MOODY'S ANALYTICS

Whitepaper

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Profit Emergence Under IFRS 9 and IFRS 17: The impact of choice of liability discount rate

Introduction

With the introduction of the IFRS 17 accounting standard, it is important that insurers understand the patterns of profit emergence that arise for their business under the standard, and how business and methodology decisions available to the insurer affect such patterns. As a principles-based standard, insurers have several immediate decisions to make in their specific implementation, and such decisions can have a major impact on the timing of reported profit and loss.

In previous papers, we considered some aspects of profit emergence under IFRS 17. The first used an agile modeling methodology to project the IFRS 17 income statement, illustrating the year-on-year volatility of the insurance service result for a group of annuity contracts. The second turned its attention to the variable fee approach and examined financial risk and its impact on contracts with participation features. In this paper, the third in the series on profit emergence, we look at the interaction between IFRS 9 and IFRS 17, illustrated by a case study using an IFRS 17 contract group consisting of immediate annuities. In particular, we consider the impact of different choices of liability discount rate on expected profit emergence and earnings volatility.

CONTENTS

IFRS 17

IFRS 17 introduces changes to the accounting of insurance contracts and replaces IFRS 4, which was intended as an interim standard. IFRS 17 considers the classification and reporting of insurance liabilities and therefore has an impact on the liability side of the balance sheet. To assess the complete picture, we must also consider the changes taking place with the implementation of IFRS 9 which covers the measurement of financial instruments. To evaluate the effect of the new accounting standards on P&L, insurers must be aware of the potential for accounting mismatches if the classification choices under IFRS 9 are inconsistent with the treatment and classification under IFRS 17.

IFRS 9

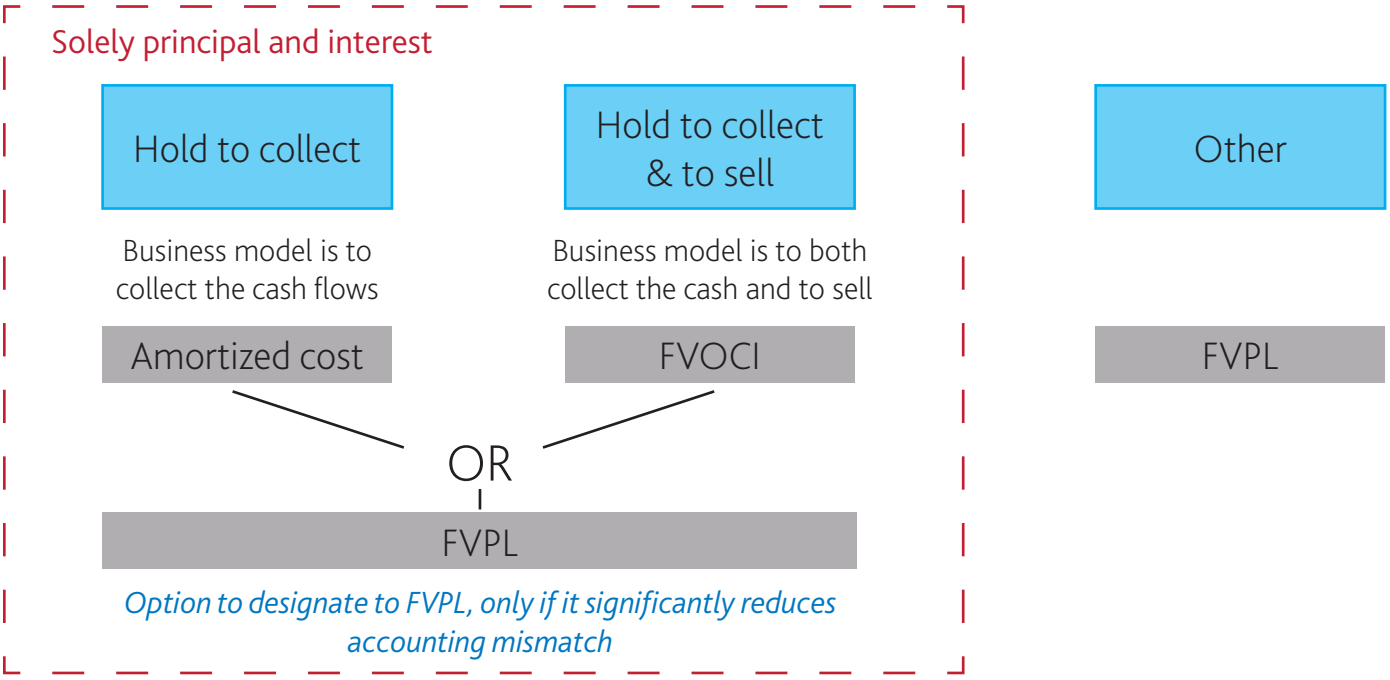
IFRS 9 Financial Instruments replaced IAS 39 effective 1 January 2018. However, there was an option for insurers to defer implementation of IFRS 9 to align with the introduction of IFRS 17. Most insurers have chosen this option and thus deferred implementation of IFRS 9 to coincide with the IFRS 17 start date.

Under IFRS 9, there are three categories for asset classification:

Category	Description
FVPL Fair value through profit and loss	Assets are reported on the balance sheet at fair value and all gains and losses are recognized in profit and loss (P&L) as they arise.
Amortized Cost	Assets are measured on an amortized basis. P&L is driven by the interest income, which is based on the book value of the asset (effective interest method).
FVOCI Fair value through other comprehensive income	Assets are held on the balance sheet at fair value. Changes in fair value are initially recognized in other comprehensive income (OCI). Upon sale of an FVOCI asset, the change in fair value previously recognized in OCI is recycled to P&L.

Figure 1 illustrates the classification model for assets under IFRS 9. Insurers must consider the "solely payments of principal and interest" (SPPI) test which, along with the business test, determines the classification.

Figure 1: The classification model for assets under IFRS 9



If an asset meets the SPPI test, there are two possible measurement models depending on the business model:

» *Held to collect*: If the asset portfolio is held to collect contractual cash flows, then measurement is at amortized cost. This applies where the selling of assets is incidental to the business model objective.

» *Held to collect and to sell*: If the portfolio is held both for collecting contractual cash flows and selling the financial assets, then measurement is at FVOCI. For example, this applies where an insurer collects bond cash flows to meet insurance liabilities. However, to ensure that cash flows are sufficient to settle the liabilities, the insurer also regularly rebalances the portfolio and therefore undertakes regular buying and selling of the bonds.

Crucially, there is also an option to designate at FVPL. Insurers can choose to classify financial assets at FVPL if, by doing so, they eliminate or significantly reduce the accounting mismatch, more formally referred to as a measurement or recognition inconsistency. This mismatch arises when gains and losses from assets and liabilities are recognized on different bases, which could be the case upon transition to IFRS 17. In this paper, we consider the case where the insurer has applied the option to designate at FVPL and therefore the assets are reported at FVPL.

Case study

To illustrate the interaction between IFRS 9 and IFRS 17, we consider an IFRS 17 contract group consisting of immediate annuities. The general measurement model is applied and the analysis considers the impact of different liability discount rates on the projected P&L.

In terms of classification approach, we consider the case where the insurer elects the same accounting option for assets and liabilities, which is to book both at fair value through P&L. The impact of interest rate changes on the value of the insurance contracts are recognized at FVPL and the asset movements are also classified at FVPL. Assuming asset and liability cash flows are well matched, it is reasonable to assume that this option lowers the P&L volatility, relative to reporting the asset at amortized cost. There is also the option to classify the assets at FVOCI, which might be another feasible choice for insurers, subject to the business model test outcome.

In this paper, we use an agile[1] valuation model to project the financial statements, in particular the P&L, and to analyze the effect of different scenarios. This enables the impact of decisions such as discount rate methodology to be assessed. The case study uses stochastic models. The projected asset returns and liability discount factors are generated using an Economic Scenario Generator. The assets are assumed to be invested in corporate bonds, which are cash flow matched to the expected liability outgo, with an additional holding in cash. The liability discount curve is based on a risk-free yield curve with an adjustment for an illiquidity premium, and this paper illustrates sensitivities to the size of the illiquidity premium. The demographic risks are also modeled stochastically with the annuitant mortality rates generated using a stochastic mortality model.

P&L reporting under IFRS 17

Under IFRS 17, the profit and loss disclosure attempts to differentiate between the source of profit or loss arising from providing the insurance coverage and that arising from investment income. The P&L must be separated into the *insurance service result* and the *net financial result*.

Insurance service result

» The Insurance Service Result includes the release of the risk adjustment and release of the contractual service margin (CSM). The CSM is released over time in proportion to the chosen coverage units.

» Changes in the mortality assumptions have an effect on the insurance service result. The impact of longevity improvements can be absorbed, up to a point, by the initial CSM. In the scenario where the CSM is wiped out completely, subsequent changes in mortality expectations result in immediate P&L.

Net financial result

» The net financial result is composed of the investment income and the insurance finance expenses. The former represents the investment income from the assets. Insurance finance expenses incorporates the effect of changes in the discount rate on the fulfillment cash flows, and the impact of the unwind of the liability discount rate.

» Interest accreted on the CSM is included in the net financial result.

1 Further details of the modeling approach are given in *Profit emergence under IFRS17: Gaining business insight through projection models*, Steven Morrison (August 2018).

Impact of choice of liability discount rate on expected profit emergence

In this case study, we have a portfolio of annuity policies. The assets backing the annuity outgo are modeled as a diversified portfolio of A-rated corporate bonds, constructed to provide a cash flow match to the annuity outgo. The assets backing the risk adjustment and the surplus assets are assumed to be invested in cash. In accordance with IFRS 17 standards, the liability discount rate includes an illiquidity premium. In this example, the liquidity premium[2] is evaluated as 50% * {spread on the corporate bond portfolio – 40 bp}.

We consider the scenario where there are no changes to assumptions and the yield curves (both risk-free and credit spreads) evolve as per the initial curve, and there are no defaults or transitions experienced on the bond portfolio. The projected P&L is shown in figure 2b, split in to the insurance service result and the net financial result. To illustrate the impact on expected profit emergence of including an illiquidity premium in the liability valuation, we compare against the two "boundary" cases: the case where the liability discount curve is the risk-free discount curve (that is, no liquidity premium, see figure 2a), and the case where the liability discount curve includes the full yield on the assets (see figure 2c). The latter is extreme but serves as a useful comparison point for our analysis. In this scenario, we project the P&L for 10 years and compare the results.

These charts illustrate how the choice of liability discount rate influences the profile of projected P&L. Opting for a more aggressive discount rate on day 1 (that is, higher illiquidity premium) will result in a higher CSM, which leads to higher projected insurance service results as this higher CSM is released. However, projected net financial results are lower, as liabilities unwind at a higher rate. In the extreme example where the liability discount rate is the same as the asset yield, the investment income on assets offsets almost exactly against the finance expense on liabilities and the reported net financial result is close to zero for the next five years (the only contribution being interest earned on the surplus cash and interest accreted on the CSM).

Over the lifetime of the business, the total P&L will be the same under all examples. It is the timing of recognition of the P&L—and the allocation between insurance service result and net financial result—that is influenced by the decision regarding the choice of discount rate.

Figure 2: Comparison of projected P&L for different liability discount rates

Figure 2a

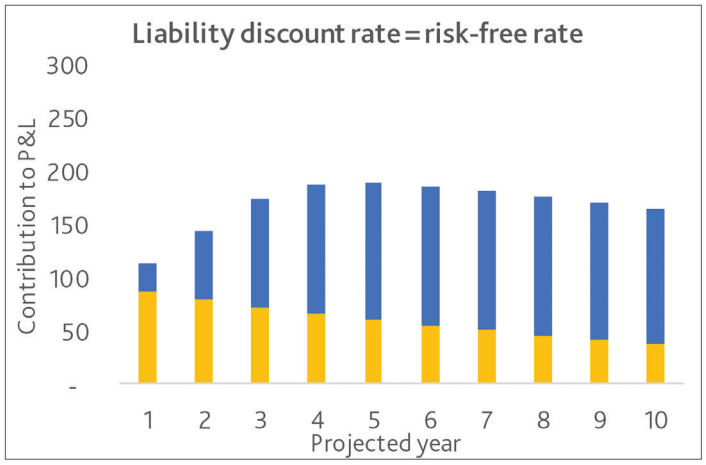


Figure 2b

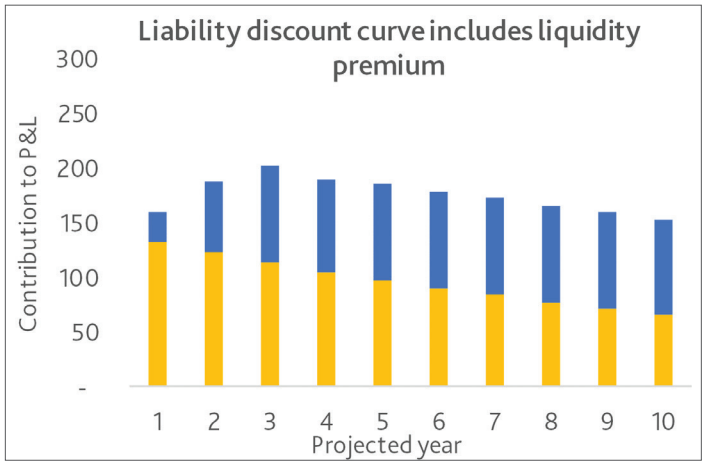
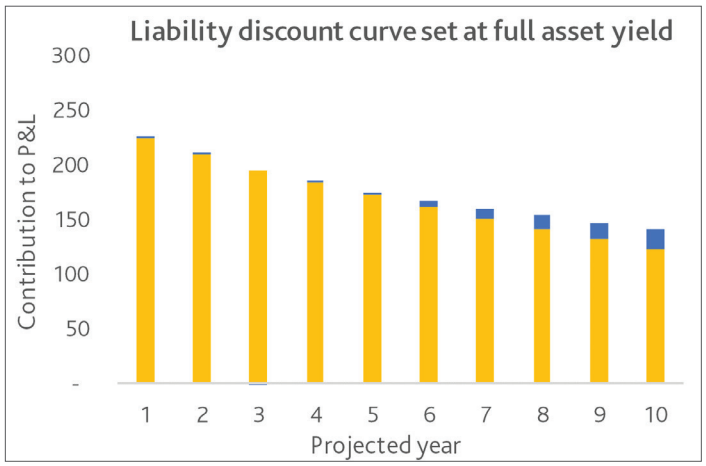


Figure 2c



2 This formula was originally developed by the CFO forum for MCEV reporting.

Impact of choice of liability discount rate on earnings volatility

Rather than look at a single scenario, the agile model provides the ability to investigate many scenarios. Generating scenarios using a stochastic model, we can build a picture of the distribution of items on the financial statements, or metrics derived from these scenarios. Figure 3 shows the results from a random sample of scenarios from the stochastic modeling.

Volatility of the net financial result decreases as more of the credit spread on assets is included in the liability discount rate, and the net financial result is more immune to spread movements. For example, in our extreme case where the illiquidity premium is set at the asset yield, the investment income and insurance finance expense almost exactly offset, since both are driven by the A-rated credit curve—and recall that the asset portfolio is cash flow matched to the liability cash flows. Note that even in this extreme case there is some volatility primarily due to rating migrations on the asset portfolio.

Figure 3: Comparison of the net financial result

Figure 3a

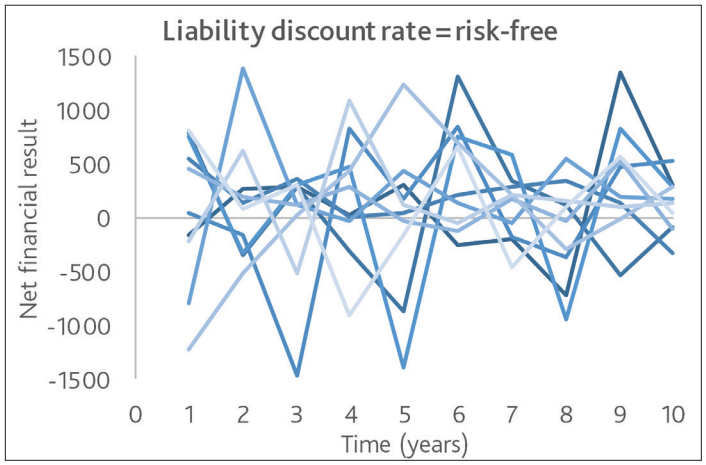


Figure 3b

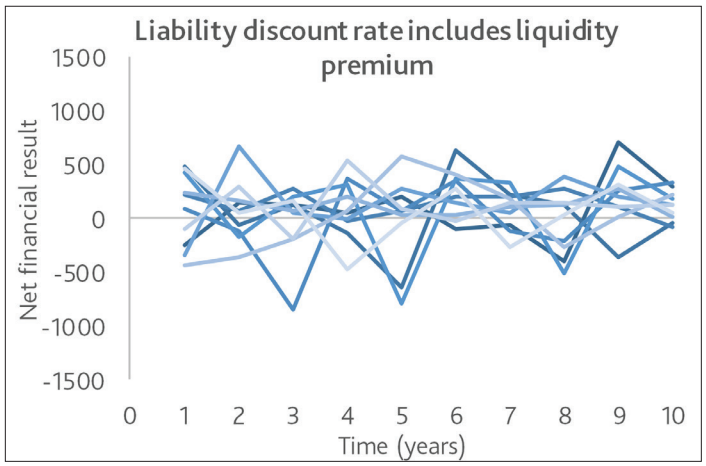
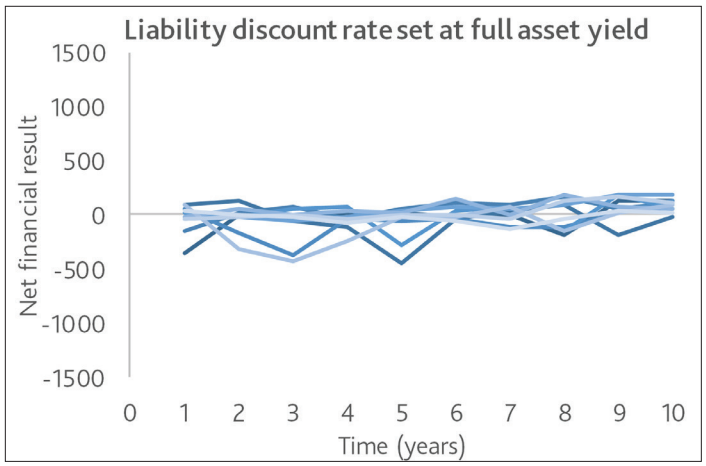


Figure 3c



Similarly, the stochastic model can be used to assess the volatility of the insurance service result, as shown in Figure 4. This shows the results from the same sample of scenarios from the stochastic modeling. As described earlier the liability discount rate affects the CSM, and therefore the probability of a contract group becoming onerous, and so affects the volatility of the insurance service result. The impact of introducing an illiquidity premium is an increase in the initial CSM, which means there is less chance of the CSM being wiped out and thus any mortality assumption change has a lower impact on the insurance service result.

Figure 4: Comparison of the insurance service result

Figure 4a

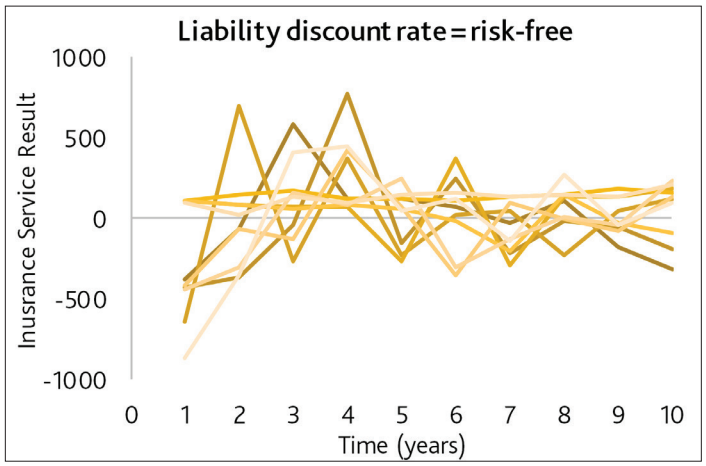


Figure 4b

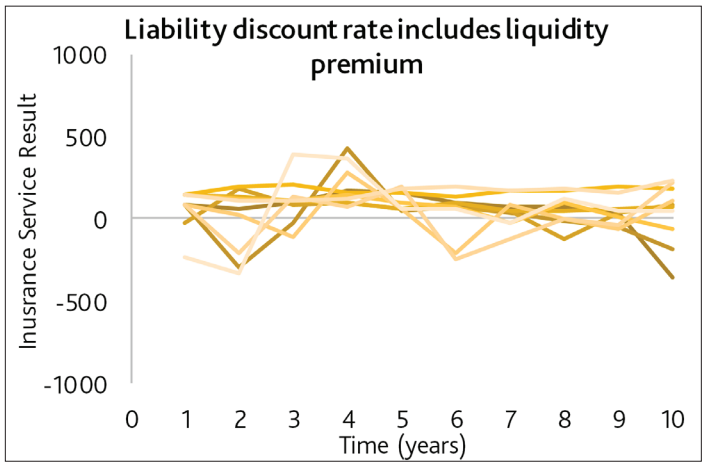
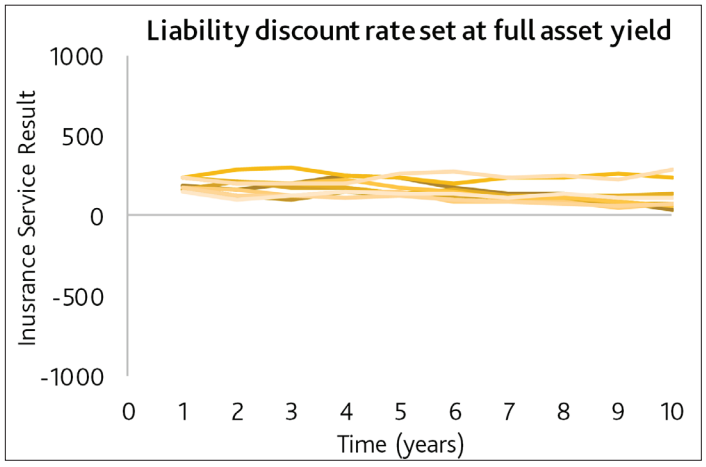


Figure 4c



Summary

The principles-based nature of IFRS 17 means that significant judgement will be involved in implementing the standard. The methodology used to define the liability discount rate is one of the key decisions that companies must make, and there have been several articles on this topic.[3] The current focus is on IFRS 17 and interpreting the principles but insurers must not forget about IFRS 9, which is also a complex standard. It is important to understand how the two standards interact, the resulting earnings volatility, and the sensitivity of volatility to methodology choices available under both standards (in particular the OCI option under IFRS 17 and option to classify as FVPL under IFRS 9). The use of projection models and stochastic modeling can be a useful tool in assessing the impact of these decisions.

This paper considered the case of a well-matched annuity portfolio where the insurer elected to report movements in both assets and liabilities at FVPL. By selecting the same accounting treatment on both sides of the balance sheet, this helps reduce P&L volatility, with the degree of volatility dependent on the size of the illiquidity premium included in the liability discount rate. Furthermore, the paper illustrates how the choice of liability discount rate influences the allocation of P&L between the insurance service result and the net financial result.

3 Refer to *Permitted approaches for constructing IFRS 17 Discount Rates*, Nick Jessop.
https://www.moodysanalytics.com/-/media/article/2018/permitted-approaches-for-constructing-ifrs17-discount-rates.pdf
The top-down approach is covered in more detail in *A cost of capital approach to estimating credit risk premia*, Alasdair Thompson and Nick Jessop.
https://www.moodysanalytics.com/-/media/article/2018/a-cost-of-capital-approach-to-estimating-credit-risk-premium.pdf

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