

Bridging the gap between IFRS and Solvency II capital generation: A case study

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Insurance companies that report under International Financial Reporting Standards (IFRS) need to fulfil the requirements of the new IFRS 9 and IFRS 17. These new regulations will have implications for the balance sheet management of insurers and consequently impact the capital generation of these companies. In this paper we present a case study to illustrate the similarities and differences between reporting capital generation under the new IFRS requirements and under Solvency II.

Most insurers have projection models in place to project capital generation (CG) under Solvency II. CG is defined as the amount of capital an insurer can realise over time and is measured to determine how the capitalisation is developing and the insurer's ability to pay dividends. Since the implementation of Solvency II, CG has gained increased attention as a metric for the overall profitability of the insurer.

The new standards on the reporting of financial instruments (IFRS 9) and insurance contracts (IFRS 17) result in a fundamentally different IFRS balance sheet and statement of comprehensive income. The different principles, methodologies and assumptions underlying the IFRS and Solvency II balance sheets may thus lead to different perspectives on balance sheet management and CG.

To a certain extent, insurers can choose to harmonise both balance sheets. Where Solvency II is primarily rule-based (with room for interpretation), IFRS is principle-based. Therefore, choices to harmonise balance sheets depend primarily on key accounting choices that can be made under IFRS.

In this article we first elaborate on the IFRS 9 and IFRS 17 valuation principles and how they compare to Solvency II legislation. Second, we provide considerations for making accounting choices to harmonise both frameworks. We conclude with a case study to illustrate the similarities and differences of reporting CG under both frameworks.

IFRS valuation principles

IFRS 9

IFRS 9 covers the reporting of financial instruments (financial assets and liabilities). The accounting treatment of financial assets can either be fair value through profit and loss (P&L), fair value through other comprehensive income (OCI) or amortised cost, and is determined by the business model assessment and the Solely Payments of Principal and Interest (SPPI) test.

IFRS 17

IFRS 17 provides principles for the measurement and recognition of insurance contracts. IFRS 17 defines liabilities for remaining coverage and liabilities for incurred claims. It consists of the fulfilment cash flows (best estimate and risk adjustment for nonfinancial risk) and the contractual service margin (CSM).

IFRS 17 provides insurers with an accounting choice of whether the impact of changes in financial assumptions is directly accounted for through the insurance finance income and expenses, impacting the P&L, or through OCI. Insurers can set this option at portfolio level.

IFRS BALANCE SHEET AND P&L MANAGEMENT

The accounting choices under both IFRS 9 and IFRS 17 are crucial tools in preventing accounting mismatches and, as a result, can reduce volatility in the IFRS P&L. However, it is also important to consider that accounting choices can be made in conjunction with reporting under Solvency II to ensure consistency between IFRS and Solvency II results.

Harmonising IFRS and Solvency II, or not?

Accounting choices made for IFRS purposes also influence the comparability of the IFRS and Solvency II results. From a balance sheet management perspective, harmonisation of the IFRS and Solvency II figures may help in communicating a consistent and transparent investor story. The degree to which harmonisation of the IFRS and Solvency II balance sheets can be achieved differs between the asset and liability sides.

FINANCIAL ASSETS

Article 75(a) of the Solvency II Directive, which defines the measurement principles for financial assets, closely aligns with the IFRS 13 fair value definition.

Therefore, if, under IFRS, all financial assets were accounted for at fair value through P&L, then no valuation differences for these assets would exist between Solvency II and IFRS. If assets are valued at fair value through OCI or at amortised cost, then discrepancies arise between the Solvency II balance sheet and own funds movement, and the IFRS balance sheet and statement of comprehensive income.

INSURANCE LIABILITIES

As discussed before, IFRS 17 has an accounting choice to value the insurance liabilities at fair value through P&L or at fair value through OCI. However, even if the accounting choice is made to account insurance liabilities at fair value through P&L, no full alignment can be achieved between Solvency II and IFRS. We discuss the differences between both frameworks on a component-by-component basis (as illustrated in the table in Figure 1).

FIGURE 1: COMPONENTS OF INSURANCE LIABILITIES

| SOLVENCY II | IFRS 17 |
|----------------------|----------------------------|
| Technical provisions | Insurance liabilities |
| Best estimate | Best estimate |
| Risk margin | Risk adjustment |
| No equivalent | Contractual service margin |

Best estimate

In terms of best estimate valuation, the largest discrepancies between IFRS 17 and Solvency II lie within the setting of the discount curve and the expenses in scope of the best estimate. Since the implementation of Solvency II, the level and shape of the prescribed discount curves have been under much debate. Within IFRS 17, other choices with respect to the illiquidity premium and extrapolation such as the last liquid point (LLP) and ultimate forward rate (UFR) can be made. These choices will result in a different shape and level of the discount curve used under IFRS 17 and Solvency II.

In the case where an insurer accounts the insurance liabilities at fair value through OCI, IFRS 17 requires a valuation based on current financial assumptions as well as on financial assumptions locked in at inception of the contract.

Furthermore, differences in expense allocation, contract boundary definitions and timing of recognition of new business may also result in differences between IFRS 17 and Solvency II.

Risk adjustment/risk margin

Both frameworks consider a prudential margin, as the risk margin under Solvency II and, under IFRS 17, the risk adjustment for non financial risk. Insurers have more freedom to develop methodologies for the risk adjustment compared to the risk margin. Although the risk margin and risk adjustment are conceptually different items, many insurers use a cost of capital approach for the risk adjustment to, amongst other things, be consistent with the risk margin.

Contractual service margin

The CSM is a liability balance item not applicable under Solvency II and reflects the unearned profit at initial recognition of the contract. Gains are not recognised immediately through P&L, because the contract relates to future service, but instead are gained over time as the entity satisfies its obligations (provides the service). For loss-making contracts, the losses flow directly through P&L and a loss component is created.

CONCLUSION

The IFRS legislation offers some room for harmonising Solvency II and IFRS 17 reporting frameworks. However, there may be considerations that justify differences between Solvency II and IFRS. Furthermore, accounting choices made require certain additional concepts that need to be considered in analysing CG under both frameworks.

Capital generation

There is no standard that provides a definition of CG or defines what components should be taken into account to derive the CG. Furthermore, there are different purposes of the frameworks. Solvency II is used for risk management, whereas IFRS is used for accounting. The metrics for both frameworks will be different by nature. However, setting up a structured approach to compare CG metrics between the two frameworks is key in managing insurance business.

In Solvency II, CG is often defined as the increase of the eligible own funds¹ (EOF), whereas, under IFRS, the net result is the key performance metric. Despite these two metrics being different, we can bring them together by splitting them into multiple components. The table in Figure 2 provides an overview of the components included in both metrics.

FIGURE 2: COMPONENTS OF CAPITAL GENERATION

| SOLVENCY II | IFRS |
|--|---|
| Expected return assets | Expected return assets |
| Unwind discount rate liabilities | Unwind discount rate liabilities |
| Investment margin | Investment margin |
| UFR drag | UFR drag |
| UFR change | UFR change |
| Economic variance | Economic variance |
| Non-economic variance | Non-economic variance |
| Release of risk margin | Release of risk adjustment |
| Funding cost subordinated debt | Funding cost subordinated debt |
| New business | New business |
| Excess expenses | Excess expenses |
| No equivalent | Release CSM |
| Tax | Tax |
| Capital injections / dividend payments | Capital injections / dividend payments |
| Change in unrestricted tier 1 capital | Change in shareholders' equity |
| Change in subordinated debt | |
| Tiering restrictions | |
| | Change in accumulated OCI – assets |
| | Change in accumulated OCI – liabilities |
| | (-/-) Shareholder remuneration |
| Change in Eligible Own Funds | Net result |

As shown in Figure 2, starting with the Solvency II EOF, we do not apply the tiering restrictions and exclude the change in subordinated debt. Under IFRS, we exclude the change in accumulated OCI and add the shareholder remuneration to the IFRS net result. This results in the following two equivalent numbers representing the change in the equity figure of the balance sheet of both frameworks:

- **Solvency II:** The change of unrestricted tier 1 capital.²
- **IFRS:** The change in shareholders' equity.

¹ Eligible own funds is the component of actual own funds eligible to qualify for the coverage of the Solvency Capital Requirement (SCR) and Minimum Capital Requirement (MCR). The eligibility includes restrictions on the amount of each tier of capital an insurance company can use to cover its SCR and MCR.

² Unrestricted tier 1 is made up of ordinary shares plus share premium.

Most of the CG components of these metrics are similar. Yet, although similar, the value of the corresponding components may differ, following different valuation and reporting principles as previously discussed. By introducing this split in components, it is possible to make the reconciliation between the two frameworks, which is essential for proper management of an insurance company.

In the next section we show a practical application of these concepts using a case study, but first, we define and describe all of the components of the unrestricted tier 1 capital and change in shareholders' equity as presented in Figure 2.

EXPECTED RETURN ASSETS

The expected return on assets depends on the accounting treatment under IFRS 9:

- Fixed income at fair value through P&L or OCI: The expected unwind of the discount curve.
- Fixed income at amortised cost: Amortisation plus coupon and dividend payments.
- Non-fixed income at fair value through P&L: The expected return.

We choose to present the change in shareholders' equity to be able to compare it with the change in unrestricted tier 1 capital. This presentation requires us to show a generated return on fair value basis for the assets accounted at fair value (FV) through P&L and FV through OCI.³ Part of the generated return on FV through OCI assets is not reflected in the IFRS result (as it is accounted for within OCI).

We reflect the part not accounted for in the IFRS result within the component: *Change in accumulated OCI – assets*. As such, you only expect a difference between the generated return on assets whenever financial assets are accounted at amortised cost.

UNWIND DISCOUNT RATE LIABILITIES

The expected unwind of the discount curve of the best estimate insurance liabilities.

The difference between the expected return on assets and the expected unwind of the discount rate of the liabilities represents the investment margin (excluding risk margin/adjustment and CSM).

UFR DRAG

A UFR drag exists because of the application of an LLP in the construction of curves with a UFR. The LLP effectively shifts backward (as an example from year 30 to year 31), because the UFR extrapolation is done from the shifted LLP in a forward projection. This essentially means that the projected discount curve does not unwind in a market-consistent fashion.

UFR CHANGE

The UFR change represents the effect of the change of the level of the UFR over time. Under Solvency II, the UFR is not constant, but is subject to changes based on the development of a series of historical real interest rates. Under IFRS 17, a similar effect can be present (depending on the definition of the interest rate curve).

Economic variance

The economic variance represents the deviation of the economic variables (interest rates, inflation, volatility, expected credit loss) compared to what is expected (as reflected in the previous four components).

As mentioned before, to be able to reconcile with the shareholders' equity, we choose FV through OCI assets to present the return based on the fair value as generated return. Part of this amount is reflected in OCI under *Change in accumulated OCI – assets*.

NON-ECONOMIC VARIANCE

The non-economic variance represents the deviation of the non-economic variables compared to what is expected.

RELEASE RISK MARGIN/RISK ADJUSTMENT

The risk margin and risk adjustment reflect amounts recognised on top of the best estimate. In a best estimate scenario, it is expected that these amounts will be released over time, forming a source of profit or CG. We choose to reflect changes in the risk margin/risk adjustment due to variances and assumption updates in this component as well.

³ For assets accounted at amortised cost, the book value return is shown.

FUNDING COST SUBORDINATED DEBT

The funding cost on subordinated debt reduces the amount of equity.

NEW BUSINESS

Under Solvency II, the profitability of new business will impact the unrestricted tier 1 capital, while onerous new business will result in a decrease of the shareholders' equity under IFRS, but it will not increase the shareholders' equity. The profitability will lead to an increase in the CSM.

EXCESS EXPENSES

Under both Solvency II and IFRS, not all expenses are reflected in the best estimate liabilities. This means that, even in a best estimate scenario, a difference between expected and actual expenses exists, which is reflected in this component. On the contrary, deviations in expense assumptions from the best estimate scenario are reflected as non-economic variance.

CHANGE IN CSM

The CSM reflects an amount of unearned profits that is released over time, forming a source of profit under IFRS. This causes a timing difference in realising profits on insurance contracts under IFRS compared to Solvency II. We choose to reflect a change in CSM due to an update of non-economic assumptions in this component as well.

Tax

All components previously discussed impact the profit, resulting in a countervailing tax impact in the tax component.

SHAREHOLDER REMUNERATIONS/CAPITAL INJECTIONS

Shareholder remunerations, such as dividend payments, along with capital injections, have an impact on both unrestricted tier 1 capital and shareholders' equity. However, all of these items are excluded from the IFRS result as they represent a form of investment or divestment in the insurance company.

Illustrative case study

To illustrate the impact of the new IFRS legislation on CG, we present an example of what Solvency II and IFRS results could look like for a life insurer offering both traditional business—General Measurement Model (GMM)—and unit-linked business—Variable Fee Approach (VFA).

To properly perform such an analysis, some IFRS accounting choices have to be defined beforehand. The specifications of the assumed IFRS accounting choices and set assumptions are as follows:

- The IFRS 17 discounting of liabilities is done using Smith-Wilson extrapolation with an LLP of 30 years and an illiquidity premium.
- Under IFRS, OCI accounting is applied to the GMM business. For the VFA business all the financial assumption changes are through P&L.
- Under IFRS, the financial assets are valued at FV through OCI.
- The best estimate expenses under IFRS 17 are assumed to be equal to 75% of the Solvency II best estimate expenses.
- The IFRS 17 risk adjustment is calculated using the cost of capital approach as applied within Solvency II for the risk margin. The applied cost of capital rate under IFRS 17 is 4% instead of 6% as applied in Solvency II.
- No new business is assumed.⁴
- The insurance liabilities are split over 10 annual cohorts.

Other important assumptions defined for this analysis are the following:

- The interest exposure is managed such that the interest rate risk of the Solvency II ratio is appropriately hedged.
- Solvency II optimised capital structure (tier 1, 2 and 3).
- Required capital is determined using the Solvency II Standard Formula.

In the analysis the focus will be on a specific year in our multi-year projection. The impacts will be described to clarify the impact of specific events in each of the scenarios.

⁴ Our tool offers the possibility of including new business. For simplicity reasons, however, we choose to not take this into account in this example.

Base scenario

We present the results of the base scenario in the table in Figure 3.

FIGURE 3: BASE SCENARIO – THE DIFFERENCE BETWEEN IFRS AND SOLVENCY II

| | SII | IFRS | Delta |
|--|-------|-------|-------|
| Expected return assets | 1,057 | 1,057 | 0 |
| Unwind discount rate liabilities | -718 | -731 | -13 |
| Investment margin | 339 | 326 | -13 |
| UFR drag | -96 | -25 | 71 |
| UFR change | -53 | -20 | 33 |
| Economic variance | | | |
| Non-economic variance | | | |
| Release risk margin/risk adjustment | 24 | 23 | -1 |
| Funding cost subordinated debt | -34 | -34 | 0 |
| Excess expenses | -14 | -70 | -57 |
| Release CSM | 0 | 5 | 5 |
| Tax | -42 | -51 | -10 |
| Change in unrestricted tier 1 capital/shareholders' equity | 125 | 154 | 29 |
| Change in accumulated OCI – assets | 0 | 47 | 47 |
| Change in accumulated OCI – liabilities | 0 | -19 | -19 |
| Change in unrestricted tier 1 capital/Net result | 125 | 181 | 57 |

As shown in Figure 3, the differences between the unrestricted tier 1 capital and shareholders' equity changes are mainly driven by the following factors:

- UFR drag and change: The LLP of 30 years under IFRS 17 results in lower impacts than under Solvency II (with an LLP of 20 years).
- There is no variance in the base scenario because the experience is assumed to be in line with the assumptions.
- Excess expenses: Due to the lower amount of expenses reflected in the best estimate, a larger excess expense impact is seen in the impact on the shareholders' equity under IFRS 17.
- Required return liabilities: The higher nominal best estimate for IFRS 17 leads to a higher required return under IFRS 17.
- The CSM release under IFRS 17, which is not applicable under Solvency II.
- A tax effect as a consequence of the factors discussed above.

The OCI impacts lead to a high net IFRS result due to a larger release of the OCI component on the assets than on the liabilities.⁵

Alternative scenarios

To show the differences between both IFRS and Solvency II, we present a set of the following scenarios:

- **Scenario 1:** Experience variance on interest rates by assuming a parallel interest rate shock of -50 basis points (bps).
- **Scenario 2:** A spread shock on assets of +50bps without impact on the illiquidity premium and volatility adjustment.
- **Scenario 3:** An expense increase in reserving of 7.5% on both Solvency II and IFRS liability reserving.

⁵ Even in a scenario which develops according to the forwards in the risk-free interest rate curve, an impact on the OCI balance can be expected. This can be attributed to 1) the net OCI position at the start of the projection being unequal to zero, 2) deviations from the risk-free interest rate curve such as a UFR and 3) technicalities in the systematic allocation of the total finance income or expenses (IFRS 17 articles B130-B133).

Scenario 1: -50 bps interest rate shock

We present the results of the first projection year of the interest rate scenario in the table in Figure 4.

FIGURE 4: 50BPS DECREASE OF MARKET INTEREST RATES

| | SII | IFRS | Delta |
|--|-------|--------|--------|
| Expected return assets | 1,057 | 1,057 | 0 |
| Unwind discount rate liabilities | -718 | -731 | -13 |
| Investment margin | 339 | 326 | -13 |
| UFR drag | -96 | -25 | 71 |
| UFR change | -53 | -20 | 33 |
| Economic variance | 346 | 176 | -170 |
| Non-economic variance | 0 | 0 | 0 |
| Release risk margin/risk adjustment | -81 | -71 | 10 |
| Funding cost subordinated debt | -34 | -34 | 0 |
| Excess expenses | -14 | -70 | -57 |
| Release CSM | 0 | 5 | 5 |
| Tax | -102 | -72 | 30 |
| Change in unrestricted tier 1 capital/shareholders' equity | 306 | 215 | -91 |
| Change in accumulated OCI – assets | 0 | -1,608 | -1,608 |
| Change in accumulated OCI – liabilities | 0 | 1,575 | 1,575 |
| Change in unrestricted tier 1 capital/Net result | 306 | 182 | -124 |
| Base scenario | 125 | 181 | 57 |

As shown in Figure 4, the interest rate shock manifests itself in the following components of CG:

- The economic variance, representing the increase in fair value of the assets which exceeds the increase in best estimate value of the liabilities. The economic variance under IFRS is lower than under Solvency II. In our analyses we assume that the insurance company has an interest rate hedge, which stabilises the Solvency II (SII) ratio. However, this does cause a larger asset/liability mismatch under SII.
- The risk margin/risk adjustment increases due to the decrease of the interest rates resulting in a negative release. The impact is larger under Solvency II than under IFRS, because, under IFRS, a lower Cost of capital is used.
- A tax effect as a consequence of the factors discussed above.
- The after-tax impact of the economic variance is absorbed in OCI under IFRS.

As a result of the smaller economic variance under IFRS and the absorbing effect of the OCI, the IFRS net result is more stable than the movement in the Solvency II EOF.

Scenario 2: +50bps spread shock assets

We present the results of the first projection year of the spread scenario in the table in Figure 5.

FIGURE 5: 50BPS INCREASE OF MARKET SPREADS

| | SII | IFRS | Delta |
|--|-------|-------|-------|
| Expected return assets | 1,057 | 1,057 | 0 |
| Unwind discount rate liabilities | -718 | -731 | -13 |
| Investment margin | 339 | 326 | -13 |
| UFR drag | -96 | -25 | 71 |
| UFR change | -53 | -20 | 33 |
| Economic variance | -450 | -450 | 0 |
| Non-economic variance | 0 | 0 | 0 |
| Release risk margin/risk adjustment | 24 | 23 | -1 |
| Funding cost subordinated debt | -34 | -34 | 0 |
| Excess expenses | -14 | -70 | -57 |
| Release CSM | 0 | 5 | 5 |
| Tax | 71 | 61 | -10 |
| Change in unrestricted tier 1 capital/shareholders' equity | -213 | -184 | 29 |
| Change in accumulated OCI – assets | 0 | 391 | 391 |
| Change in accumulated OCI – liabilities | 0 | -19 | -19 |
| Change in unrestricted tier 1 capital/Net result | -213 | 188 | 401 |
| Base scenario | 125 | 181 | 57 |

As shown in Figure 5, the spread shock manifests itself in the following components of CG:

- The economic variance, representing the decrease in fair value of the fixed income assets due to the spread widening. The economic variance under IFRS equals the Solvency II impact because on both balance sheets the instruments are valued at fair value.
- A tax effect as a consequence of the factor discussed above.
- The after-tax impact of the economic variance is absorbed in OCI under IFRS.

As a result of the absorbing effect of the OCI, the IFRS net result is stable for a change in spreads, contrary to the movement in the Solvency II EOF.

Scenario 3: +7.5% expense shock

We present the results of the first projection year of the expense scenario in the table in Figure 6.

FIGURE 6: 7.5% INCREASE IN EXPENSE RESERVING

| | SII | IFRS | Delta |
|--|-------|-------|-------|
| Expected return assets | 1,057 | 1,057 | 0 |
| Unwind discount rate liabilities | -718 | -731 | -13 |
| Investment margin | 339 | 326 | -13 |
| UFR drag | -96 | -25 | 71 |
| UFR change | -53 | -20 | 33 |
| Economic variance | 0 | 0 | 0 |
| Non-economic variance | -159 | -121 | 38 |
| Release risk margin/risk adjustment | -10 | -1 | 9 |
| Funding cost subordinated debt | -34 | -34 | 0 |
| Excess expenses | -14 | -70 | -57 |
| Release CSM | 0 | 108 | 108 |
| Tax | 7 | -41 | -48 |
| Change in unrestricted tier 1 capital/shareholders' equity | -20 | 122 | 143 |
| Change in accumulated OCI – assets | 0 | 47 | 47 |
| Change in accumulated OCI – liabilities | 0 | -38 | -38 |
| Change in unrestricted tier 1 capital/Net result | -20 | 131 | 151 |
| Base scenario | 125 | 181 | 57 |

As shown in Figure 6, the expense shock manifests itself in the following components of CG:

- The noneconomic variance, representing the increase in insurance liabilities because of higher expense assumptions. The impact under IFRS is smaller than under Solvency II because of the lower expense attribution in the best estimate.
- The risk margin/risk adjustment increases because of the higher best estimate expense assumption, resulting in a negative release. The impact under IFRS is smaller than under Solvency II due to the lower cost of capital and expense attribution.
- Part of the impact of the noneconomic variance, including its impact on the risk adjustment, is absorbed in the CSM under IFRS.
- A tax effect as a consequence of the factors discussed above.
- A secondary OCI impact is observed due to the valuation difference of the change of expenses assumption for the best estimate on current rate and locked-in rate, which leads to an impact in OCI.

As a result of the absorbing effect of the CSM and lower best estimate expense attribution, the IFRS net result is more stable for a change in best estimate expenses than the change in Solvency II EOF. The impact is not fully absorbed under IFRS because, for certain groups of contracts, the CSM is fully depleted.

General conclusion

IFRS and Solvency II have a lot of similarities in valuation and reporting. However, the difficulty is to appropriately capture and manage the differences between both frameworks.

Defining and comparing CG in IFRS and Solvency II is crucial for communicating a transparent and consistent investor story. This will be a challenge for insurers around the globe in the coming years. Although insurers can leverage on already existing Solvency II CG models, these models need to be extended to reflect the new IFRS principles and account choices.

What Milliman can do for you

Milliman has developed a tool to perform projections for both Solvency II and IFRS. This tool gives you the capability to analyse economic and non-economic scenarios and look at how balance sheet management actions impact capital generation metrics under Solvency II and IFRS. All elements discussed in this article, and more, are covered by this tool.

We would be glad to discuss how we can help you in further optimising your Solvency II and IFRS balance sheet management under the new IFRS legislation



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