liabilities—is a move away from the current approach, which focuses on assets rather than liabilities. Insurers may choose to use their asset portfolio when estimating the liquidity in liabilities, but the assets used must have similar timing, currency, and liquidity characteristics. If not, insurers could use a reference portfolio.

After a methodology is defined, insurers will have to get sign-off both internally and from the auditor. This task may potentially require some comparison and testing of different methodologies, and justification of the chosen approach. On top of the methodology challenges, there are further practical challenges for implementation:

- The discount rate must reflect the liquidity of the liabilities being valued. This challenge implies that insurers who are writing different types of business may need to produce multiple curves with different levels. For example, a UK firm with annuities, with profits, and unit linked business could potentially have three different discount curves. Otherwise, the insurer must justify using the same curve for all.
- The reporting timelines under IFRS 17 are also tight. The curves must be produced and signed off as part of an efficient, well-managed process.
- Related to the topic of discount curves, if an insurer has guaranteed business and requires economic scenarios for valuation, each discount curve must be reflected in these scenarios. Each one must be produced in an automated way.

At Moody's Analytics, we help insurers address these challenges—specifically, focusing on the approaches they can use to produce IFRS 17-compliant discount curves.

# Part II: Modeling options for constructing discount curves for IFRS 17

The main challenge when constructing a curve for IFRS 17 is estimating liquidity. There are various methods for deriving an illiquidity premium estimate through the removal of credit risk on corporate bonds to build a discount curve for IFRS 17. Each has its own set of challenges:

- A first approach, which will be the most familiar to European insurers, is a Volatility Adjustment (VA)-style approach. Under this approach, illiquidity premium is a fixed proportion of the credit risk-corrected spread on a representative portfolio, where the correction is estimated using historical transition probabilities and long-term spread levels. This approach has the benefit of aligning with Solvency II methodology and is based on historical data. However, there are also drawbacks, such as the lack of term structure for liquidity, and the need to justify the application ratio used and the long-term average spread assumption. Also, flooring the credit risk correction limits the responsiveness of the estimate to changes in credit spreads.
- A second option is a market prices approach. This option involves estimating the illiquidity premium directly from market instruments. This estimate could result from the difference between spreads on covered and conventional bonds, or using the credit default swap (CDS) spread as an estimate of credit risk. As this approach is market-driven, it depends on the availability of suitable data—but there may be limited or no data for some currencies. Also, this approach does not account for the counterparty and liquidity risk in CDS spreads, or residual credit risk in covered bonds.
- A third approach is using a structural model. Here, the fair value spread, which accounts for the credit risk in a bond, is estimated using a structural model of the bond issuer based on the firm's balance sheet and option-pricing techniques. The illiquidity premium is then taken as the difference between the model and market spread. Like the market prices approach, this one is driven by market data. Another benefit is that the output of this approach is granular and can produce a full-term structure for illiquidity premia. Also, it offers the flexibility to apply it to your actual portfolio or a reference portfolio. However, this approach requires a large amount of input data. Moody's Analytics has access to the data and calibration infrastructure to support insurers using this method, which forms the basis of the Moody's Analytics Discount Curve Service for IFRS 17.
- A final option is using a proxy model approach where the illiquidity premium is a function of the spread. This approach is simple and could be useful when the required data for a structural model is not available. Justification of the coefficients will still present the biggest challenge here.

## Developing market trends

As would be expected, geographic regions differ. This variance is due to insurers' natural tendency to use what they already have. In Europe, this may mean a tendency to try to align with Solvency II curves using a VA approach. However, insurers should be mindful that this may not be compliant with the requirements of IFRS 17. Also, this approach must be justified to auditors. So far, the market has not converged on a single approach. For this reason, we expect insurers to look at different approaches and test them to understand the impact of their methodology choice and to ensure the justification of their choice.

# Part III: Key considerations when implementing their discount curve approach for IFRS 17

After a methodology has been defined, there is a practical challenge of constructing and implementing the curves. There are several aspects of implementing that insurers should consider.

First, there is the task of constructing a discount curve using the chosen methodology that aligns with the liabilities. The considerations here are aligning with the liability cash flow timing and currency. This will drive the choice of instruments used to calculate the illiquidity premium, particularly the duration and currency of the assets used. This choice could vary by different lines of business, which may have disparate durations and currencies, and result in multiple curves being produced.

Another consideration is the credit rating of the portfolio. This might be set to align with the insurer's actual investment portfolio or to some reference portfolio. In this case a structural model, which is more granular, can benefit an insurer as the output is an illiquidity premium estimate on an instrument level. Such an output allows insurers to construct curves that align with different blocks of liabilities using a consistent methodology and underlying assumptions.

Moody's Analytics Discount Curve Service for IFRS 17 supports clients in this area by offering a full-term structure for the illiquidity premium, broken down by credit class. Insurers can easily tailor the illiquidity premium estimates to meet the needs of their portfolios and products, avoiding challenges associated with using single-value estimates.

After these decisions have been made, the process of constructing a curve should be defined. Insurers will need to extrapolate the discount curve beyond the market data. This was a key topic for Solvency II, where Smith Wilson was chosen as the extrapolation method and a last liquid point (LLP) and ultimate forward rate (UFR) specified by EIOPA. IFRS 17 is principles-based so insurers have more choice around the extrapolation. Choices include defining an appropriate point from which to start extrapolation, what the UFR should be and an extrapolation method. Smith Wilson is one available option but there are others, such as Nelson Siegel. Moody's Analytics enables clients to customize the extrapolation of the curve using calibration tools. We offer a range of extrapolations options and flexibility in setting the UFR and LLP.

The overall process used to produce curves should allow insurers to produce stable curves within the reporting timeframes. Insurers should support these curves with robust documentation to facilitate communication with stakeholders.

There is an extra one-time task required for discount curves—the construction of historical curves to support transition calculations. This could be a significant task, requiring insurers to produce backdated curves for many years. It may be done using the chosen methodology, such as a structural model using market data at historical dates, or a proxy method if data availability is an issue.

There is another related challenge for insurers who hold business with guarantees. These insurers will likely need to generate economic scenarios to value their liabilities, with the IFRS 17 discount curve embedded in these scenarios. If multiple curves are required, multiple scenarios may be necessary for each reporting date, and stressed scenarios to support the disclosures. To complete this reporting within the tight timelines, insurers should put a robust, automated framework for model recalibration and validation in place.

Moody's Analytics offers various solutions to support insurers with this task, including a Discount Curve Service for IFRS 17. This solution—which is delivered by Day 1—includes an automated scenario generation toolkit to industrialize the economic scenario generation process.

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