SOCIETY OF ACTUARIES

Earnings Emergence

Insurance Accounting under Multiple Financial Reporting Bases

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1. Executive Summary

Background

Recent activity around the financial reporting for insurance contracts has largely been focused on technical aspects as they relate to the accounting theory and consistency with broader economic concepts. This has been visible in the deliberations around insurance contracts and insurance company accounting at the Financial Accounting Standards Board (FASB) and International Accounting Standards Board (IASB) as well as the discussions around principle-based approaches to reserving coordinated by the National Association of Insurance Commissioners (NAIC).

While such theoretical considerations are important in defining accounting bases that are firmly footed, preparers and users of insurance company financial statements are also interested in the practical results of various approaches to accounting and how different measurement bases may result in different balance sheet presentations and earnings emergence.

This study investigates the differences that occur when measurement is made under different bases and it seeks to assist in understanding them in the context of the conceptual differences in the accounting bases. The observations come from research performed on two products (term life insurance and deferred annuities) under a selected set of accounting and measurement bases:

- Current US Statutory requirements adopted by the NAIC
- Current US Generally Accepted Accounting Principles (US GAAP)
- The Canadian Asset Liability Method (CALM)
- Proposed International Financial Reporting Standards (IFRS) as contemplated under the exposure draft for insurance contract accounting recently released by the IASB
- Market-consistent balance sheet.

The first three bases reflect common interpretations of the current regulations and guidance in place as of Dec. 31, 2014, while the remaining two bases reflect the latest proposals for future standards as of that same date.

The objective of this report is to help insurance companies and users of financial statements to become better educated on the interpretation of results reported under various accounting regimes and to understand better the implications of some of the proposed changes to financial reporting frameworks currently under consideration.

Results

The different measurement bases are all essentially working toward the same goal—a measurement of the values of insurance contracts and a meaningful articulation of how those values change over time. However, this study observes that the bases themselves arose from different philosophical foundations and, consequently, exhibit differences in certain key areas:

Differences	Implications
• US Statutory is used for solvency purposes and is focused on the balance sheet.	• The US Statutory balance sheet is explicitly conservative and earnings recognition may be heavily deferred.
• US GAAP and IFRS have a major focus on the income statement, but have different ideas for when earnings should be realized.	• US GAAP earnings tend to emerge in proportion to revenue whereas IFRS earnings align with the release from risk.
• CALM balances the dual purpose of ensuring solvency while aiming for meaningful earnings emergence.	• Both the balance sheet and earnings emergence are largely driven by the size and pattern of provisions for adverse deviation (PfAD).
• The market-consistent balance sheet is used only as a balance sheet (although this study refers to changes in the balance sheet as "income emergence" for comparative purposes).	• Though entirely balance sheet focused, the careful observer will want to be able to make sense of the changes in the market value balance sheet over the reporting period.

The different measurement bases have a variety of mechanisms in place to achieve their philosophical goals, which inevitably create differences in income emergence.

The products covered in the study were deliberately chosen for two reasons. First, they are relatively simple products, so the results as presented under the various measurement bases are less likely to be obscured by mechanisms needed to accommodate complex features. Second, they represent two anchor points in the spectrum of products typically offered by insurance companies: term life insurance, which is defined almost entirely as insurance protection, and fixed deferred annuity, which most would regard as a pure investment product.

This variation in design causes the differentiating features of the measurement bases to manifest themselves quite differently across the two products. For term life, the two balance-sheet-focused bases (US Statutory accounting and the market-consistent balance sheet) show the most extreme results. US Statutory basis exhibits large losses at issue due to a conservative rules-based formula designed to protect solvency, while the market-consistent balance sheet shows "profits" at issue, as it is unconstrained by any need for conservatism in a market-value world. The other bases lie somewhere in between, with US GAAP showing perhaps the least volatile income due to its tying of earnings emergence to premium income, with CALM and IFRS emergence tied to the less-predictable PfADs and provisions for risk, respectively.

By contrast, US Statutory and the market-consistent balance sheet show more front-ended income emergence than either US GAAP or IFRS when applied to the annuity product. This, however, is a consequence of the construct of the various bases. The lack of significant insurance risk elements provides little opportunity

to incorporate pads within the US Statutory valuation while the market-consistent balance sheet shifts slightly more conservative, effectively penalizing the product for its real-world foundation for crediting interest. CALM front-ends the earnings further still, it finding nothing significant to pad while adhering to a real-world view of investment returns that renders it less conservative, at least in that regard, than Solvency II. US GAAP and IFRS, on the other hand, are content to wait and recognize earnings as revenue or release-from-risk emerge. Theirs is a more deliberate measurement of income arising from bases that place paramount importance on earnings emergence rather than treating it as an afterthought, the balancing item arising from establishment of measurement based primarily on the balance sheet.

This is merely a high-level summary of the observations made, while the full report shows the projected income emergence on each basis for baseline runs as well as for a variety of sensitivity tests. Differences in earnings emergence can be subtle and a thorough analysis of the modeled projections is needed to appreciate their sources. Even at that, this study can only hope to present in broad terms and for an admittedly small selection of products the differences in reporting that the various measurement bases may generate. It is hoped that this will at least start the discussion and lead to additional research to help preparers and users alike to understand better the messages being conveyed by the results under different financial reporting bases.

2. Reliances and Limitations

2.1. Responsible Party for Methods and Assumptions

Robert Frasca, Asad Khalid and Bruce Rosner are responsible for this report. They meet the Qualification Standards of the American Academy of Actuaries to prepare this report and to provide the analysis contained herein. Comments or questions regarding this report should be directed to Robert Frasca at 617.585.0799, Asad Khalid at 212.773.8167, or Bruce Rosner at 212.773.1190 who are available to provide certain supplemental information and/or explanation as requested.

2.2. Data and Qualitative Information

This report does not rely on external sources of data as the inputs into the models used to generate the results discussed in the report were constructed to be illustrative, not necessarily realistic.

2.3. Other Limitations

The financial reporting frameworks used in this study are generally intended to reflect regulations and common practices in place on Dec. 31, 2014.

Different insurance companies have different interpretations and applications of accounting standards. This is true of existing standards, like existing US GAAP and US Statutory accounting, and is even more pronounced in the interpretation of standards, like IFRS, which are still in the development stage. The interpretations adopted in preparing this report should not be viewed as suggestions that the accounting methods used are "right" or "wrong" but rather to illustrate methods that are observed in the industry. Nothing within this report should be interpreted as constituting accounting advice.

In various instances, simplified assumptions and methods are used in preparing the analysis, but these simplifications may not be appropriate for actual financial reporting.

3. Introduction

3.1. Background and Objectives

Recent activity around the financial reporting for insurance contracts has largely been focused on technical aspects as they relate to the accounting theory and consistency with broader economic concepts. This has been visible in the deliberations around insurance contracts and insurance company accounting at the Financial Accounting Standards Board (FASB) and International Accounting Standards Board (IASB) as well as the discussions around principle-based approaches to reserving coordinated by the National Association of Insurance Commissioners (NAIC).

While such theoretical considerations are important in defining accounting bases that are firmly footed, preparers and users of insurance company financial statements are also interested in the practical results of various approaches to accounting and how different measurement bases may result in different balance sheet presentations and earnings emergence. To satisfy this interest, the Financial Reporting and Reinsurance sections of the Society of Actuaries (SOA) and the Committee for Life Insurance Research (CLIR) (hereinafter referred to as the "Sponsors") commissioned Ernst & Young to conduct research into the differences in measurement and presentation under various accounting and measurement bases.

This study investigates the differences that occur when measurement is made under different bases and it seeks to assist us in understanding them in the context of the conceptual differences in the accounting bases. The observations come from research performed on two products (term life insurance and deferred annuities) under a selected set of accounting and measurement bases:

- Current US Statutory requirements adopted by the NAIC
- Current US Generally Accepted Accounting Principles (US GAAP)
- The Canadian Asset Liability Method (CALM)
- Proposed International Financial Reporting Standards (IFRS) as contemplated under the exposure draft for insurance contract accounting recently released by the IASB
- Market-consistent balance sheet (Solvency II[1]).

The first three bases reflect common interpretations of the current regulations and guidance in place as of Dec. 31, 2014, while the remaining two bases reflect the latest proposals for future standards as of that same date.

The objective of this report is to help insurance companies and users of financial statements to become better educated on the interpretation of results reported under various accounting regimes and to understand better the implications of some of the proposed changes to financial reporting frameworks currently under

[1] This report presents a market-consistent balance sheet as one of the measurement bases being compared. Such a balance sheet is closely aligned with Solvency Capital Requirements under Solvency II. Consequently, we refer to the market-consistent balance sheet results as "Solvency II" throughout this report. This is not intended to imply precise consistency with Solvency II requirements within the analysis for this item, but is used for simplicity and ease of discussion.

consideration. It is not intended to endorse any particular interpretation of any requirements of any particular financial reporting basis and therefore no authoritative guidance should be inferred by the reader of this report. Different readers may arrive at different interpretations of financial reporting guidance and therefore may arrive at results different from those presented in this report.

3.2. Approach

The study provides an analysis of income emergence under a variety of financial reporting/measurement bases for two products: term life insurance and individual deferred annuities. The products were constructed to balance simplicity of design with a desire to have characteristics that would trigger the salient differences between the measurement bases. Consequently, some of the product features and elements of pricing may not be precisely reflective of products commonly seen in today's market.

The study is constructed using spreadsheet-based models that project annual cash flows and deterministic outcomes. Many of the assumptions are simplified to illustrate better the financial reporting outcomes.

One aspect of the study common to all products is the modeling of investment income. This study sets the level of assets supporting the business equal to the US Statutory reserve plus 300 percent of the Company Action Level US risk-based capital (RBC) requirement (or 200 percent in the case of the captive reinsurer). This implies that any cash flow income that would result in assets exceeding that amount is distributed to shareholders each year. This is similar to the modeling done for an appraisal or embedded value of the product. Also, the choice of US standards to drive the asset portfolio implies that the entity is US-based, despite the fact that this report illustrates accounting on various non-US financial reporting bases.

Individual asset cash flows are not explicitly modeled. Instead, a portfolio approach is used under which baseline investment income is projected based on best-estimate portfolio earned rates, using the assets held at each future point in time. The investment income does not vary by accounting basis.

There are certain additional simplifications and limitations in the scope of the modeling. These are as follows:

- RBC requirements are estimated at the product level, which would not normally be the case in a multiline company.
- Taxes are not modeled. All presentations are pretax.
- The analysis does not include any testing of the sufficiency of reserves, such as cash flow testing or loss recognition testing, under the various reporting bases.
- The report primarily focuses on earnings emergence. The appendices include additional detail including income statements and balance sheets under all five bases. For clarity of comparison, the appendices show the income statements under all bases for both products using a traditional presentation with premiums recorded in revenue as they are received. Also included is a margin presentation (also referred to as a FAS97 presentation) under US GAAP for the deferred annuity product and an interpretation of the "earned premium" presentation as currently proposed under IFRS for both products.

- Risk adjustments or margins for IFRS and Solvency II liabilities, respectively, are calculated using a cost of capital method based on certain simplifying assumptions. The methodology was based on the technique applied in the SOA study titled "IASB Insurance Contracts Earnings Emergence Report," described in Appendix B of that report.

4. Term Life Insurance

4.1. Product Information

4.1.1. Features

The product illustrated is a 10-year level term life insurance policy. It features a level premium for the first 10 years of the policy (the level term period), and increasing annually renewable premiums thereafter (the post-level term period). The policy pays benefits upon death only and does not have a cash value option. The policy is renewable up to an attained age of 80 years. For this exercise, a portfolio of 100 identical policies with a face amount of $150,000 each is illustrated. The policies are assumed to be issued to 40-year-old male nonsmokers. The product has policy fees and pays commissions during the level term period. Details on the premium structure, fees and commissions are illustrated in Appendix B.

4.1.2. Reinsurance

There are two reinsurance treaties modeled:

1. Financial reinsurance: The issuing company cedes the full policy to a captive insurance company, which is also domiciled in the United States. The captive is assumed to have an agreement with the state of domicile allowing use of a letter of credit as an admitted asset to support US Statutory reserves in excess of an economic reserve. The purpose of this treaty is to reduce the upfront cash required to fund the reserves and capital.

2. Mortality reinsurance: The captive enters into a yearly renewable term (YRT) reinsurance agreement with a third-party reinsurer that reinsures mortality experience for all coverage in excess of $100,000 per policy. The purpose of this treaty is to reduce excess mortality risk that the issuing company does not wish to retain.

The key features of the reinsurance treaties are as follows:

	Type of reinsurance	**Cost of structure**	**Allowances**
Financial reinsurance	100% coinsurance	1% financing charge for the letter of credit	None
Mortality reinsurance	YRT reinsurance for volume in excess of $100k per policy	YRT premiums equal to 110% of best-estimate mortality	$0.10 per $1,000 of ceded face amount annually

4.1.3. Pricing Targets

The term product is priced based on US Statutory income after consideration of the financing and excess mortality risk reinsurance structures. There are three key components of the premium pattern: 1) the level term premium, 2) the jump in premium after the level premium period, and 3) the premium scale relative to expected mortality in the post-level term period. Additional details on the development of the assumptions are provided in the following section.

The product generates an internal rate of return (IRR) of 7.8 percent on a consolidated US Statutory income basis under the baseline scenario.

4.1.4. Assumptions

For the baseline scenario, experience emerges as expected under the best-estimate assumptions used to price the product. With the exception of US Statutory reserves, valuation assumptions are developed using the best-estimate assumptions with provisions (margins) for adverse deviation (PADs under US GAAP or MfADs under CALM[2]), if applicable under the measurement basis. Valuation assumptions for US Statutory reserves are prescribed. A summary of the key best-estimate assumptions is presented below. For a comprehensive list of all modeling assumptions refer to Appendix B.

Demographic

The mortality and lapse assumptions were developed to be consistent with current industry experience studies. The best-estimate mortality assumption uses the 2014 VBT as a base table and a mortality improvement factor for the first 20 years of the projection. The assumption also incorporates mortality deterioration after the high lapses at the end of the level term period, to reflect anti-selection by policyholders. The mortality deterioration represents a 225 percent increase in year 11 above the base table with improvements for mortality, with the increase grading linearly to 0 percent over 10 years as the effect of anti-selection diminishes.

The best-estimate lapse assumption is 15 percent in the first year, and it grades down to 7 percent at the end of the level term period. A shock lapse of 85 percent is modeled at the end of the level term period, with an ultimate long-term lapse rate of 10 percent per year thereafter. The high lapse after the level term period is consistent with a recent industry study[3] for products with similar increases in premium upon renewal.

[2] Throughout this paper, naming conventions will align with the basis of reporting under consideration. For example, "MfAD" will be used to represent a margin for conservatism added to an assumption under CALM. The term "PAD" will be used for all other bases, including US GAAP. The term "PfAD" will be used to represent the additional amount of reserves established as a result of application of MfADs under CALM. The term "PAD" will be used to identify this amount under the other bases.

[3] The SOA publication "Report on the Lapse and Mortality Experience of Post-Level Premium Period Term Plans (2014)," authored by RGA, May 2014.

Expense

The expenses include ongoing policy maintenance expenses, commissions and other acquisition costs. For simplicity, no other expense types, such as claim expenses, are included. The best-estimate maintenance expense assumption consists of two components: a per policy expense and a per $1,000 face amount expense. An expense inflation assumption of 2 percent per year is applied to maintenance expenses.

Asset portfolio

Aside from US Statutory, accounting bases typically generate either very low positive or negatives reserves for term insurance. In this study, with the use of a captive structure, a letter of credit is primarily backing the modeled statutory reserves. This means that there are little or no "real" assets backing reserves under most of the accounting bases most of the time and that what traditional assets there are, are almost entirely backing surplus. Different companies use different strategies for assets backing surplus. As such, for the purposes of this study and to simplify the analysis, it is assumed that the asset portfolio (excluding the letter of credit), has a target duration close to zero, and that both the book and market yields on assets in the portfolio react immediately to changes in the interest rate environment.

Asset yield

For the purpose of calculating investment income, the asset yield is a combination of the following components: the risk-free rate (RFR), plus a credit spread, minus a spread for expected defaults. For simplicity, the model uses a flat yield curve and level spread factors, such that the best-estimate asset yield is level over the product's lifetime. For valuation purposes where discount rates are dependent on expected asset yields, the development of those assumptions is described in the corresponding methodology sections below.

4.1.5. Economic Reserve Calculation

The use of financial reinsurance through a captive allows the company to reduce its invested asset requirement to the economic reserve balance plus target capital. The difference between the US Statutory reserve and the economic reserve is financed through a letter of credit.

The principle-based economic reserve is calculated as a gross premium valuation reserve using best-estimate assumptions with the following PADs:

- Mortality: Base mortality rates are multiplied by 110 percent for all durations. As an additional margin, mortality improvement is not reflected.
- Lapse: Base lapses are multiplied by 110 percent for all durations except duration 10 and 11.
- Expense: Maintenance expenses are multiplied by 115 percent for all durations.

4.2. Accounting Methodology

The following section describes the five financial reporting bases covered in the study in relation to the modeling of the term product and the reinsurance. The descriptions are not intended to represent

authoritative interpretations of the relevant guidance but rather indicate the methods used for the purposes of this report.

4.2.1. US Statutory

The valuation of US Statutory reserves uses the Commissioners Reserve Valuation Method (CRVM), including the provisions in the *Valuation of Life Insurance Policies Model Regulation* commonly known as Regulation XXX. The valuation assumptions for mortality and interest follow prescribed assumptions and are consistent with a policy issued in 2014. The deficiency reserves under CRVM permit the use of X-factors to reduce the prescribed valuation mortality to levels more reflective of a company's mortality experience. The X-factors are formulated such that the final mortality rates used in the valuation of the deficiency reserves equal 200 percent of the best-estimate mortality assumption. The conservative X-factors ensure that a deficiency reserve emerges to illustrate better the benefits of financial reinsurance. The assumption still provides a significant reduction to the prescribed 2001 CSO mortality table.

The reserve credit for the YRT mortality reinsurance is calculated as half of one year's cost of mortality ($½c_x$) on the ceded face amount.

4.2.2. US GAAP

The US GAAP benefit reserves use a net-level premium reserve valuation method consistent with the requirements in ASC 944-40 (previously FAS60) for traditional long-duration contracts. The valuation assumptions are equal to the best-estimate assumptions plus the following PADs:

- Mortality: Base mortality rates are multiplied by 110 percent for all durations.
- Lapse: Base lapses are multiplied by 90 percent for all durations except duration 10 and 11.
- Expense: Maintenance expenses are multiplied by 115 percent for all durations.
- Discount rate: A 10bps decrease in the discount rate to account for unexpected defaults.

The assumptions are locked in at issue and used throughout the projections.

Commissions and other deferrable acquisition costs (DAC) are capitalized and the resulting DAC asset is amortized in proportion to premiums consistent with requirements in ASC 944-30 for traditional long-duration contracts.

The YRT mortality reinsurance asset/liability is valued according to requirements in ASC 944-20 (formerly FAS113) for reinsurance of long-duration contracts, where the cost of reinsurance is amortized in proportion to gross premiums of the underlying insurance contract. The valuation assumptions for the reinsurance asset/liability are consistent with those used for the benefit reserves. The YRT mortality reinsurance modeled resulted in a FAS113 asset, which is equivalent to an unearned premium since the mortality is proportional to the reinsurance premium. Excess first year allowances were not modeled; as such there are no DAC offsets.

4.2.3. CALM

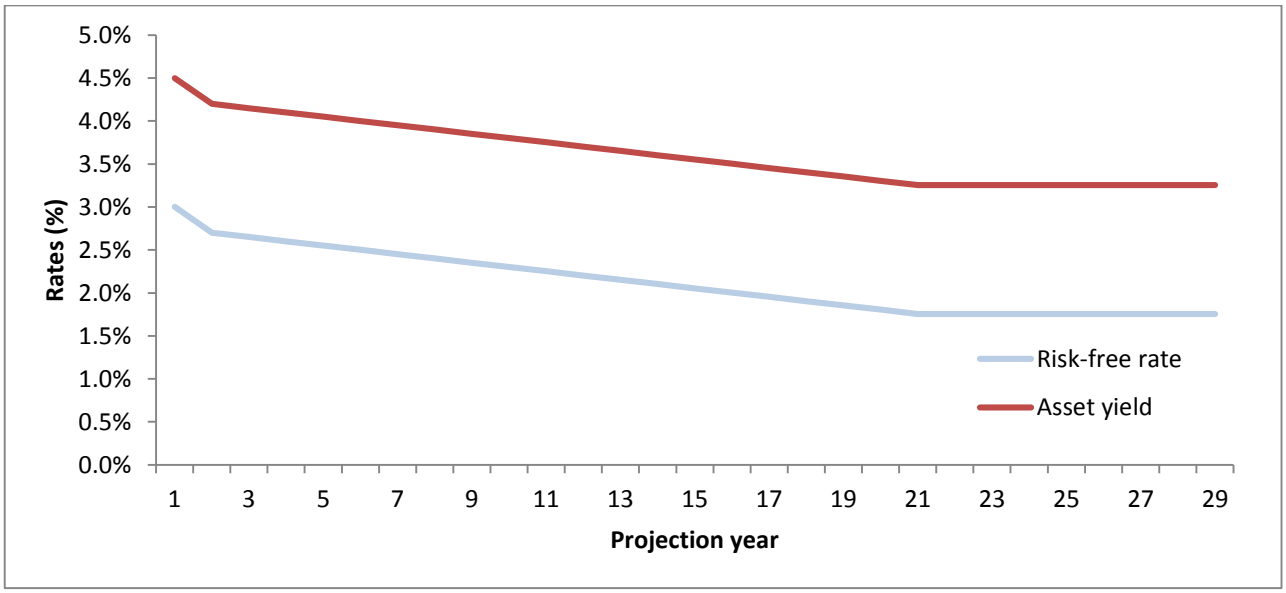
CALM requires that liabilities be recorded equal to the carrying value of the supporting assets required to satisfy the company's liabilities under the worst plausible interest rate scenario determined by the company's Appointed Actuary. For the purpose of this exercise, the CALM reserves are approximated by modeling the liabilities under a single representative "worst-case scenario" of declining interest rates. The liability cash flows are projected based on valuation assumptions equal to the best-estimate assumptions plus the following MfADs:

- Mortality: Base mortality rates are multiplied by 110 percent for all durations. Mortality improvement is not reflected.
- Lapse: Base lapses are multiplied by 110 percent for all durations except duration 10 and 11.
- Expense: Maintenance expenses are multiplied by 115 percent for all durations.

Some of these MfADs may fall outside of the recommended ranges suggested under Canadian Institute of Actuaries' Standards of Practice but have been used nonetheless to maintain consistency with some of the other measurement bases.

The CALM liability is approximated by discounting the liability cash flows at a rate tied to the expected asset yield under a declining interest scenario, which is loosely based on the CALM Scenario 1, as referenced in the Canadian Institute of Actuaries' Standards of Practice. Although the reserves for the term product under CALM are negative, it is assumed that the business is part of a larger portfolio of products for which the aggregate CALM liability is positive. The credit spreads and default rates are assumed to remain constant over time under this economic scenario. Figure 1 illustrates the RFRs and expected asset yield under the modeled scenario.

Figure 1: CALM Asset Yield



The reserve credit for the YRT mortality reinsurance is determined by calculating the difference between the CALM reserves calculated gross and net of reinsurance cash flows.

4.2.4. IFRS

There are three components to the liabilities under the proposed IFRS Insurance Contracts standard. For the purposes of this study, the calculation of each component is as follows:

1. The present value of fulfillment cash flows, which is calculated as a present value of all gross liability cash flows using best-estimate assumptions. The interest rate for discounting cash flows is developed using a top-down approach, where the rate is equal to:
   + Projected gross investment yield
   - Spread for defaults
   - Spread for the risk surrounding the expected default losses.

   For the purpose of this exercise, the present value of fulfillment cash flows is projected under a single deterministic scenario.
2. The risk adjustment, which is calculated based on a cost-of-capital method. Under this approach, the risk adjustment is estimated based on the cost of holding a sufficient amount of capital in order to fulfill the insurance contract obligations at a 99.5 percent confidence level. At time zero, the risk adjustment is approximately equal to 24.5 percent of the present value of fulfillment cash flows. A reasonability test on the risk adjustment compares the time zero present value of fulfillment cash flows calculated under
   (1) Best-estimate assumptions, and
   (2) Best-estimate assumptions with a 10 percent margin for lapses and mortality.

   The present value of fulfillment cash flows under (2) is approximately 22.2 percent higher than that calculated under (1), which is generally consistent with the 24.5 percent risk adjustment.
3. The contractual service margin (CSM), which is set to ensure no gain at issue (i.e., the sum of the present value of fulfillment cash flows and the risk adjustment, if less than zero). The CSM is calculated for subsequent valuations using a straight-line amortization.

For the purposes of this study, the captive reinsurance agreement is not considered because IFRS reporting is assumed to apply at a consolidated level. However, the YRT mortality reinsurance is treated as a separate contract with the IFRS liabilities calculated using the three components described above. The IFRS liability components for the reinsurance contract are calculated using the same methods and assumptions as the underlying insurance contract with the following exceptions:

1. The interest rate for discounting reinsurance cash flows incorporates an additional spread to account for the reinsurer's risk of default.
2. A separate CSM is established to eliminate any gain or loss at inception.

4.2.5. Solvency II

For the purposes of this study, the valuation of liabilities under a Solvency II market-consistent framework is approximated by calculating the following two components:

1. The best-estimate liability, which is calculated as a present value of all gross liability cash flows using best-estimate assumptions. The interest rate for discounting cash flows is equal to the RFR plus a

spread to represent the “matching adjustment” as required for Solvency II. For the purpose of this exercise, the matching adjustment is set equal to a constant spread of 0.5 percent. The present value of cash flows is projected under a single deterministic scenario.

2. The risk margin, which is calculated based on a cost-of-capital method identical to the IFRS risk adjustment.

The reserve credit for the YRT mortality reinsurance is determined by calculating the difference between the liability calculated gross of reinsurance and net of reinsurance.

4.3. Baseline Results

The following figures provide graphical illustrations of the baseline results. The full income statements and balance sheets are provided in Appendix A.

Cash flow projections

The following graphs illustrate the underlying term insurance contract cash flows, YRT reinsurance contract cash flows and net product cash flows. The YRT reinsurance premiums payable are commensurate with the expense allowance and death benefit claims recoverable. As such, the YRT reinsurance does not have a material impact on net cash flows for the product under the baseline scenario.

Figure 2: Term Life Product Cash Flow Projection

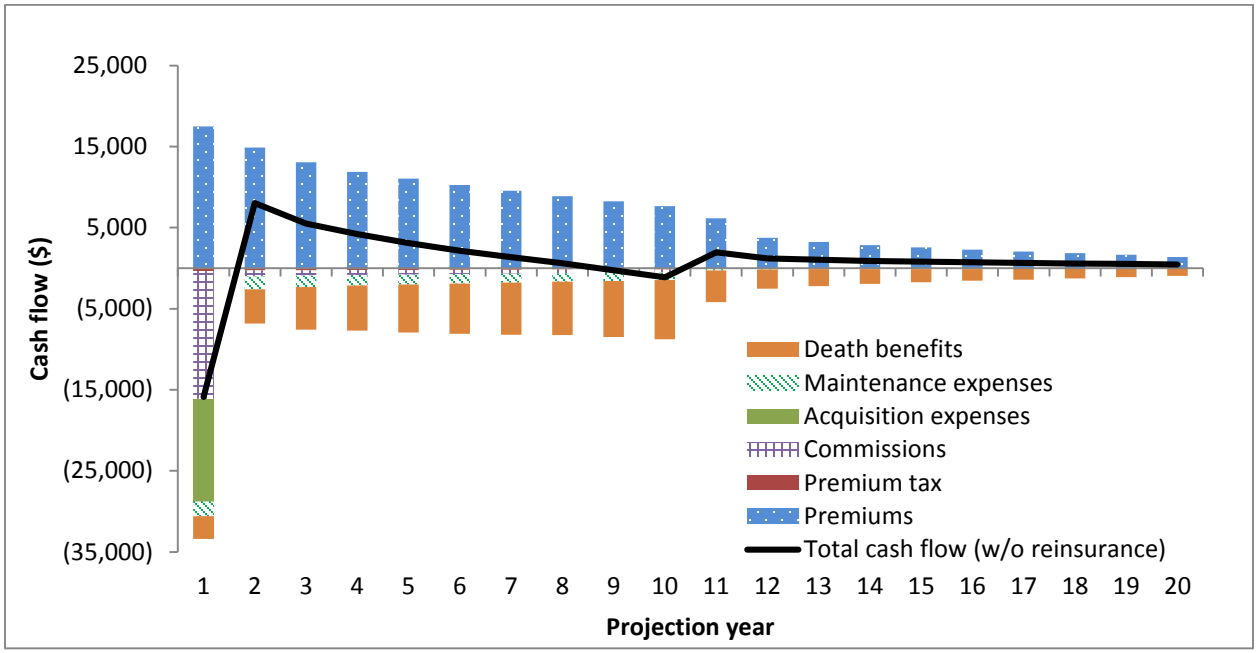
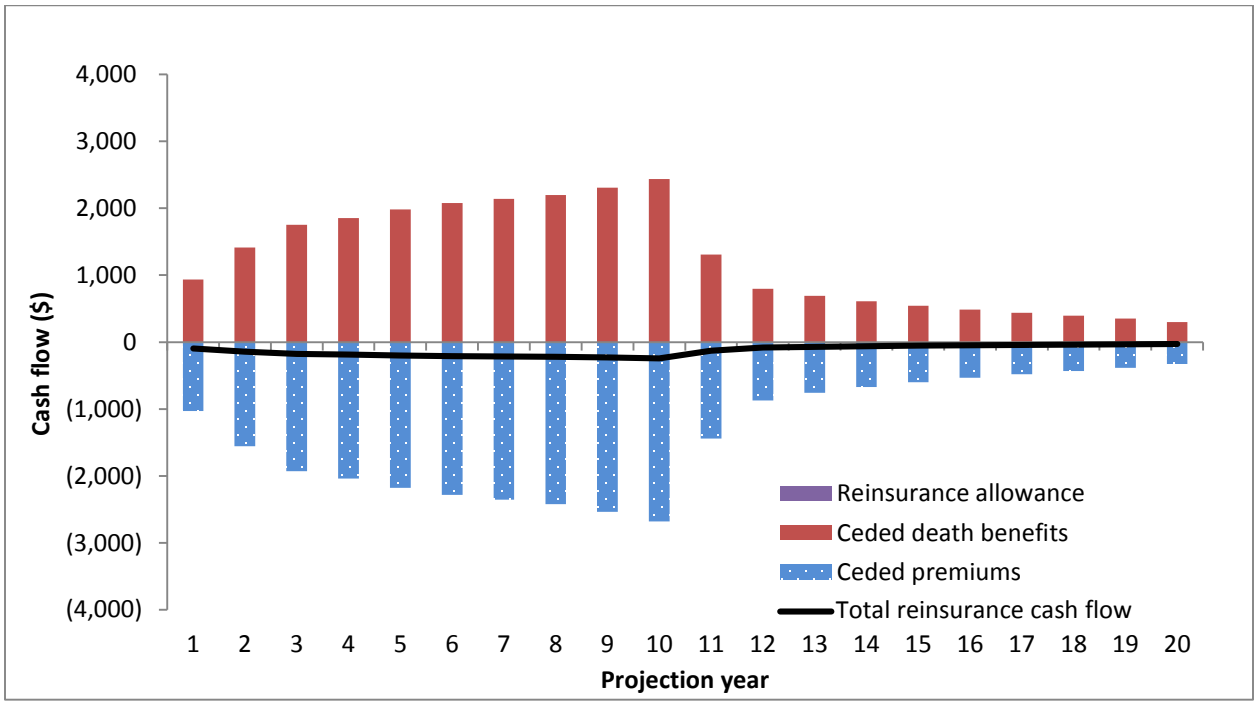
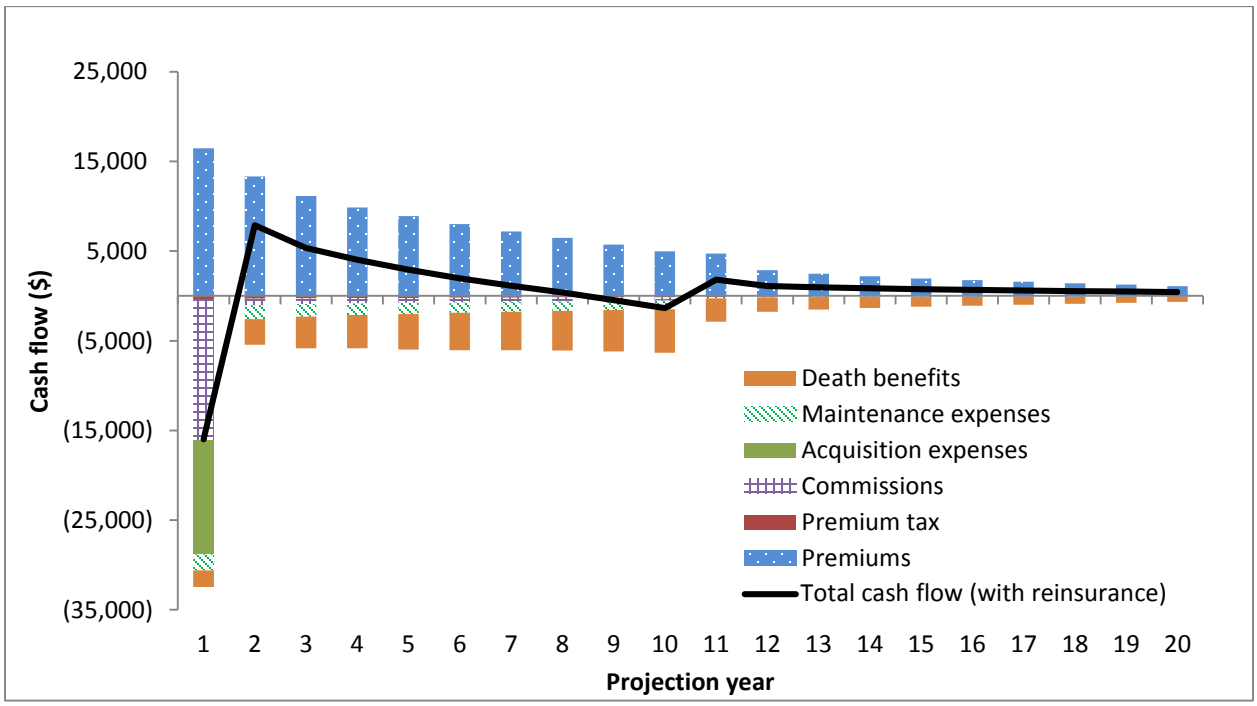


Figure 3: YRT Reinsurance Cash Flows



Note that the scale in Figure 3 has been expanded beyond the scale of Figure 2 and Figure 4 to show the individual reinsurance cash flows more precisely. Figure 4 below illustrates the total cash flows for the term product net of the reinsurance cash flows. In the illustration, death benefits are net of ceded death benefits and premiums are net of ceded premiums and reinsurance allowances.

Figure 4: Total Cash Flows, Including Reinsurance

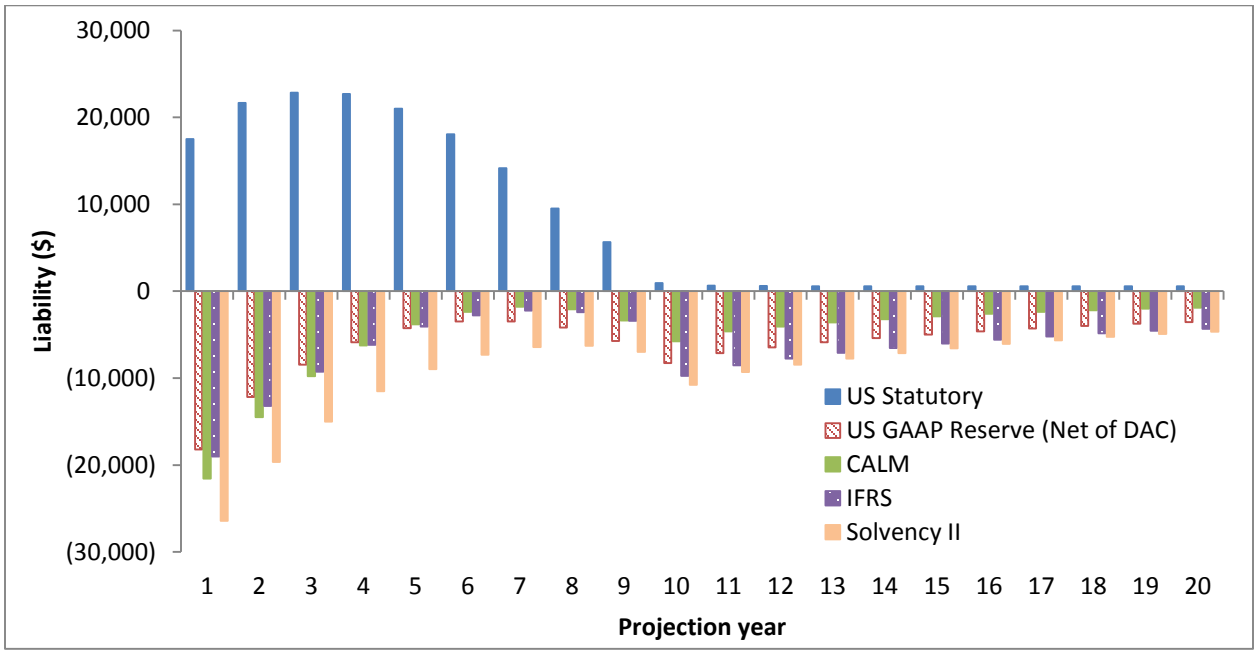


Liability projections

The following graphs illustrate the reserve projections under the various bases. The graphs represent the total liability before and after consideration of the YRT mortality reinsurance.

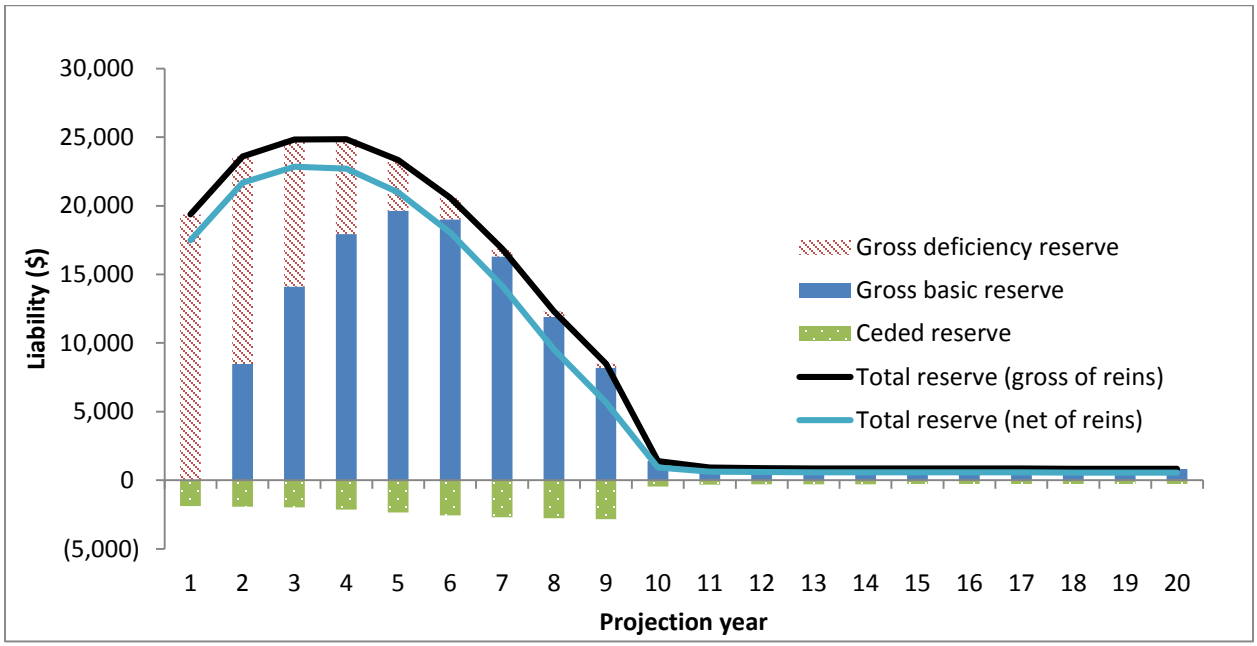
Figure 5 below demonstrates the conservatism in the US Statutory valuation basis in relation to its counterparts. The CALM, IFRS and Solvency II valuation bases exhibit similar reserve patterns as they each use a gross premium valuation methodology.

Figure 5: Term Life Net Liability Projections



The graph below segments the US Statutory reserve into its various components. The YRT reinsurance does not have a significant impact in releasing the excess US Statutory reserves.

Figure 6: Term Life US Statutory Liability Projections



The impact of ceding the policy to a captive reinsurer to obtain reserve and capital relief (in addition to the YRT reinsurance) is presented in Figure 7 below. It illustrates the difference between the US Statutory and economic reserve levels. The captive reinsurance structure permits the use of a letter of credit to support US Statutory reserves in excess of an economic reserve, where the economic reserve is floored at zero. The graph illustrates the economic reserve without application of the floor.

Figure 7: Term Life US Statutory and Economic Reserves

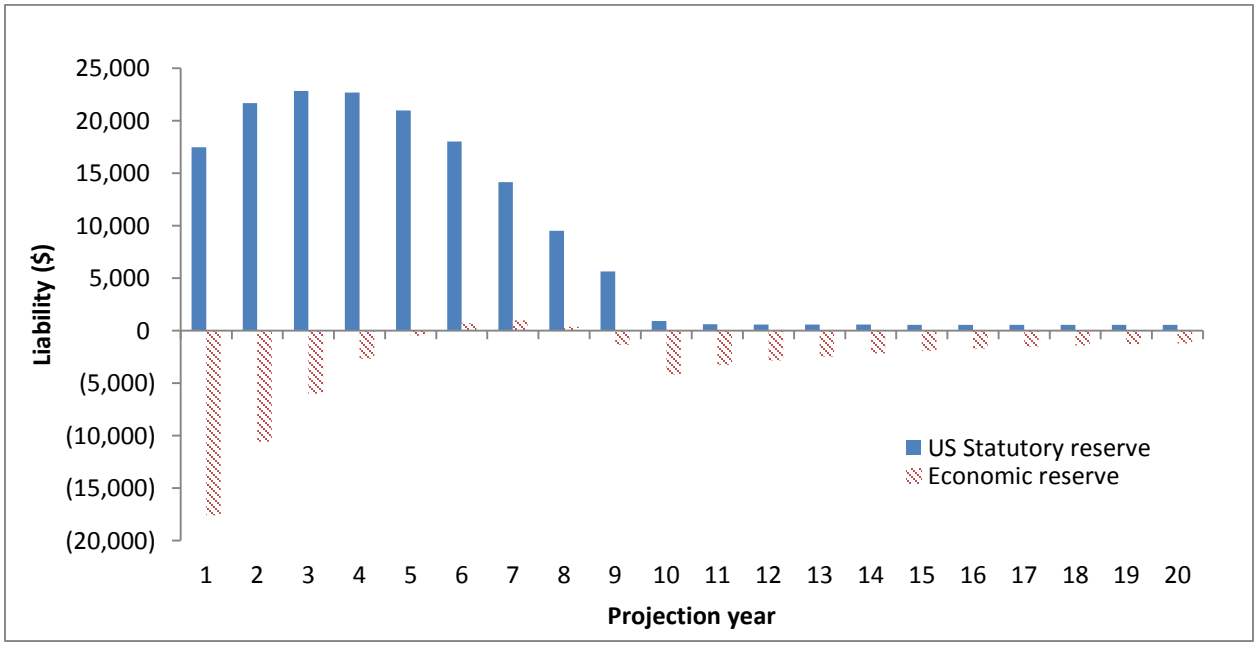


Figure 8: Term Life US GAAP Liability and DAC Projections

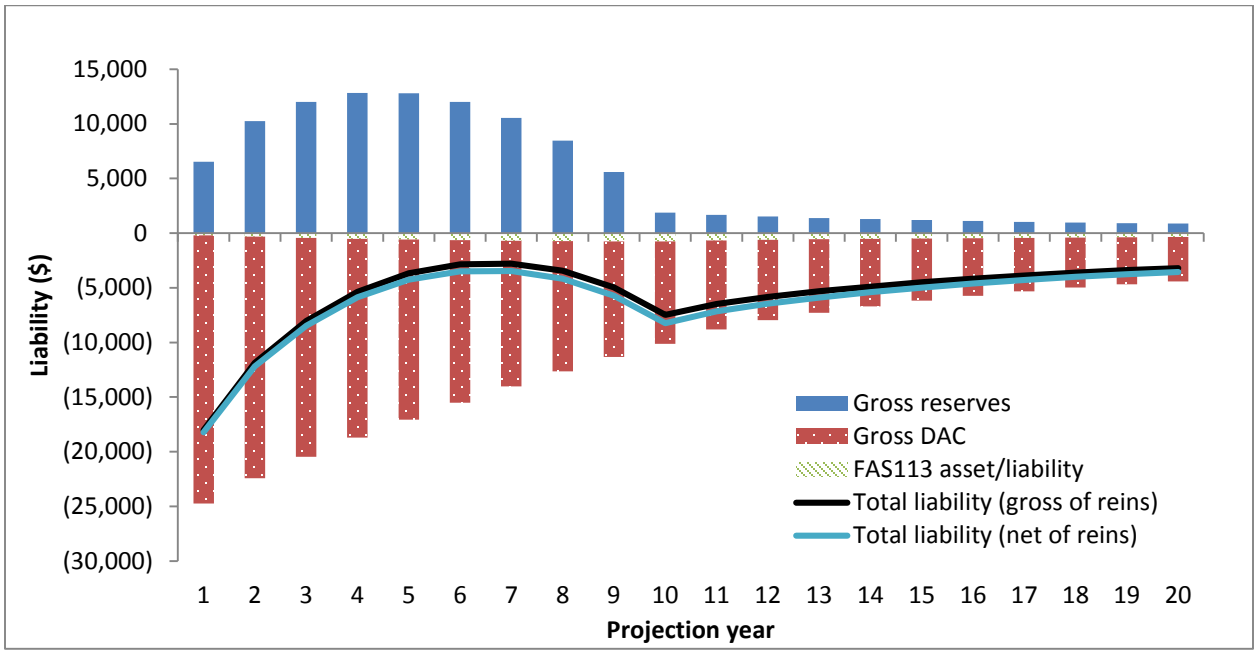


Figure 9: Term Life CALM Liability Projections

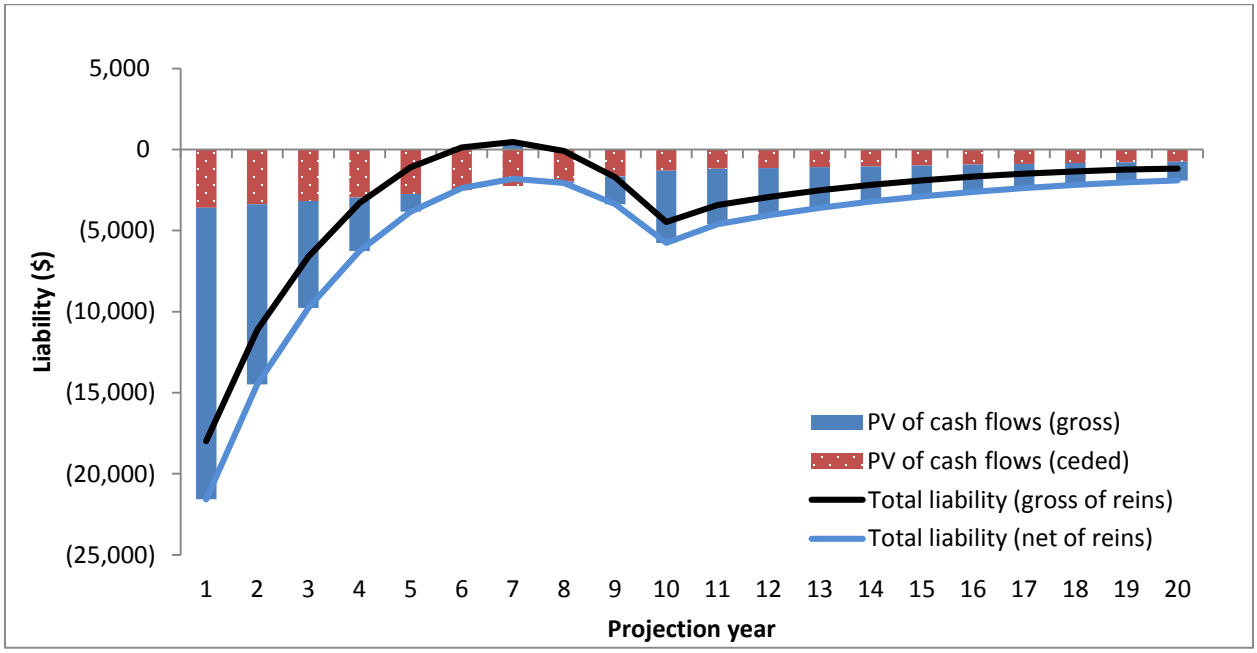


Figure 10: Term Life IFRS Liability Projections

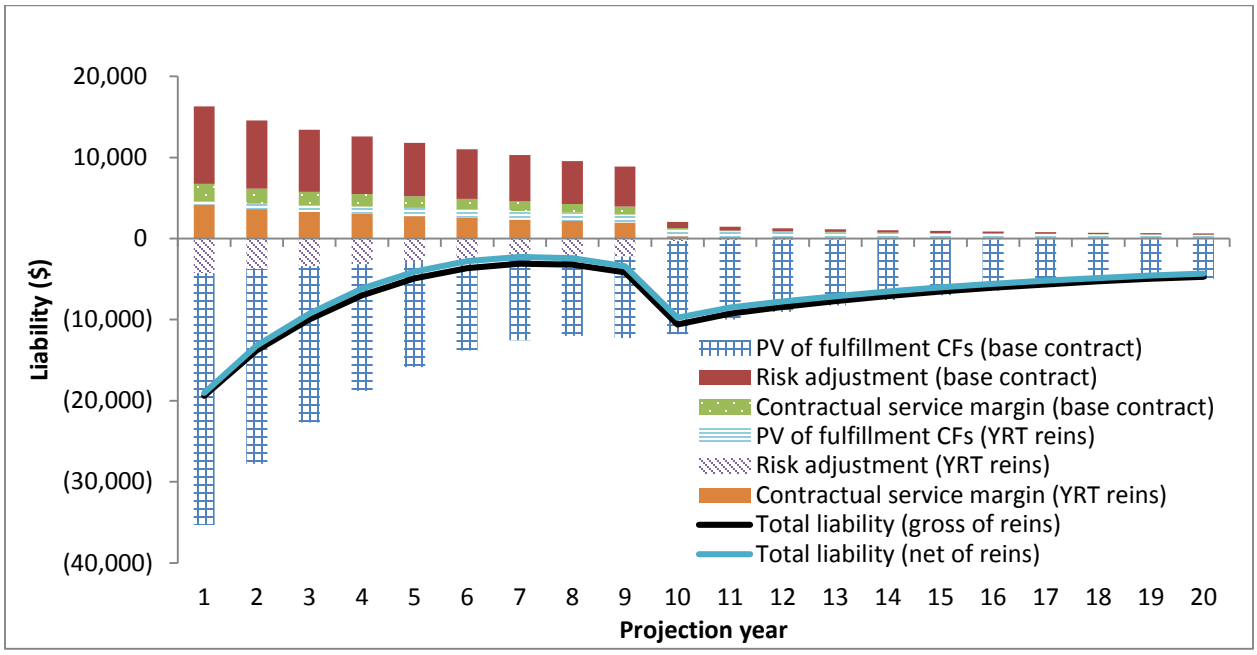
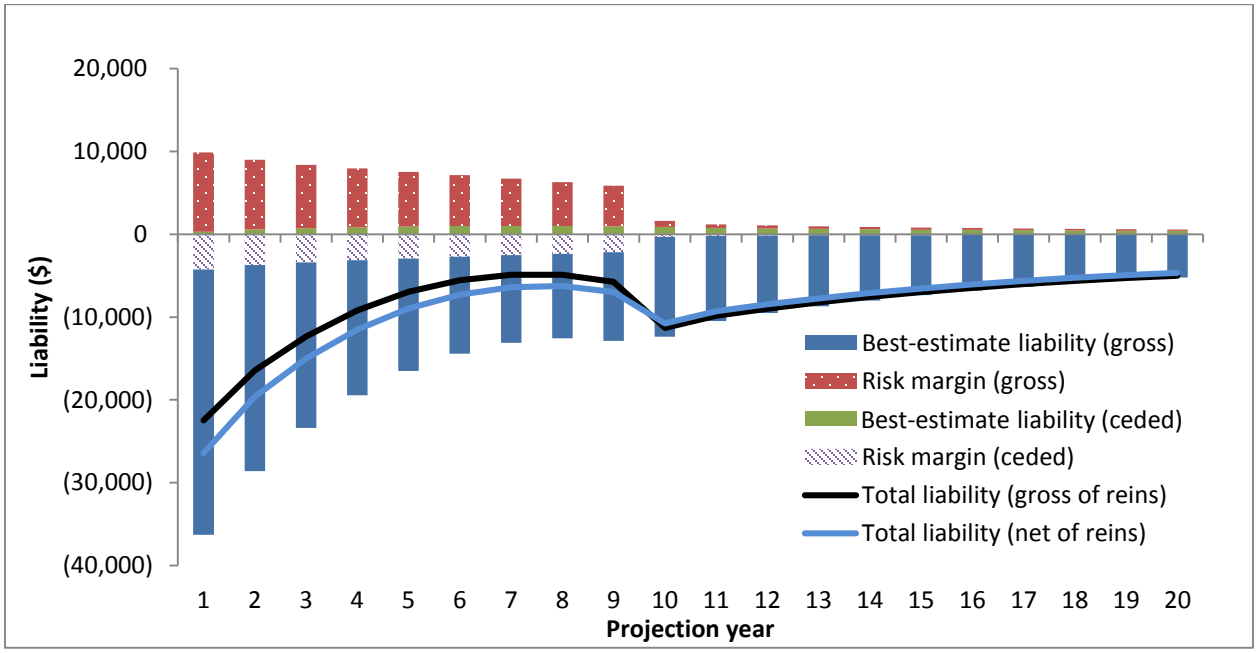


Figure 11: Term Life Solvency II Liability Projections



Earnings emergence

The different measurement bases are all essentially working toward the same goal—a valuation of insurance contracts. However, they have different purposes, and as a result they tend to differ philosophically on the timing of earnings recognition, the degree of conservatism that is appropriate, whether to permit a gain at inception of the contract, and other items. Beyond the philosophy, they may also implement different

mechanisms to achieve the same goal. Figure 12 below shows the impact on earnings emergence under the five bases.

US Statutory

US Statutory reporting is characterized as a solvency-targeted measurement regime with focus on producing a conservative balance sheet. It has little focus on earnings, and therefore less concern with matching revenues and expenses. Conservatism in the measurement basis for this product is reflected in the use of prescribed valuation assumptions as well as in the reserve methodology, which does not immediately recognize the profit in the post-level term period due to the segmentation of the reserves performed in a CRVM valuation.

Earnings emergence is driven by the conservatism in the reserves. The opening reserves are positive and very high relative to the other bases. This is mainly driven by the deficiency reserves. There is an element of deferring acquisition expenses via the expense allowance in the reserve calculation, but the deferral is not nearly as high as the explicit capitalization of acquisition expenses for US GAAP. Due to the high initial reserves and expenses, the US Statutory basis experiences a very large year 1 loss.

During the remainder of the level term period, which corresponds to the first segment of the CRVM calculation, reserves tend to follow a typical bell-shaped curve. The reserves increase slightly for the first few years, followed by a relatively fast release, as they tend to zero at the end of the segment. As such, the earnings emerge slower in the earlier years and relatively faster in the latter half of the level term period.

US GAAP

US GAAP measurement is focused primarily on the income statement, and as a result, DAC is used to effect a matching of acquisition costs with the revenue stream (premium) over the life of the policy.

Income emerges over the lifetime of the business in proportion to premiums adjusted by the pattern of PAD release, which are much smaller than the PADs implied within US Statutory prescribed assumptions. The mortality and lapse PADs are released in proportion to the pattern of reduction in in-force.

CALM

The CALM framework aims to balance the objectives of a conservative balance sheet with meaningful income emergence. CALM uses best-estimate assumptions plus MfADs. Though often higher than the PADs reflected in US GAAP, they have been set equal to US GAAP PADs for this study. The use of a “worst-case” scenario to develop the discount rate adds additional conservatism relative to US GAAP. This is partially offset due to the use of a gross premium-based reserve.

CALM does not include any features that would tend to smooth earnings emergence. Best-estimate assumptions are updated annually based on emerging experience trends, and the full impact of any basis changes is immediately recognized in income. Income emerges over the lifetime of the business relative to the pattern of release from PfADs. Without an explicit mechanism to eliminate the gains at issue, the earnings under CALM are higher than US GAAP in the first year and consequently lower in subsequent years. However, the overall pattern is similar.

Proposed IFRS

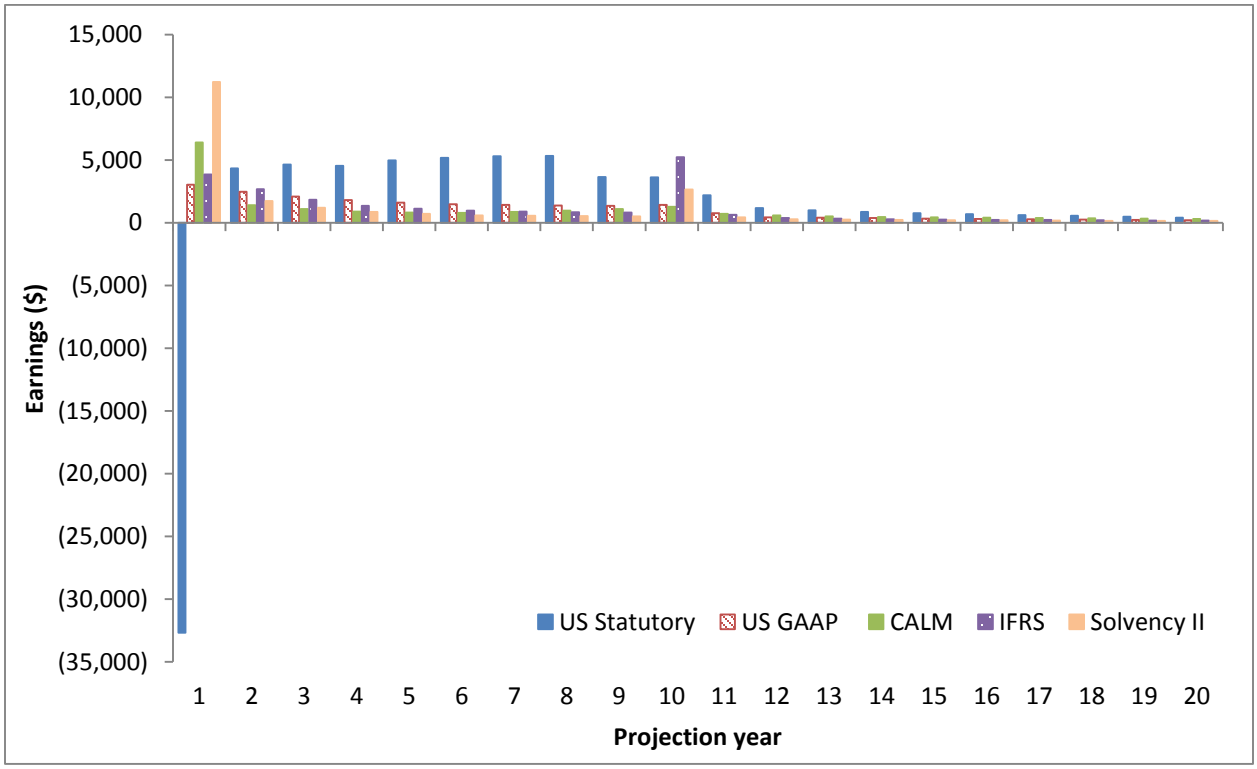
The proposed IFRS standard considers risk assumption to be the fundamental service provided by the contract and thus has an explicit risk adjustment incorporated in the measurement model. Earnings emergence follows the release from risk, consistent with this conceptual underpinning. Conservatism is provided through a CSM, which eliminates any gain at inception of a contract.

For the term product, the key driver to income emergence under IFRS is the pattern of release of the CSM for most of the projection, with the exception of year 10 (the shock lapse year). Unlike US GAAP or CALM, the proposed IFRS standard exhibits a relatively large spike in earnings in year 10. This spike is due to a risk adjustment release, which is driven by the large reduction in the face amount from the shock lapse.

Solvency II market-consistent balance sheet

The Solvency II model is very similar to the present value of fulfillment cash flows used in IFRS. The main difference is the lack of a mechanism to eliminate any gains at issue (i.e., no CSM). Without this explicit conservatism, the results show a large gain at inception, and reduced "earnings" in the remaining years. Similar to IFRS, Solvency II results experience a large spike in earnings in year 10 that is driven by the large risk margin release.

Figure 12: Term Life Pretax Income, Net of Reinsurance



4.4. Sensitivity Analysis

Six sensitivities for the term product exhibit the treatment of emerging experience and evolving economic assumptions under each of the reporting bases. The following table summarizes the sensitivities tested:

Sensitivity	Description
1	Lapse experience is 10 percent higher than expected.
2	In addition to the change to experience under Sensitivity 1, reflect the update in liability assumptions after three years.
3	Mortality experience is 10 percent higher than expected.
4	In addition to the change to experience under Sensitivity 3, reflect the update in liability assumptions after three years.
5	One percent parallel increase to RFR after five years to both experience and the best-estimate assumptions.
6	One percent parallel decrease to RFR after five years to both experience and the best-estimate assumptions.

The following sections discuss the results of the sensitivities.

4.4.1. Lapse Rate

The following two lapse rate sensitivities are considered:

- Sensitivity 1: Ten percent parallel increase to lapse rates under the experience assumptions in every year.
- Sensitivity 2: In addition to the change to experience, the best-estimate assumptions are unlocked after three years to be equal to the shocked experience assumptions. The intention is to replicate the delayed response a company would have before updating the lapse assumption as it waits for credible experience to emerge.

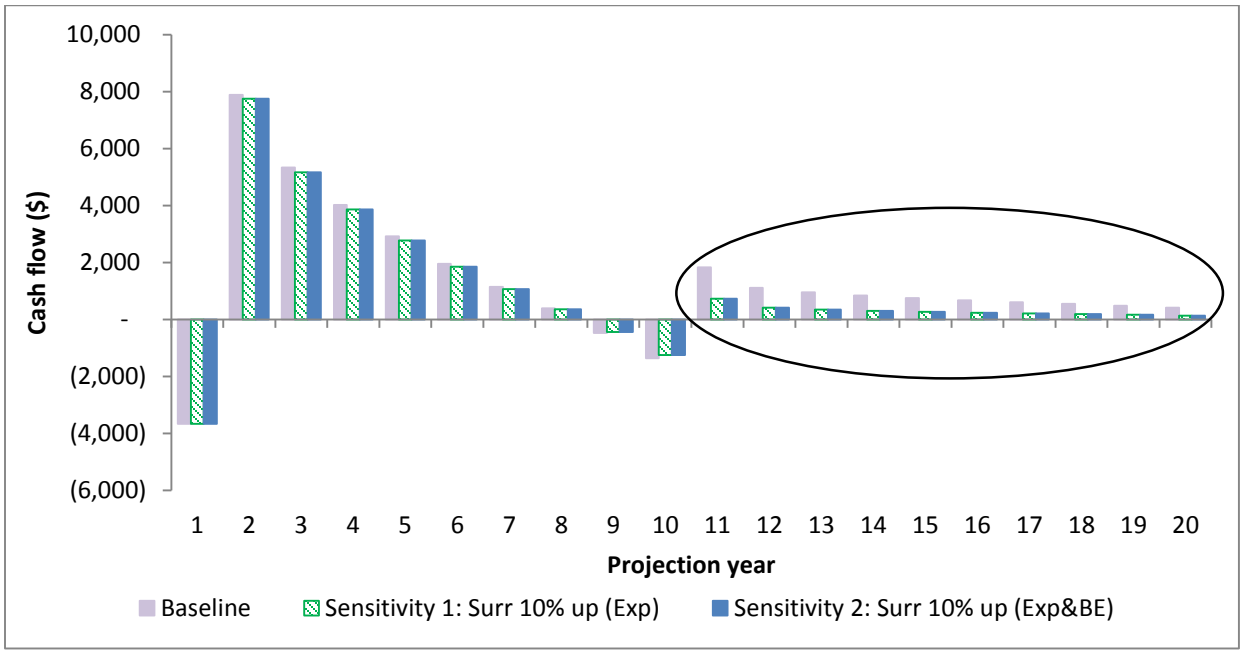
Both sensitivities reflect the same experience assumptions, thus exhibiting the same impact to cash flows. The difference is that Sensitivity 2 reflects the change in the best-estimate liability assumptions after three years of experience (i.e., unlocked in year 4). The increase in lapse rates is also applied to the shock lapses in years 10 and 11 in both the experience and reserve assumptions under Sensitivity 2.

The following figures illustrate the cash flow projections, liability projections and earnings emergence of the baseline scenario in relation to both lapse rate sensitivities.

Cash flow projections

Given that the product is not designed with any cash-surrender-value or return-of-premium options, a change in experience lapse rates only has an effect on the projected in-force population. There are no direct effects to the expected benefits per policy. Figure 13 below demonstrates that the higher experience lapses under Sensitivities 1 and 2 result in a lower in-force population, therefore lowering the aggregate cash flows proportionally in all years. This is particularly evident in the tail of the projection (after year 10) due to the impact on the shock lapses. The result of stressing the shock lapses of 85 percent and 40 percent in years 10 and 11, respectively, is that very few policyholders remain in force in the later stages of the projection, reducing the aggregate cash flows in the tail, as shown in the circled area.

Figure 13: Net Cash Flow Projection



Liability projections

Under Sensitivity 1, the liability balances per in-force volume for all reporting bases are the same as the baseline projections. This is expected since the reserve assumptions are unaffected. However, as observed with the cash flows, increasing the lapse rate reduces the in-force, which then reduces the aggregate reserve for all bases.

The assumptions underlying US Statutory reserves under CRVM and the US GAAP reserves for the term product are locked in and therefore remain unchanged on a per in-force volume basis throughout the projections under Sensitivities 1 and 2. The liability (net of DAC for US GAAP) decreases due to the reduction in the in-force. The level of PAD (110 percent) is unchanged due to the unlocking and applied to the updated base lapse assumption.

Figure 14: US Statutory Liability Impact

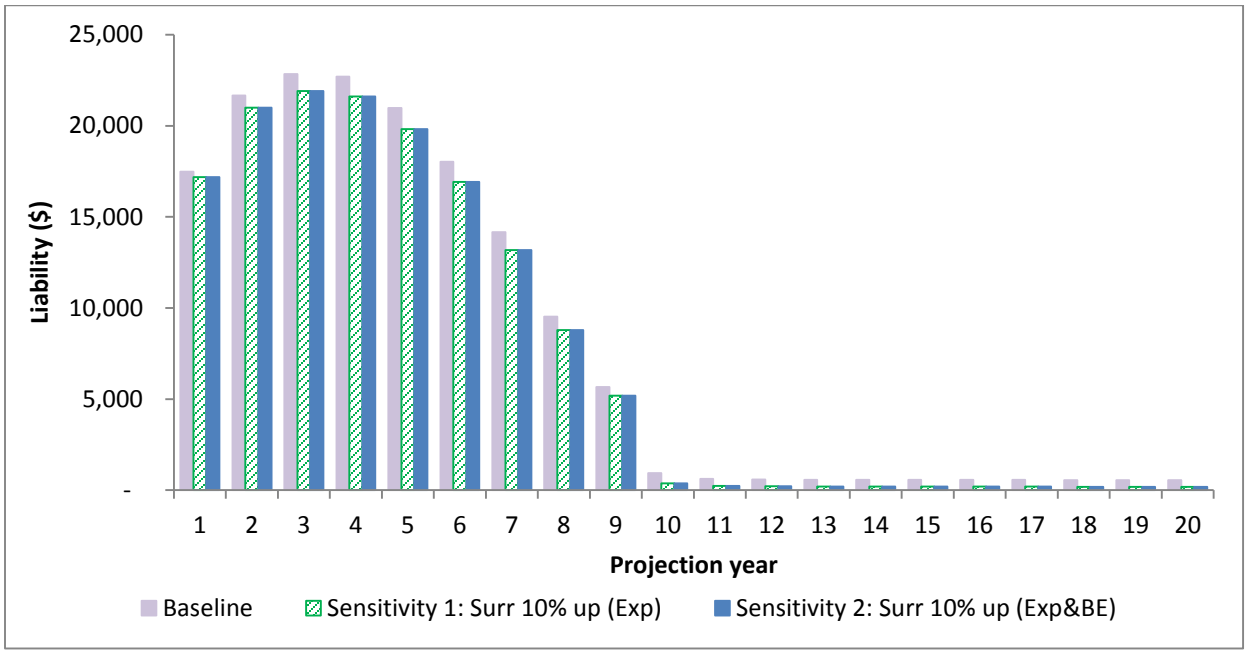
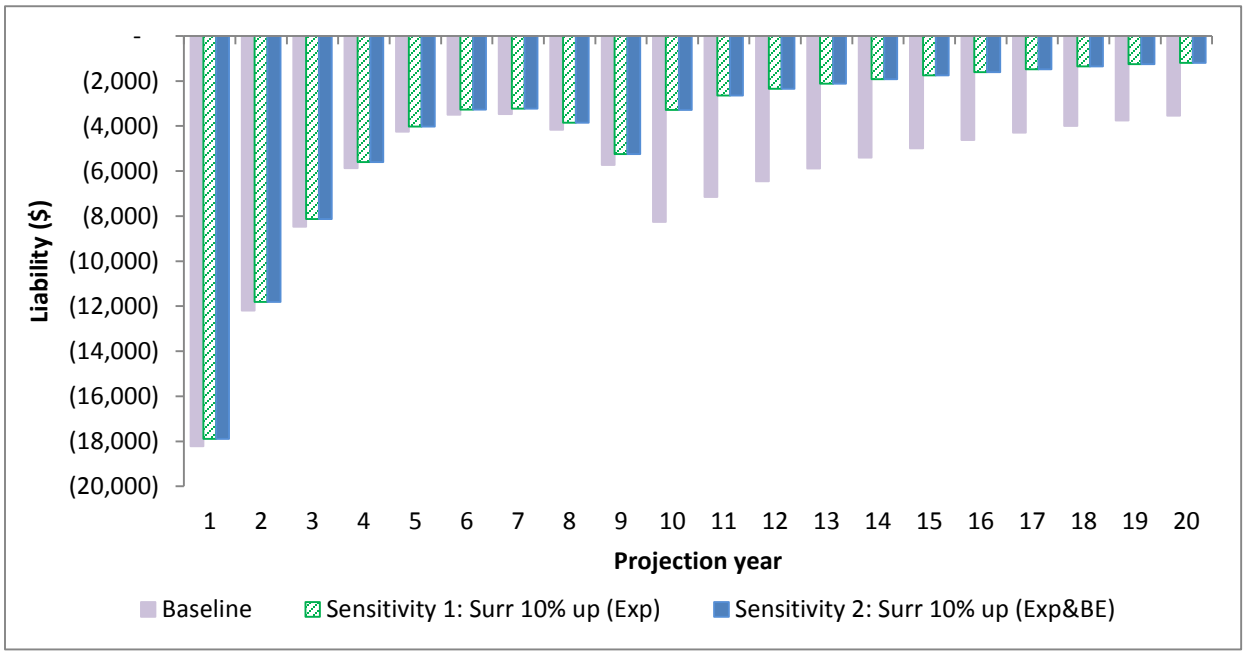


Figure 15: US GAAP Liability (Net of DAC) Impact



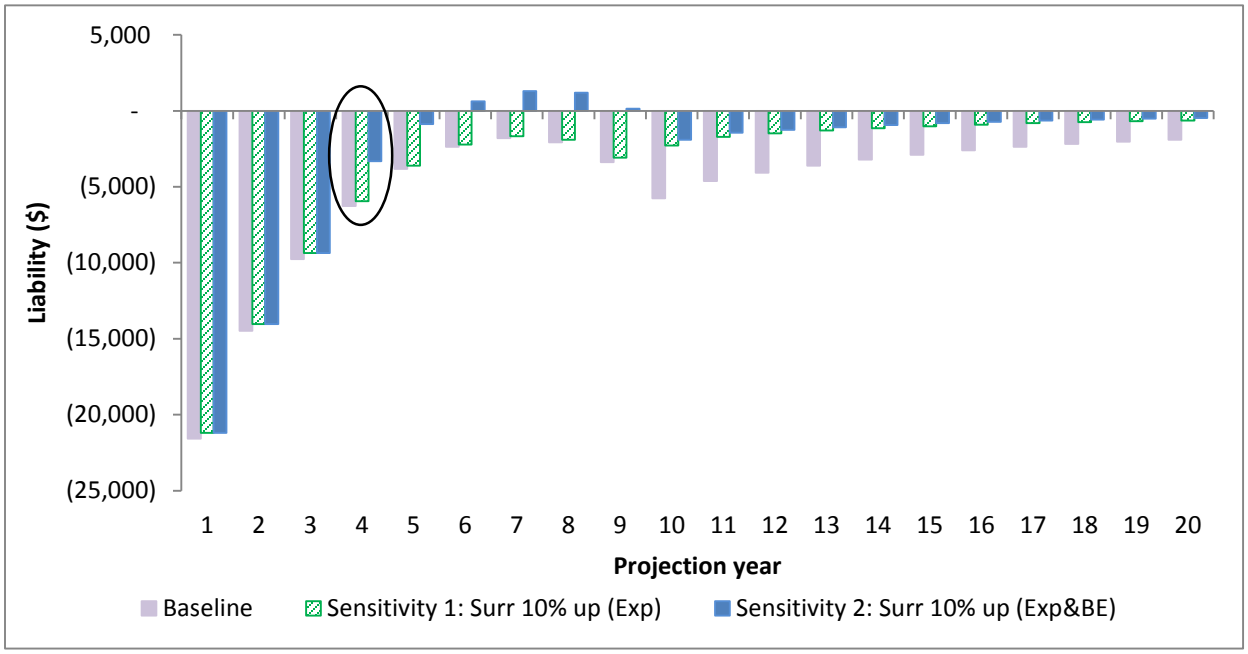
Under Sensitivity 2, liability assumptions are unlocked for all of the three principle-based reporting bases (CALM, IFRS and Solvency II). The liabilities are all unlocked at the end of the fourth year to reflect the change in the projected best-estimate lapse assumption. The shock to the expected lapse rates is applied to all future lapse rates, including shock lapses in year 10 and year 11. This is consistent with the application of the shock to the experience lapses used to project cash flows.

Relative to US Statutory and US GAAP, prior to the unlocking in year 4, the liabilities under the three principle-based measurement bases are generally smaller due to the lower in-force. However, in year 4, the assumption unlocking in Sensitivity 2 illustrates the sharp increase in liabilities as each of these bases reflects the anticipated higher future lapses in their measurement as highlighted in circled areas in Figure 16 through Figure 18.

It should be noted that the assumptions underlying the economic reserves, used for the purposes of determining the level of invested assets, are also unlocked under Sensitivity 2. Given that the level of invested assets, which determines the investment income, affects all five bases equally, further analysis on the unlocking impact of the economic reserve is not discussed in this report.

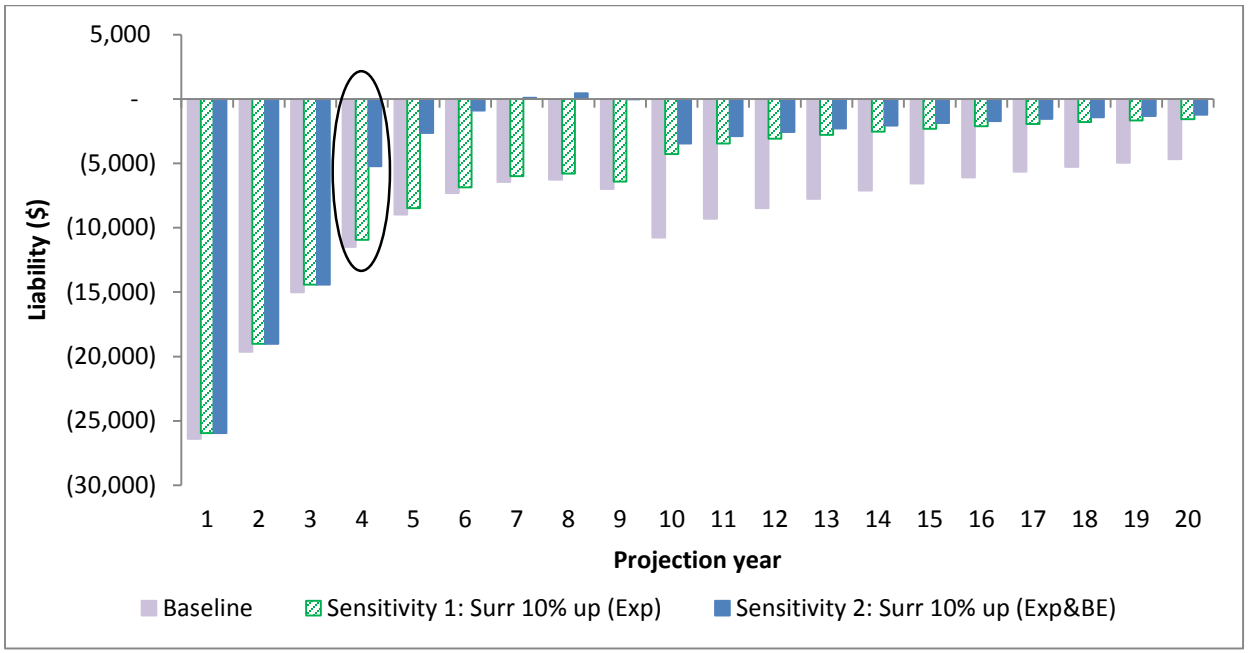
The assumption unlocking in year 4 is reflected in the CALM liability by updating the best-estimate lapse assumptions used to calculate the CALM reserves. The higher level of expected lapses increases the liability due to the reduction in future premiums outweighing the reduction in future death benefits.

Figure 16: CALM Liability Impact



Similarly, the assumption unlocking is reflected in the Solvency II liability by updating the best-estimate lapse assumptions used to calculate the best-estimate liability cash flows. This leads to a similar increase in Solvency II liability as observed on the CALM liability.

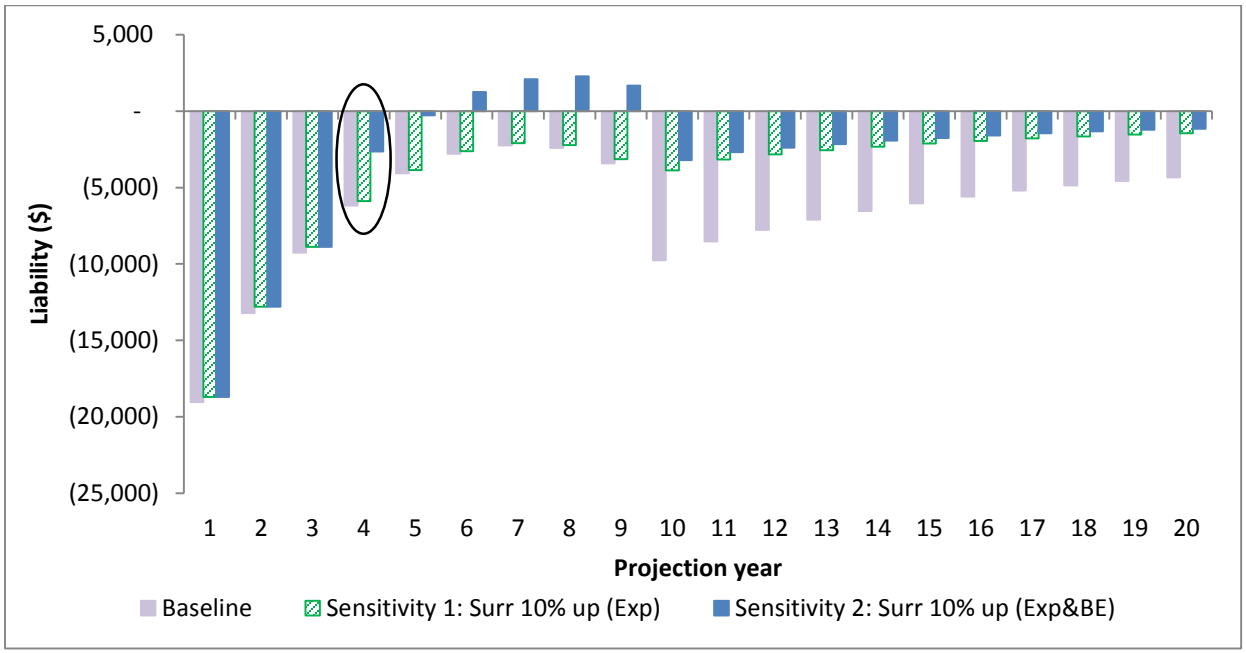
Figure 17: Solvency II Liability Impact



The assumption unlocking is reflected in the IFRS liability by updating the best-estimate lapse assumptions used to calculate the present value of fulfillment cash flows balance. Unlike CALM or Solvency II, the proposed IFRS regulation allows a reduction in the CSM to absorb the increase in the present value of fulfillment cash flows due to prospective assumption unlockings. Given the change in the lapse assumption results in an increase to the present value of fulfillment cash flows that is greater than the CSM at the end of year 4, the unlocking impact is only partially absorbed by the CSM.

Additionally, under the proposed IFRS results, the CSM on the reinsurance contract is not floored at zero and is negative at the time of the shock. The CSM related to the reinsurance agreement absorbs movement in the present value of fulfillment cash flows in either direction. As such, after the change in best-estimate lapse assumption in year 4, the ceded CSM becomes more negative.

Figure 18: IFRS Liability Impact



Earnings emergence

The earnings emergence under Sensitivity 1 can be characterized as follows:

- Higher-than-expected lapses reduce the level of invested assets and reduce the investment income. This impact is consistent across all bases, and tends to lower the earnings in all years (except year 10, discussed below).
- The Sensitivity 1 results in year 10 are driven by different factors for the different bases:
  - For US Statutory, which does not explicitly consider lapses in the liability calculation, a higher level of surrenders in year 10 tends to increase income due to the earlier release of excess reserves, as shown in area A in Figure 19.
  - For US GAAP, the large loss in year 10 (area B in Figure 19) is driven by a DAC release that is in excess of the reserve release. This is driven by the fact that reserves are relatively low (and close to zero) at the end of the level term period, whereas the DAC is relatively high as it is amortized in proportion to premiums, which tend to be heavy in the post-level term period.
  - For the three more principle-based bases (CALM, IFRS and Solvency II), the net liability is in an asset position in year 9. As such, the higher-than-expected lapses in year 10 tend to reduce the asset position and result in an income strain leading to a loss for the year, as shown in area C in Figure 19.

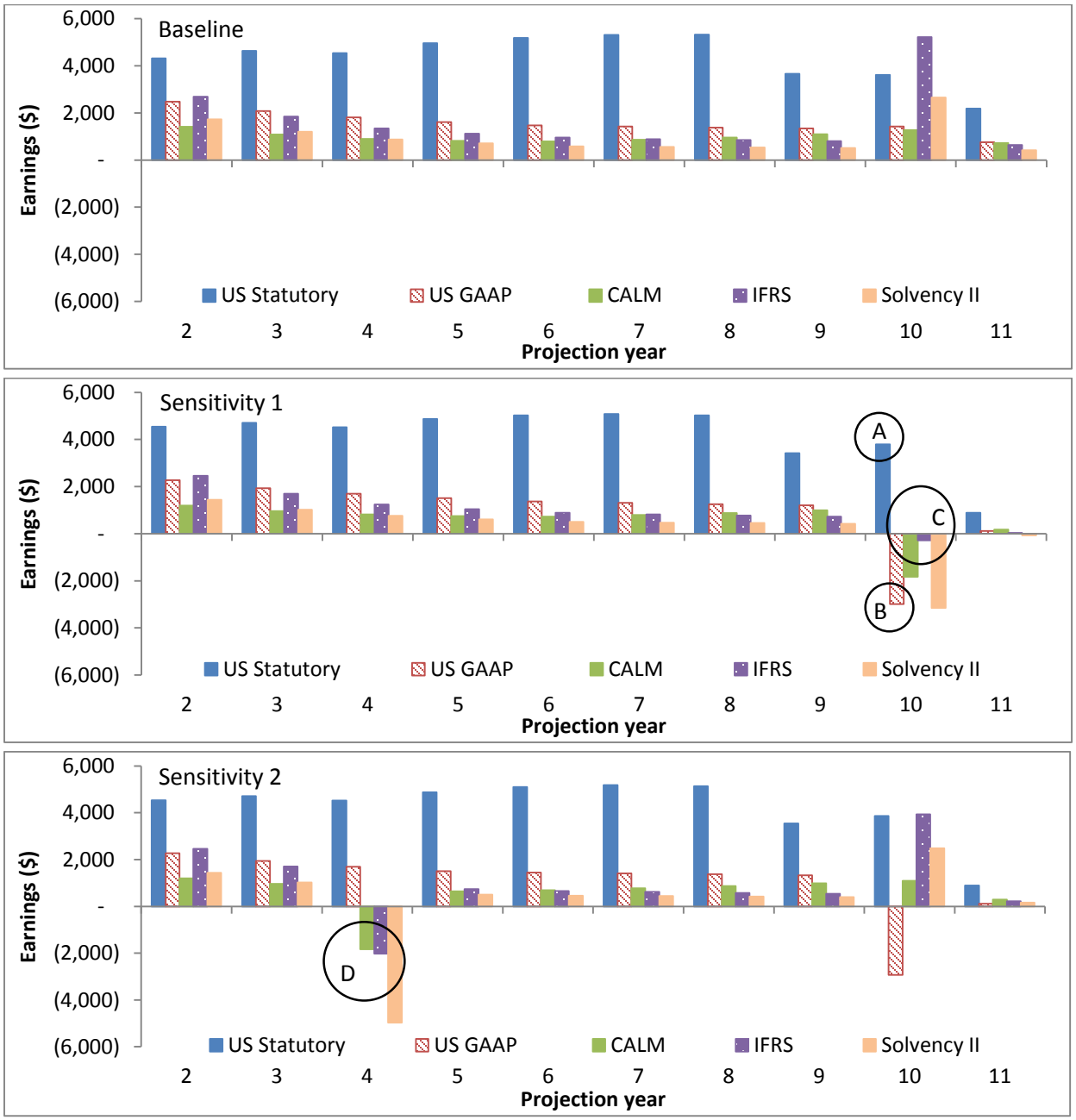
The earnings emergence under Sensitivity 2 can be characterized as follows:

- Similar to Sensitivity 1, higher lapses reduce the investment income in all years across all bases and tend to lower the earnings.

- Unlike Sensitivity 1, where assumptions are left as is, Sensitivity 2 assumes the emerging experience is incorporated into the best-estimate assumptions and certain reserve bases are updated as necessary. The assumption unlocking occurs in year 4 and has the following impact on income for the various bases:
    - For US Statutory and US GAAP, the income emergence pattern does not differ between Sensitivity 1 and Sensitivity 2 since the valuation assumptions are locked in at issue.
    - For the three more principles based bases (CALM, IFRS and Solvency II), the net liability is negative in year 4 prior to the unlocking. Updating the best-estimate lapse assumption tends to lower the asset position for all of these bases, which results in an income strain leading to a loss for the year, as shown in area D in Figure 19. The magnitude of the loss, however, varies quite significantly for these three bases. The reporting basis that exhibits the largest loss is the Solvency II basis. This is expected since Solvency II has a low discount rate, leading to a higher sensitivity of updating future lapses. For IFRS, a reduction in the CSM absorbs the unlocking impact on the present value of fulfillment cash flows. However, given the CSM is smaller than the total unlocking impact on fulfillment cash flows, it does not fully absorb the impact and results in a smaller loss. The reporting basis least impacted by the change in best-estimate assumptions is the CALM basis, which had included a 10 percent margin in its lapse assumption. The margin in the reserve valuation proved to be a buffer against adverse deviation in the valuation assumption. As a result, the increase in the best-estimate lapse assumption had less of an impact relative to the other bases. Note that this analysis does not include any additional reserve that could arise due to asset/liability cash flow mismatches that could occur as a result of misestimating the lapse assumption at the start. Because CALM reserves are impacted by the cash flows of the underlying assets, such a result could occur under CALM, but the simplified approach to estimate CALM reserves in this study is not sensitive enough to pick up this impact.
- For income results after the unlocking, the pattern of income emergence for the principle-based reporting frameworks reverts to the same pattern exhibited in the baseline projections. In other words, the losses projected in year 10 under Sensitivity 1 revert to gains as projected under the baseline scenario. This result is intuitive as the baseline and the Sensitivity 2 (after year 4) scenarios both project experience using the same best-estimate assumptions reflected in the liability valuation. Given that the US Statutory and US GAAP assumptions are not unlocked, the income emergence pattern under Sensitivity 2 follows a similar pattern as Sensitivity 1.

Figure 19 shows the impact on earnings emergence for years 2 through 11 under the baseline, Sensitivity 1 and Sensitivity 2 projections.

Figure 19: Earnings Emergence



4.4.2. Mortality Rate

The following two mortality rate sensitivities are considered:

- Sensitivity 3: Ten percent parallel increase to mortality rates under the experience assumptions in every year.
- Sensitivity 4: In addition to the change to experience, the best-estimate assumptions are unlocked after three years to be equal to the shocked experience assumptions. The intention is to replicate the delayed

response a company would have, as it waits for credible experience to emerge before updating the mortality assumption.

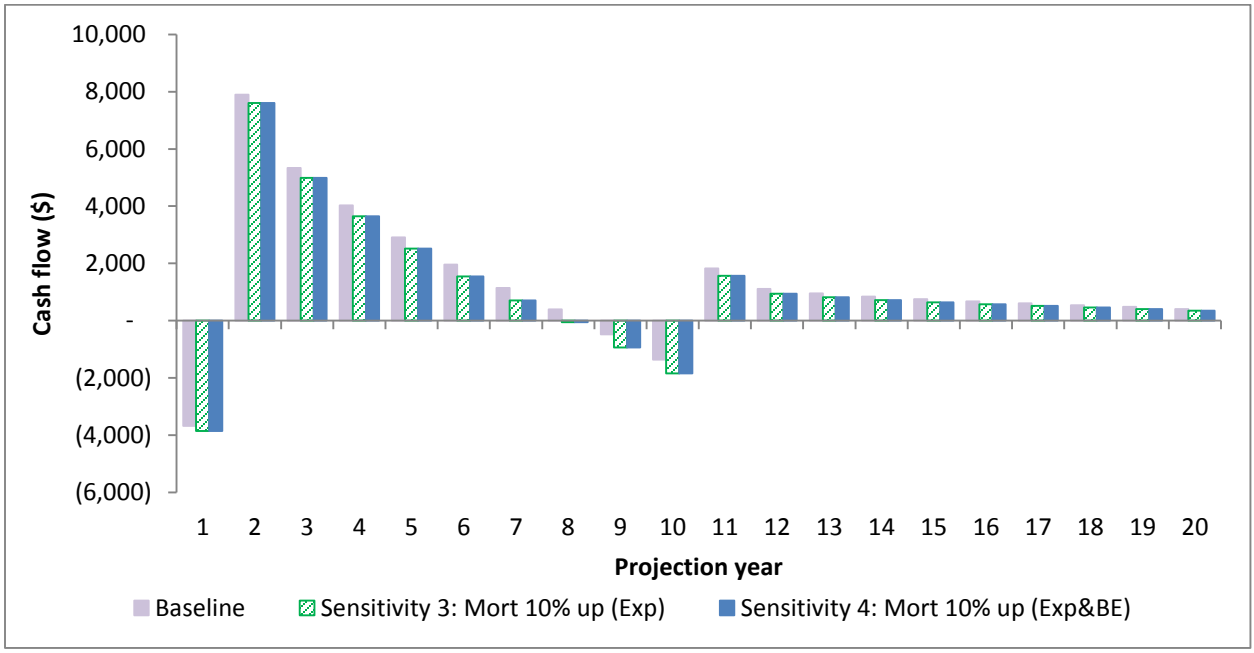
Both sensitivities reflect the same experience assumptions, thus exhibiting the same impact to cash flows. The difference is that Sensitivity 4 reflects the change in the best-estimate liability assumptions after three years of experience (i.e., unlocked in year four).

The following figures illustrate the cash flow projections, liability projections and earnings emergence of the baseline scenario in relation to both mortality rate sensitivities.

Cash flow projections

A change in experience mortality rates has an effect on both the projected in-force population as well as the expected death benefit cash flows. The higher mortality experience results in higher death benefits paid. This impact is partially mitigated by the YRT reinsurance. The higher mortality also leads to a smaller in-force, resulting in lower premiums collected and lower expenses incurred. These items have an offsetting impact, which leads to a relatively small impact on net cash flows, as demonstrated in Figure 20 below.

Figure 20: Net Cash Flow Projection



Liability projections

Under Sensitivity 3, the liability balances per in-force volume for all reporting bases are the same as the baseline projections. This is expected since the reserve assumptions are unaffected. However, as observed with the cash flows, increasing the mortality rate has a small effect on the in-force, resulting in a small impact to the aggregate reserve for all bases.

Similar to Sensitivities 1 and 2, the assumptions underlying US Statutory reserves under CRVM and the US GAAP reserves for the term product are locked in and therefore remain unchanged on a per in-force volume basis. The aggregate liability (net of DAC for US GAAP) decreases insignificantly due to the slight reduction in the in-force due to higher mortality.

Figure 21: US Statutory Liability Impact

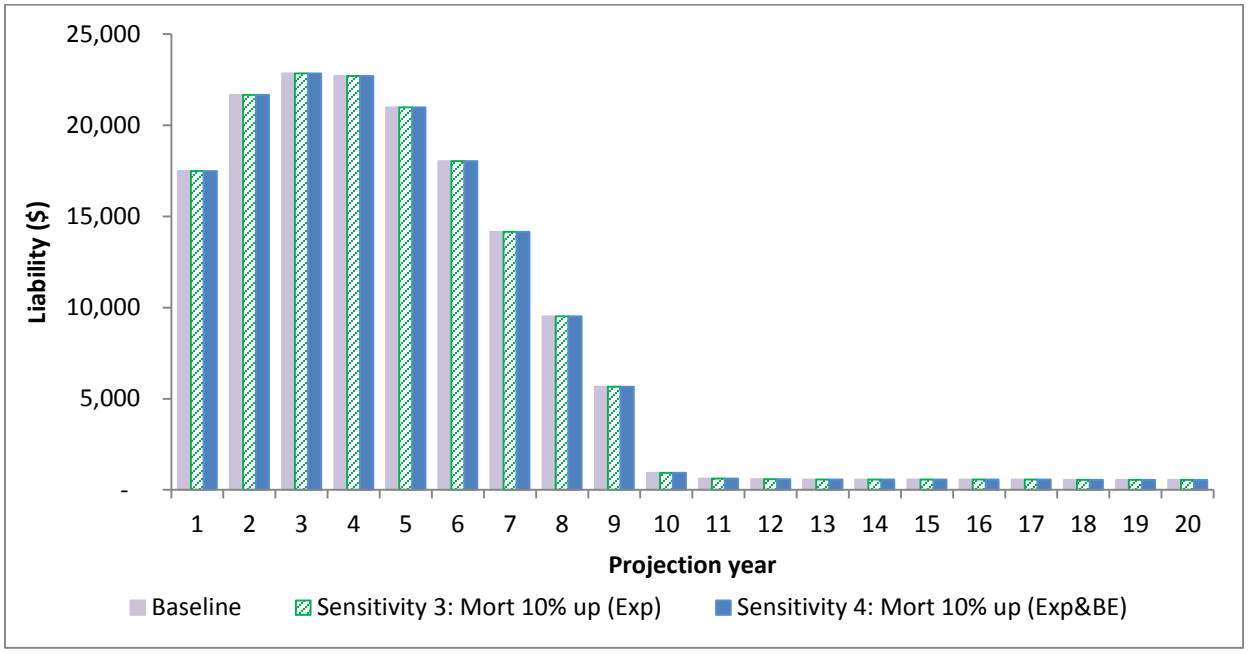
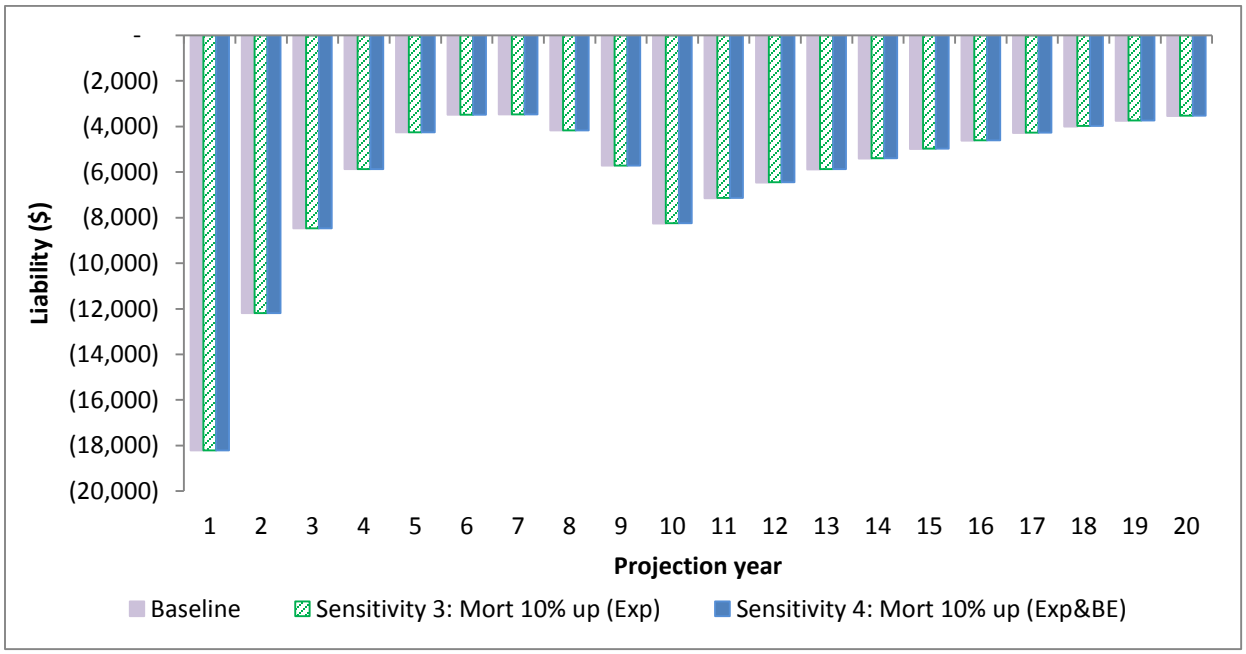


Figure 22: US GAAP Liability (Net of DAC) Impact



Under Sensitivity 4, liability assumptions are unlocked for all of the three principle-based reporting bases (CALM, IFRS and Solvency II). The liabilities are all unlocked at the end of the fourth year to reflect the change in the projected best-estimate mortality assumption.

The increase in expected mortality rates increases the total liability for each of these principle-based reporting bases. Contrary to the lapse rate sensitivities, the shock to the mortality rates does not have a large effect on the tail of the projection, largely due to the presence of YRT reinsurance. The in-force is not affected significantly enough to change the profitability generated in the post-level term portion of the projection the way it is for the lapse sensitivities. As a result, the aggregate liability balances are not as sharply impacted at the end of the level term period.

Similar to Sensitivity 2, it should be noted that the assumptions underlying the economic reserves, used for the purposes of determining the level of invested assets, are also unlocked under Sensitivity 4. Given that the level of invested assets, which determines the investment income, affects all five bases equally, further analysis on the unlocking impact of the economic reserves is not discussed in this report.

The changes in the CALM, Solvency II and IFRS liabilities are adjusted at the end of year 4 to reflect the change in assumptions, as highlighted in the circled areas in Figure 23 through Figure 25. These changes are applied similarly to those of the lapse Sensitivity 2 (see Section 4.4.1.).

Figure 23: CALM Liability Impact

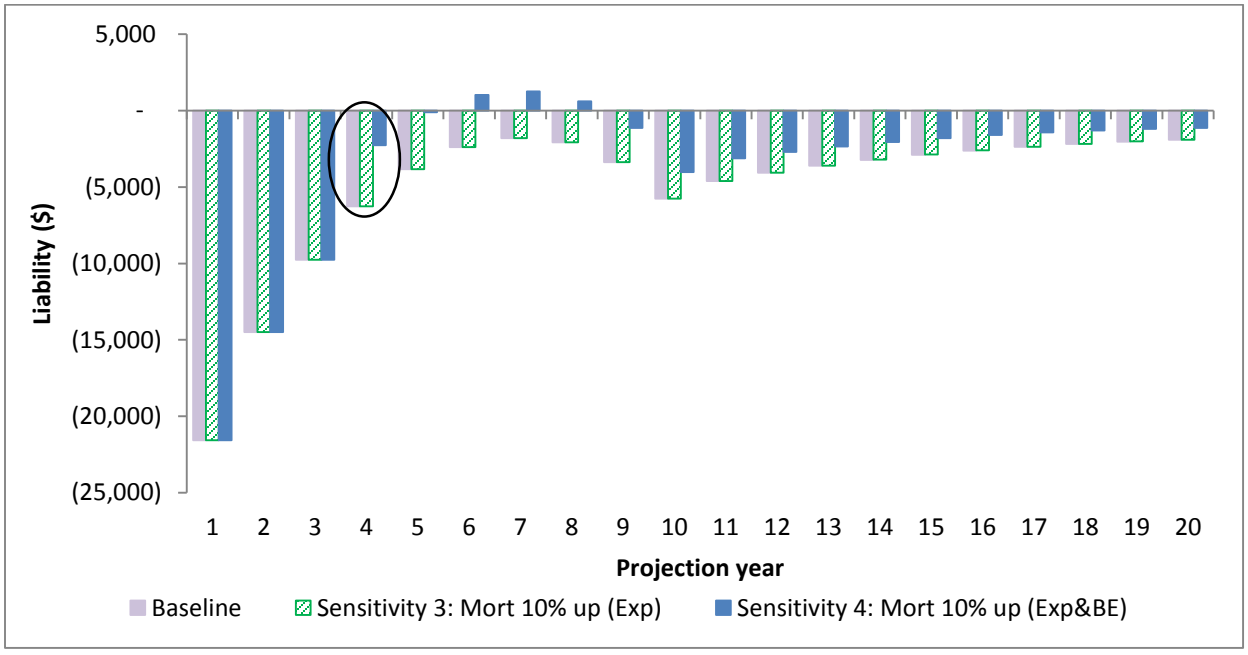


Figure 24: Solvency II Liability Impact

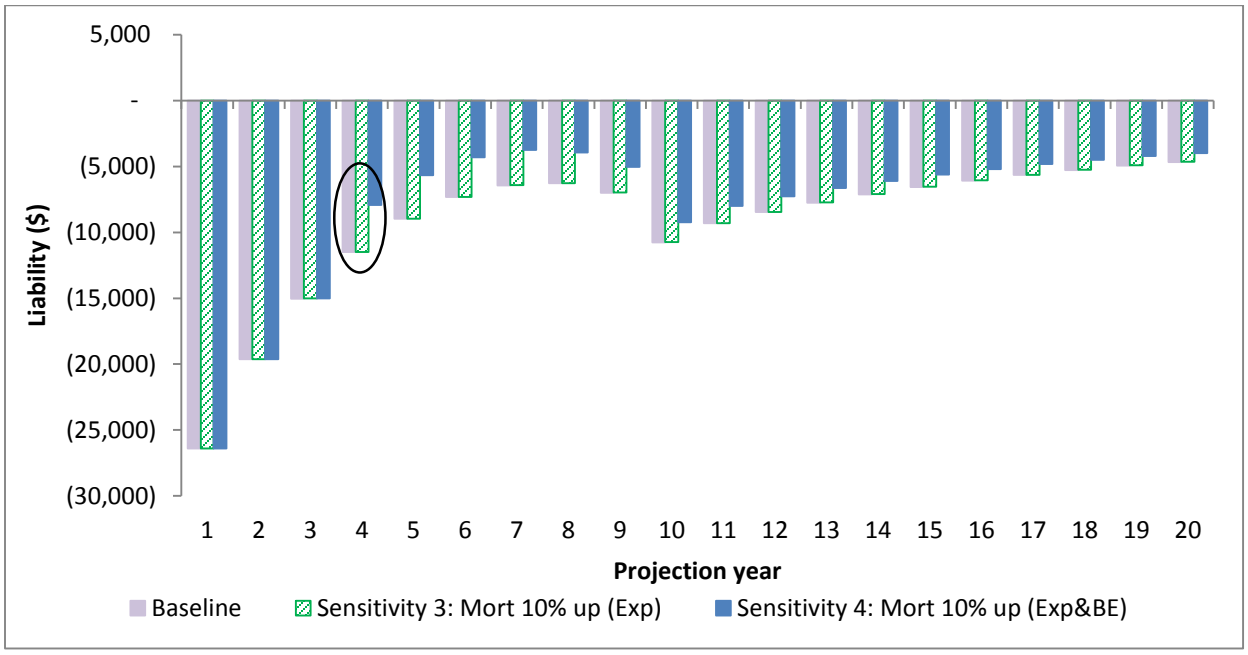
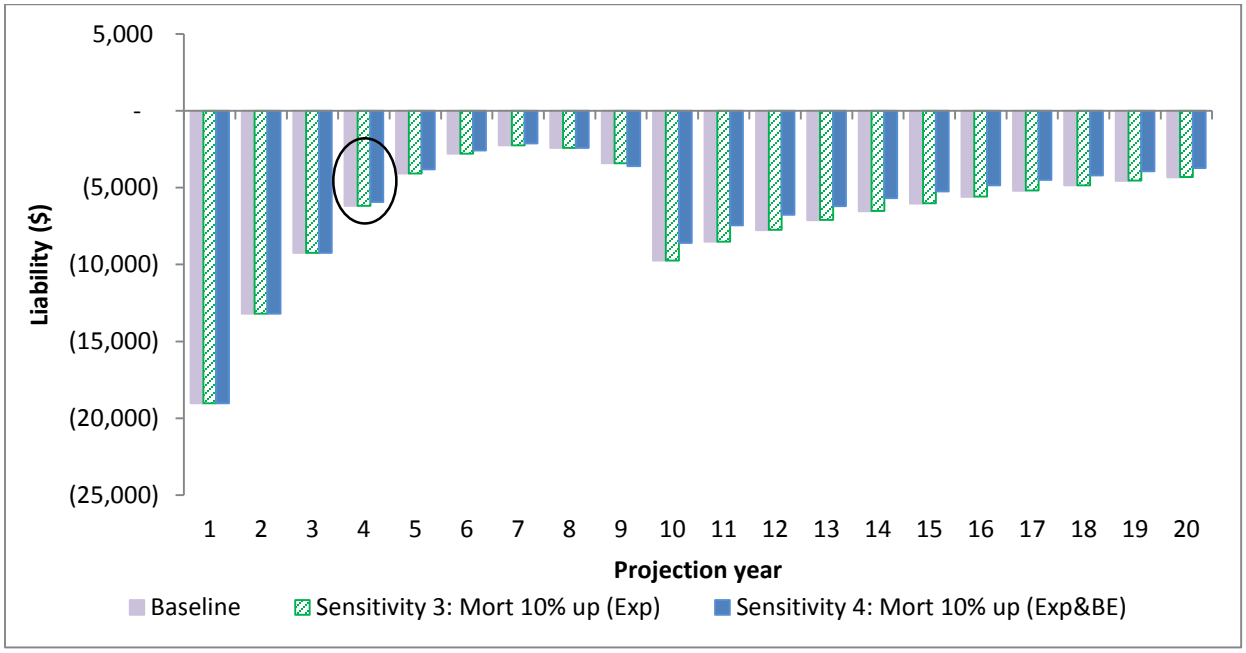


Figure 25: IFRS Liability Impact



Earnings emergence

The earnings emergence under Sensitivity 3 can be characterized as follows:

- Higher-than-expected mortality increases the projected death benefits in each year, reducing the overall profitability of the product. This impact is consistent across all bases, and lowers the earnings in all years. The impact of the increased mortality is lessened by the YRT reinsurance covering one-

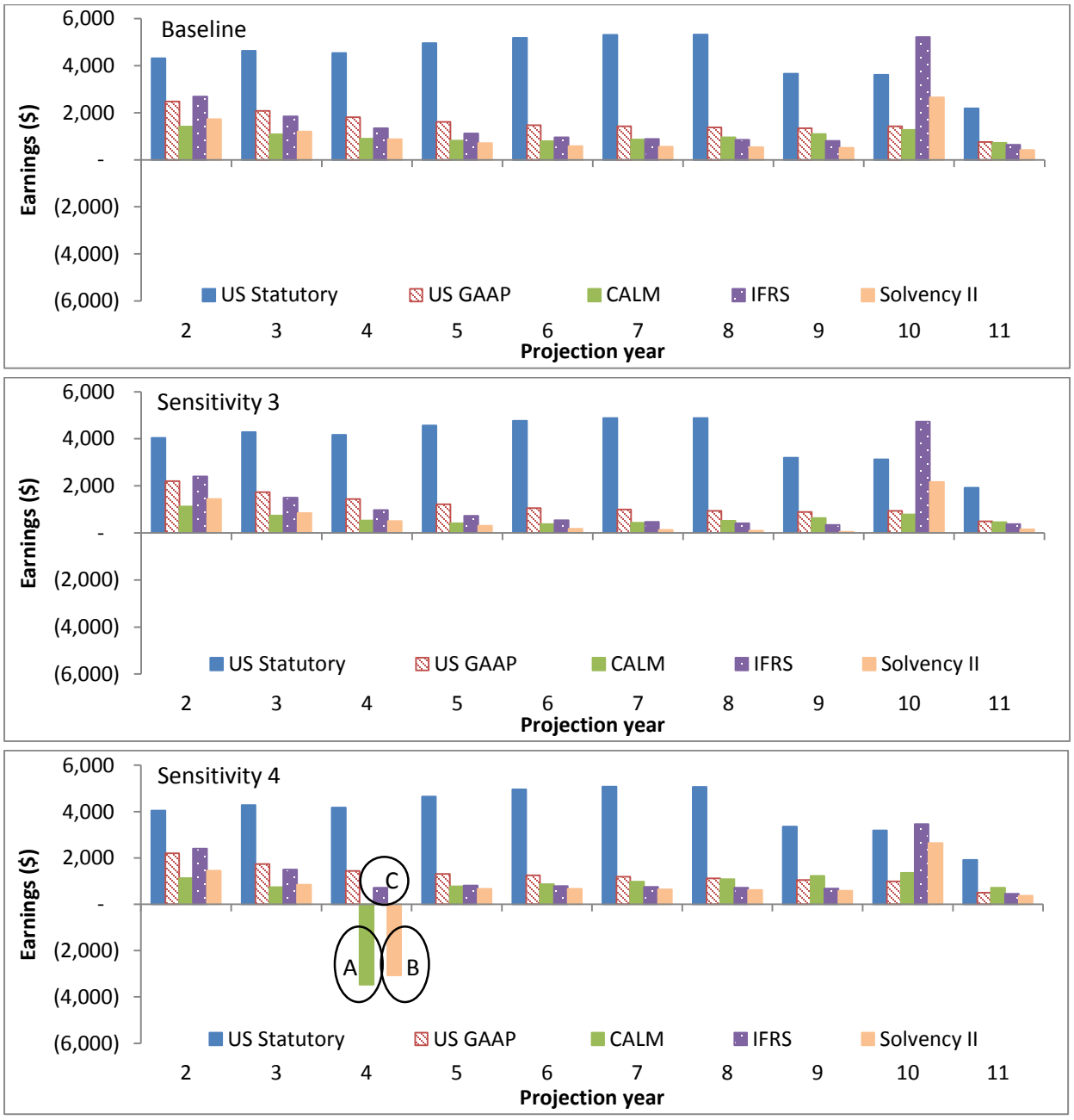
third of the net amount of risk on each policy. The impact to the in-force population due to the increased decrements is negligible over the 20-year projection horizon.

The earnings emergence under Sensitivity 4 can be characterized as follows:

- Similar to Sensitivity 3, higher mortality increases the death benefits in all years across all bases and lowers the earnings.
- Unlike Sensitivity 3, where best-estimate assumptions are left as is, Sensitivity 4 assumes the emerging experience is incorporated into the best-estimate assumptions and the CALM, IFRS and Solvency II bases are updated accordingly. The assumption unlocking occurs in year 4 and has the following impact on income for the various bases:
    - For US Statutory and US GAAP, the income emergence pattern does not differ between Sensitivity 3 and Sensitivity 4 since the valuation assumptions are locked in at issue.
    - For CALM and Solvency II, the impact is similar to Sensitivity 2 in direction. For these bases, the net liability is in an asset position in year 4 prior to the unlocking. Updating the best-estimate mortality assumption tends to decrease this asset position, which results in an income reduction leading to a loss for the year, as shown in areas A and B in Figure 26.
    - For IFRS, the mechanics of the reserve movements are similar to Sensitivity 2. However, for this sensitivity, a reduction in the CSM for the underlying term policy is able to absorb fully the unlocking impact on the present value of fulfillment cash flows. As such, the impact on income is minimized, resulting in positive earnings for the year, as shown in area C in Figure 26.
- Similar to Sensitivity 2, for income results after the unlocking, the pattern of income emergence for the principle-based reporting frameworks reverts to the same pattern exhibited in the baseline projections. Given that the US Statutory and US GAAP assumptions are not unlocked, the income emergence pattern under Sensitivity 4 follows a similar pattern as Sensitivity 3, though ultimately at a lower level as actual deaths exceed those assumed in the baseline.

Figure 26 below shows the impact on earnings emergence for years 2 through 11 under the baseline, Sensitivity 3 and Sensitivity 4 projections.

Figure 26: Earnings Emergence



4.4.3. Risk-Free Rate

The following two interest rate sensitivities are considered:

- Sensitivity 5: One percent parallel increase to the RFR after five years to both experience and the best-estimate assumptions.
- Sensitivity 6: One percent parallel decrease to the RFR rate after five years to both experience and the best-estimate assumptions.

For US GAAP, CALM and IFRS, assets backing policyholder liabilities are assumed to be classified as "held for trading," meaning that they are recorded at fair value on the balance sheet and changes in fair value are reflected through profit and loss. Assets backing surplus are assumed to be floating rate obligations that generate current market yields and have fair values that do not fluctuate in reaction to changes in interest rates.

The following figures illustrate the cash flow projections, liability projections and earnings emergence of the baseline scenario in relation to both RFR sensitivities.

Cash flow projections

Liability cash flow projections are not impacted since the term product is not interest-sensitive. As noted earlier, the assets (excluding the letter of credit) are predominantly supporting surplus and have a duration of zero. As such, the change in RFRs impacts the investment income earned without any net impacts to realized or unrealized capital gains/losses due to the assumed zero duration of assets backing surplus. The impact is consistent across all bases and thus cash flow projections under this sensitivity are not shown.

Liability projections

The interest rate sensitivities are not as impactful as the changes to the demographic assumptions in Sensitivities 1 through 4.

The US Statutory and US GAAP liabilities are unaffected since their assumptions are locked in at issue and interest rates do not have an effect on the projected in-force.

Figure 27: US Statutory Liability Impact

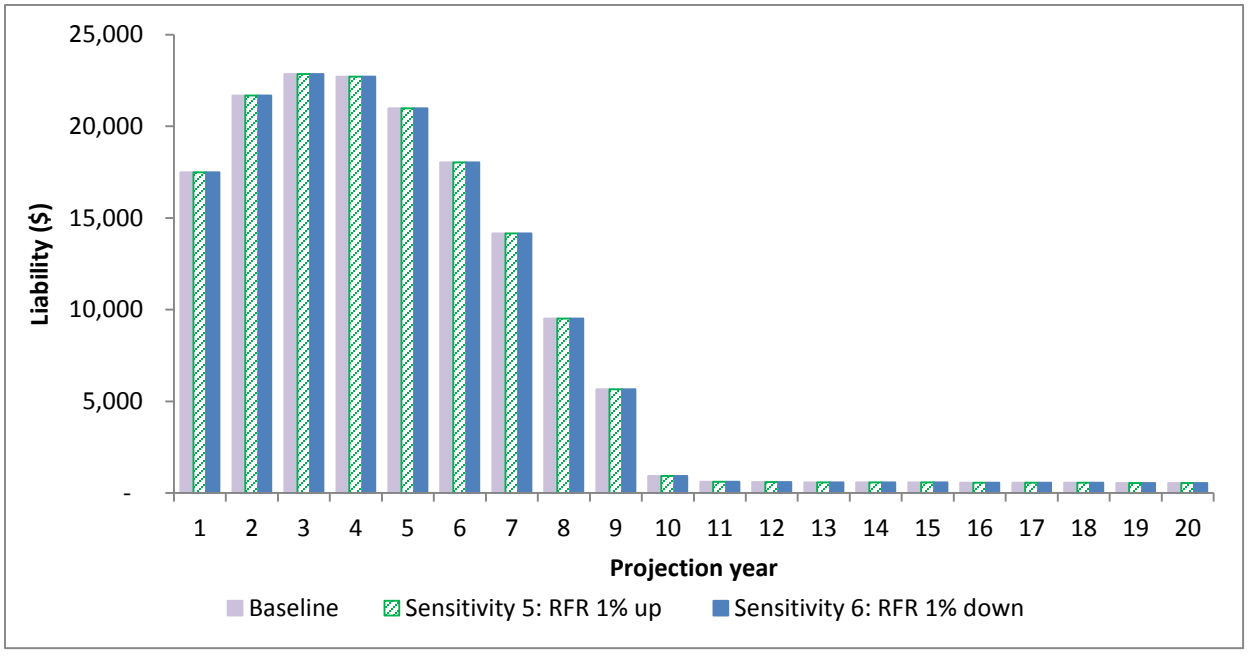
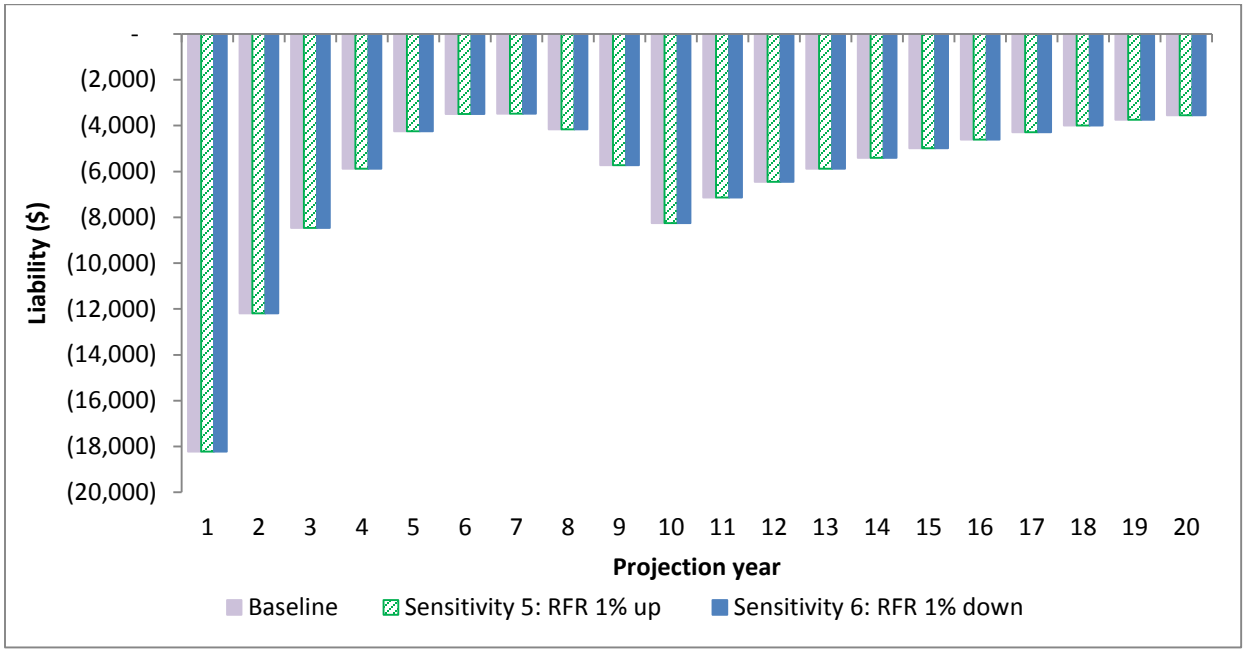


Figure 28: US GAAP Liability (Net of DAC) Impact



The unlocking of interest assumptions exhibits similarities in the principle-based reporting bases. The basis most impacted by the change in assumption is Solvency II. The CALM reserve is projected with margins on its demographic (lapse and mortality) assumptions, resulting in smaller negative aggregate liabilities (i.e., the negative liability under CALM is less negative than it is under Solvency II). The result is that the CALM reserve is less impacted by changes in interest rates, though the changes relative to the baseline reserves are similar between CALM and Solvency II. These changes are highlighted in the circled areas in Figure 29 and Figure 30.

Figure 29: CALM Liability Impact

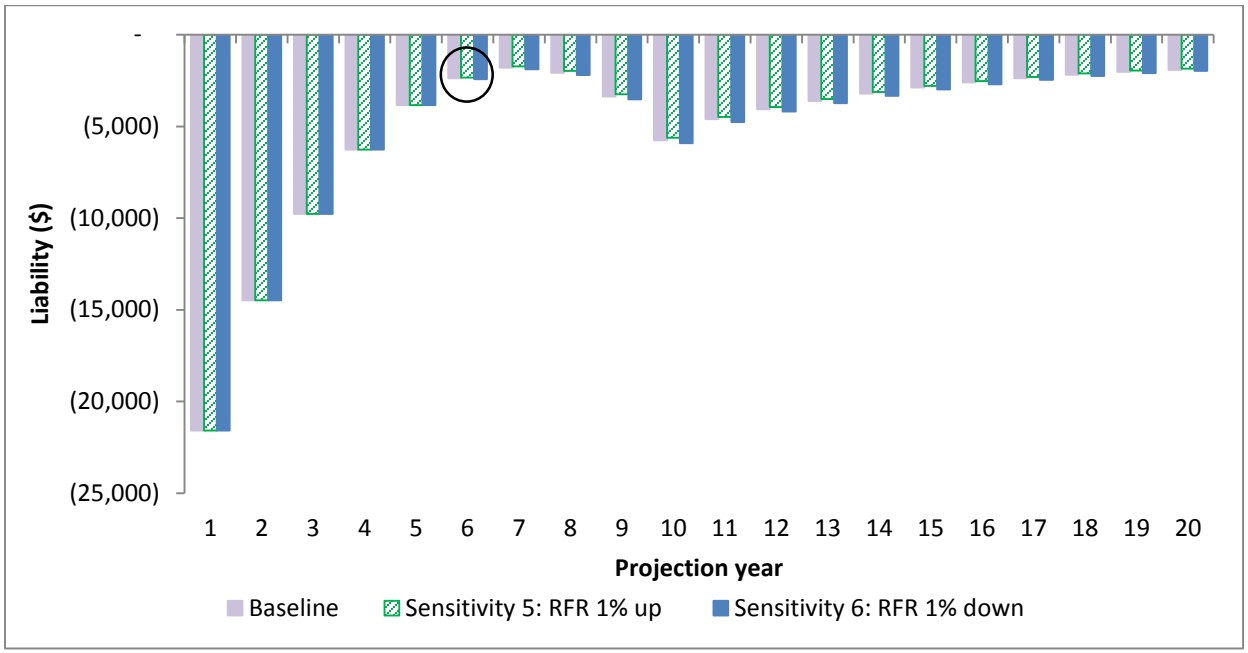
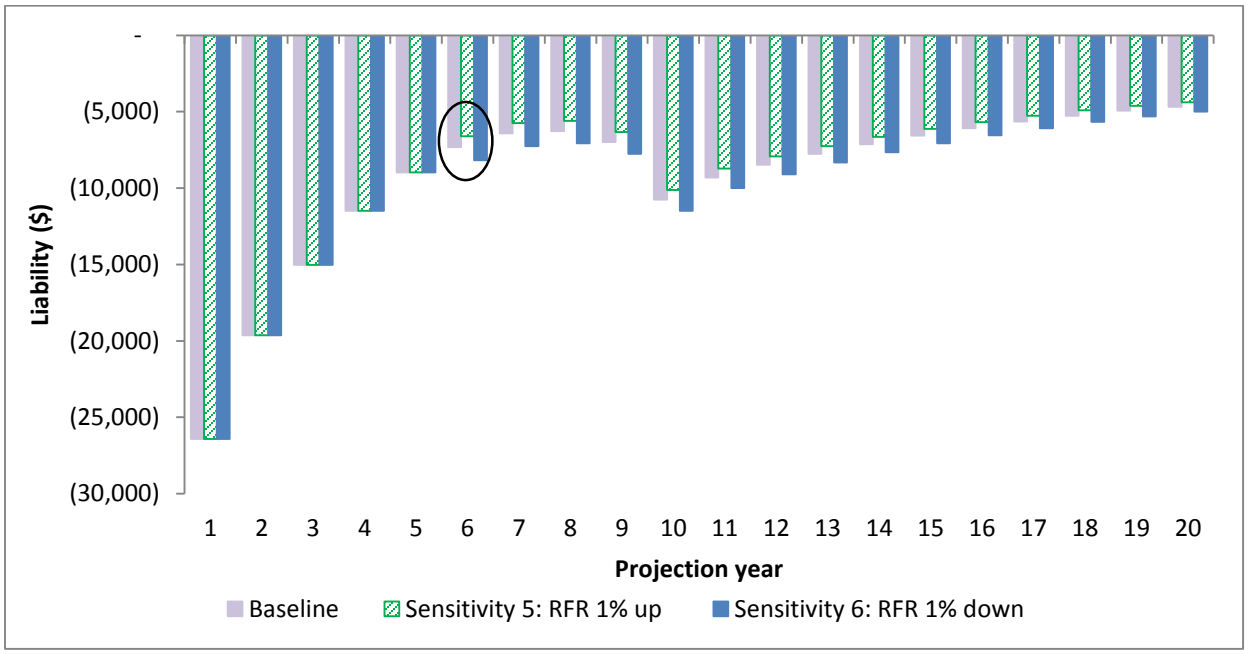


Figure 30: Solvency II Liability Impact



For the purposes of this exercise, the insurance company is assumed to have elected not to reflect the impact on the IFRS liabilities due to interest rate movements in profit and loss, and instead to reflect it in other comprehensive income (i.e., elect the "OCI option"). As such, the IFRS liability movements that affect profit and loss remain unchanged under Sensitivities 5 and 6 since the IFRS liability changes through profit and loss are calculated using a locked-in discount rate. The earnings emergence section below explains how the impact of changing interest rates is reflected on the income statement.

Figure 31: IFRS Liability Impact (Basis Used for Changes through Profit and Loss)

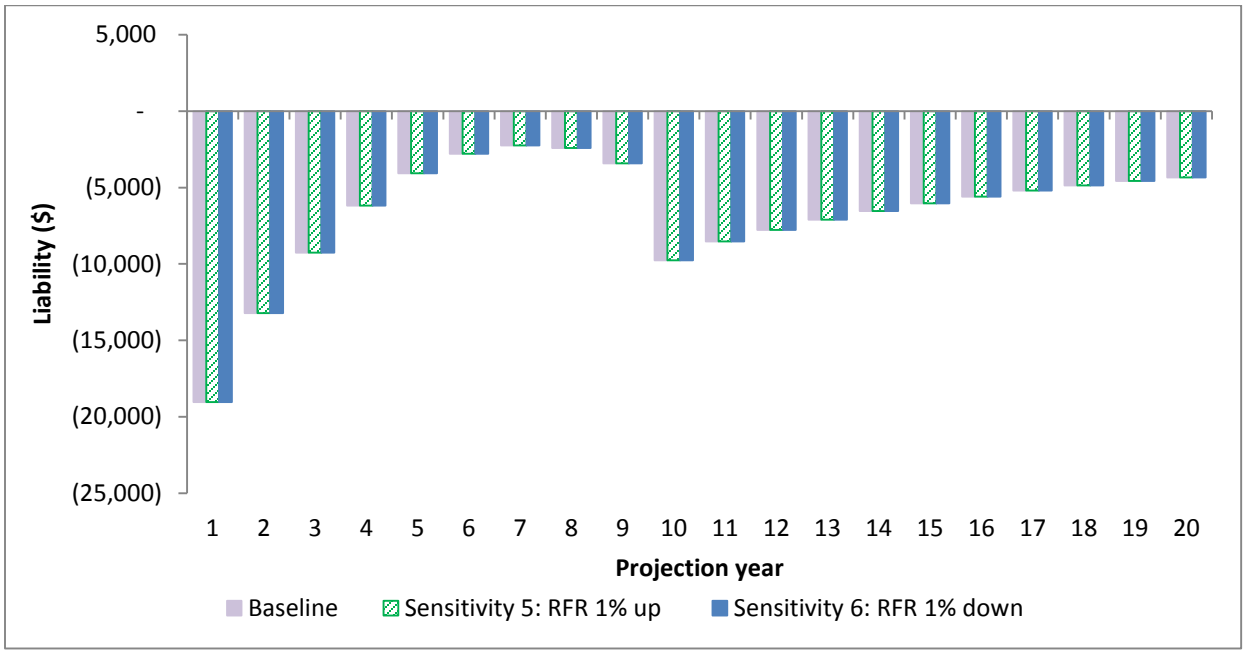
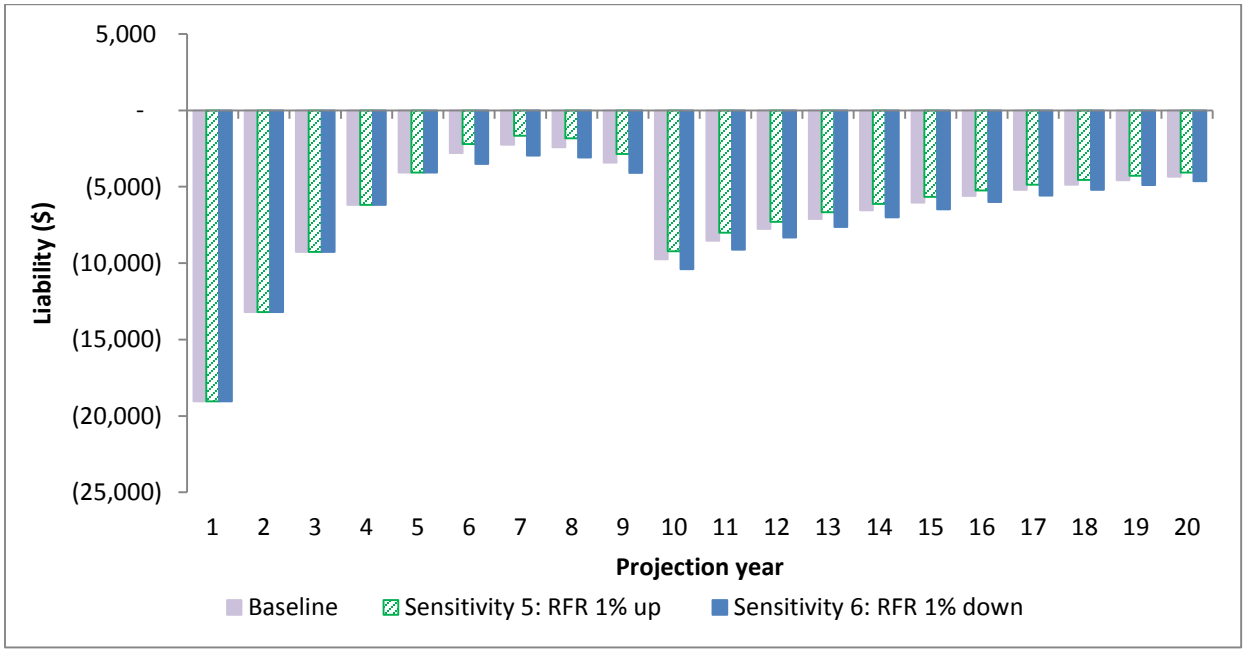


Figure 32: IFRS Liability Impact (Balance Sheet Basis)



Earnings emergence

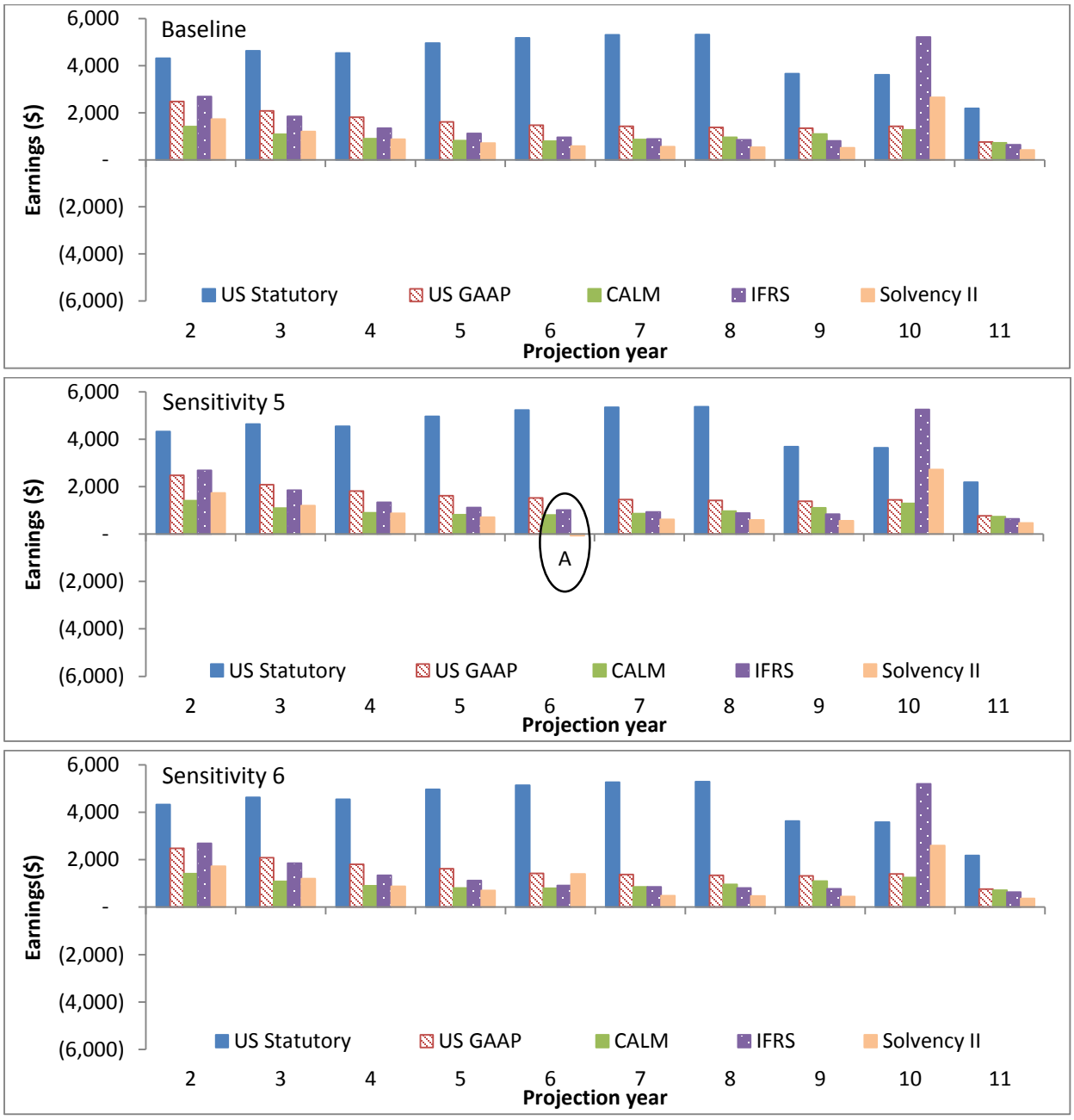
The earnings emergence under Sensitivities 5 and 6 can be characterized as follows:

- The earnings emergence under Sensitivity 6 is a mirror image of Sensitivity 5 as there is no optionality embedded in this product.
- The asset yield moves in parallel with the RFR increase (decrease) of 1 percent. An increase (decrease) in the RFR in year 5 results in higher investment income across all bases starting in year 6. This is mainly driven by assets backing surplus.
- The decision to model the OCI option under the IFRS basis, which allows the liability to be measured using a locked-in discount rate for the purposes of the income statement, was due to modeling limitations. It would be likely that a company would not elect the OCI option, as the option would not achieve consistency in the income statement from interest rate movements. Because the liability is negative throughout the projection, this issue does not arise directly in this example. It is assumed that the theoretical "negative assets" backing the negative liability have the same zero duration as surplus assets and consequently do not offset the movement in liability values under the sensitivity tests in this model for IFRS.
- For US Statutory, US GAAP and IFRS, the discount rates used to calculate the change in reserves for the purposes of the income statement are locked in at issue. As such, the income emergence is only impacted due to the direct impact of a movement in RFRs on the investment income generated by assets backing surplus. This is because (1) assets backing liabilities are recorded at amortized cost under US Statutory rules; and (2) there are no real assets backing US GAAP and IFRS net liabilities and assets backing surplus are assumed to have a duration of zero. There is no impact recorded on the valuation of liabilities.
- For CALM and Solvency II, the movement in RFRs impacts the liability. However, the impact on income is different between CALM and Solvency II. Because CALM is an aggregate calculation and it is assumed that the liability for all business aggregated within the company's CALM model is positive, there should be an equal and offsetting impact on asset valuations within the CALM model due to movements in interest rates, so the net impact of asset and liability movements would be zero. By contrast, the Solvency II approach is applied seriatim in the model and the resulting negative liability has no real asset counterpart to offset its movement when interest rates change. Consequently, the Solvency II model experiences a net impact on income when interest rates move. As such, there are lower earnings in year 6 under Solvency II, but not under CALM, for the rising interest rate shock, as shown in area A in Figure 33.

Caution should be used in assessing these analyses. Because the liabilities are negative under most bases and no real assets are therefore needed to back them, the analysis of the impact of interest rate movements is somewhat hypothetical and may not play out the same way it would were liabilities positive instead.

Figure 33 below shows the impact on earnings emergence for years 2 through 11 under the baseline, Sensitivity 5 and Sensitivity 6 projections.

Figure 33: Earnings Emergence



5. Deferred Annuity

5.1. Product Information

5.1.1. Features

The deferred annuity product is modeled as a single premium, investment-oriented product. Premiums are invested in the company's general account, and the company will have a target pricing spread so that in any given year, the company credits to the account value approximately what the company earns on its assets less that spread. The company will have discretion in setting the credited rate, subject to a guaranteed minimum credited rate set at the point of issue, and can change the credited rate at the beginning of each year. In this illustration, a single policy that has been issued to a 50-year-old male nonsmoker is modeled. The policyholder pays a single premium of $100,000 at the inception of the contract. There is no reflection of additional premiums contributed at later dates.

Money can be withdrawn in part or in full at any time, either in a lump sum or by converting to a life and 10-year certain annuity. If a lump sum is taken, a surrender charge is applied during the first six years of the policy for all withdrawals in excess of 10 percent per year. The life and 10-year certain annuity uses current assumptions subject to a minimum guaranteed basis (interest rate and mortality). Additionally, the full account value is available to the beneficiary upon the death of the insured.

5.1.2. Pricing Targets

The deferred annuity product is priced based on US Statutory distributable earnings. The primary pricing metric is the return on investment (ROI). The metric compares the present value of pretax US Statutory income to the initial premium deposit. The pricing spread and, to a lesser degree, the expense rates are designed to adjust the product pricing to achieve the target ROI. The target pricing spread is set at 2 percent for the contract's duration. Additional details on the development of the assumptions are provided in the following section. The baseline deferred annuity product generates an ROI of 7.92 percent under the baseline scenario.

5.1.3. Assumptions

For the purpose of this exercise, experience emerges as expected under the best-estimate assumptions for the baseline scenario. With the exception of US Statutory reserves, valuation assumptions are developed using the best-estimate assumptions with provisions (margins) for adverse deviation (PADs under US GAAP or MfADs under CALM), if applicable under the standard. Valuation assumptions for US Statutory reserves are prescribed. Below is a summary of the key best-estimate assumptions and their corresponding PADs and MfADs, if applicable, under the baseline scenario. For a comprehensive list of all modeling assumptions, refer to Appendix B.

Demographic

The mortality and surrender assumptions are developed to be consistent with current industry experience studies. The best-estimate mortality assumption is based on the Annuity 2000 mortality table.

The best-estimate surrender assumption is level at 5 percent per year during the surrender charge period, followed by high surrenders of 20 percent when the surrender charge expires, and an ultimate surrender rate of 10 percent thereafter.

The best-estimate partial withdrawal utilization rate is 1.5 percent of account value annually for all durations.

The study assumes that the number of policyholders electing the annuitization benefit is immaterial, and as such does not model annuitization except where required by accounting standards (US Statutory).

Expenses

The expenses include commissions, acquisition expenses, other issuance costs and ongoing policy maintenance expenses. The model includes the following acquisition costs: Best-estimate commissions are 6 percent of initial premium, acquisition expenses of $500 per policy, and other issuance costs of $50 per policy. Commissions and acquisition expenses are assumed to meet the deferral criteria under US GAAP.

The best-estimate initial maintenance expense assumption is $140 per policy. The model includes an expense inflation assumption of 2.5 percent per year for maintenance expenses.

Asset portfolio

The asset portfolio for the deferred annuity is assumed to be predominantly invested in fixed income securities and other traditional assets. The asset portfolio is assumed to be well matched with the liability in terms of duration and cash flows.

Asset yield

For calculating investment income, the asset yield is developed as a combination of the following components: the RFR, plus a credit spread, less a spread for expected defaults. For simplicity, the model includes a flat yield curve and level spread factors, such that the best-estimate asset yield is level over the product's lifetime. For valuation purposes where discount rates are dependent on expected asset yields, the development of those assumptions is described in the corresponding methodology sections below.

Crediting rate

The best-estimate crediting rate is determined based on the following formula:

$$\text{Crediting rate} = \max[\text{asset yield} - \text{target spread}, \text{guaranteed minimum crediting rate}]$$

Where,

1. Asset yield is developed as described in the asset yield assumption section above,

2. Target spread is set equal to 2 percent for the duration of the contract to achieve the pricing target, and
3. The guaranteed minimum crediting rate is set equal to 2 percent for the duration of the contract.

5.2. Accounting Methodology

The following sections describe the five financial reporting bases covered in the study in relation to the modeling of the deferred annuity product.

5.2.1. US Statutory

The valuation of US Statutory reserves for the deferred annuity product uses the Commissioners' Annuity Reserve Valuation Method (CARVM) under Actuarial Guideline XXXIII (AG 33). For the purpose of this exercise, the CARVM reserve is equal to the net present value of all future guaranteed benefits, considering every possible election by the policyholder and holding a reserve for the stream that produces the highest reserve. The model projects the following three benefit streams:

1. Immediate surrender
2. Maximize free partial withdrawals followed by full surrender at the end of the surrender charge period
3. Maximize free partial withdrawals followed by annuitization at every possible time.

The valuation assumptions for mortality and interest follow prescribed assumptions and are consistent with a policy issued in 2014.

5.2.2. US GAAP

The US GAAP reserves for the deferred annuity product are set equal to the account value consistent with ASC 944-825 (previously FAS97) requirements.

Commissions and acquisition-related costs are capitalized when incurred and recorded as a DAC asset. The other issuance expense is not deferred. The DAC asset is amortized in proportion to estimated gross profits consistent with ASC 944-30 requirements. The gross profits consist of an interest margin, a surrender margin and an expense margin.

5.2.3. CALM

Similar to the term product, the valuation of CALM reserves for the deferred annuity product is based on an approximation to CALM. For the purpose of this exercise, the liabilities are modeled under a single representative "worst-case scenario" of declining interest rates. The scenario is consistent with the one used for the term product. The liability cash flows are projected based on valuation assumptions equal to the best-estimate assumptions plus MfADs for mortality, surrender, free partial withdrawal utilization and maintenance expenses. Mortality, surrenders and free partial withdrawal utilization best-estimate assumptions are multiplied by 110 percent, and maintenance expenses are multiplied by 115 percent. The discount rate for valuation is equal to the expected asset yield under the modeled scenario, similar to the term product.

5.2.4. IFRS

There are three components to the liabilities under the proposed IFRS Insurance Contracts standard. For the purposes of this study, the calculation of each component is as follows:

1. The present value of fulfillment cash flows, which is calculated as a present value of all liability cash flows using best-estimate assumptions. For the purpose of this exercise, the fulfillment cash flows are projected under a single deterministic scenario, with a cost-of-option adjustment to the discount rate representing the embedded interest guarantee. The interest rate for discounting cash flows is developed using a top-down approach, where the rate is equal to:
   + Projected gross investment yield
   - Spread for defaults
   - Spread for the risk surrounding the expected default losses
   - Cost-of-option adjustment.
2. The risk adjustment, which is calculated based on a cost-of-capital method. Under this approach, the risk adjustment is estimated based on the cost of holding a sufficient amount of capital in order to fulfill the insurance contract obligations. It is set to 0.4 percent of the present value of fulfillment cash flows for the product's duration. A reasonability test on the risk adjustment compares the time zero present value of fulfillment cash flows calculated under:
   (1) Best-estimate assumptions, and
   (2) Best-estimate assumptions with a 10 percent margin for surrender.

   The present value of fulfillment cash flows under (2) is approximately 0.3 percent higher than that calculated under (1), which is generally consistent with the 0.4 percent risk adjustment.
3. The CSM, which is equal to the gain at issue (i.e., the sum of the present value of fulfillment cash flows and the risk adjustment, if less than zero). For the subsequent valuations, the CSM is calculated using a straight-line amortization.

5.2.5. Solvency II

For the purposes of this study, the valuation of liabilities under a Solvency II market-consistent framework is approximated by calculating the following two components:

1. The best-estimate liability, which is calculated as a present value of all gross liability cash flows using best-estimate assumptions. For the purpose of the study, the gross liability cash flows are projected under a single deterministic scenario, with a cost-of-option adjustment to the discount rate representing the embedded interest guarantee. The interest rate for discounting cash flows is equal to:
   + The RFR
   + Spread to represent the Solvency II "matching adjustment"
   - Cost-of-option adjustment.

   For the purpose of this exercise, the above matching adjustment spread is set equal to:
   + Credit spread
   - Spread for defaults

- Spread for the risk related to expected default losses.

The resulting discount rate is equal to the discount rate used for the proposed IFRS projections.

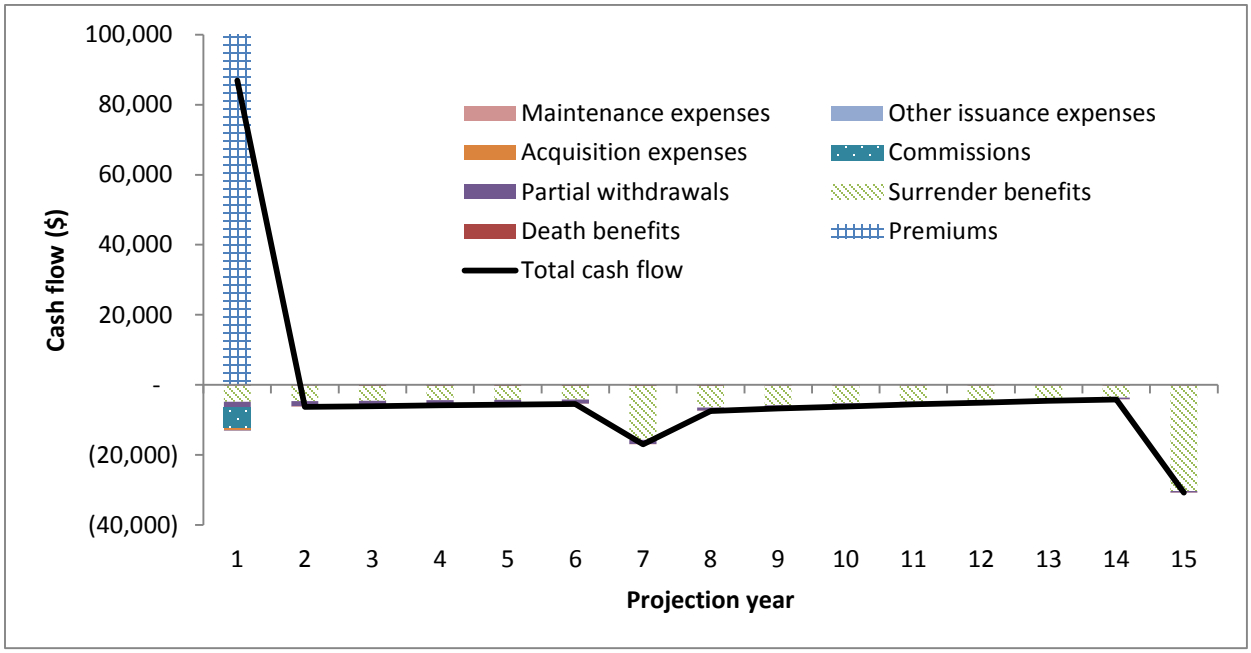
2. The risk margin, which is calculated based on a cost-of-capital method identical to the IFRS risk adjustment. It is set to 0.4 percent of the best-estimate liability for the product's duration.

5.3. Baseline Results

The figures in this section provide graphical illustrations of the baseline results. For the full income statements and balance sheets, please refer to Appendix A.

Cash flow projections

Figure 34: Deferred Annuity Product Cash Flow Projection



Liability projections

The following graphs illustrate the reserve projections under the various bases.

Figure 35: Deferred Annuity Liability Projection

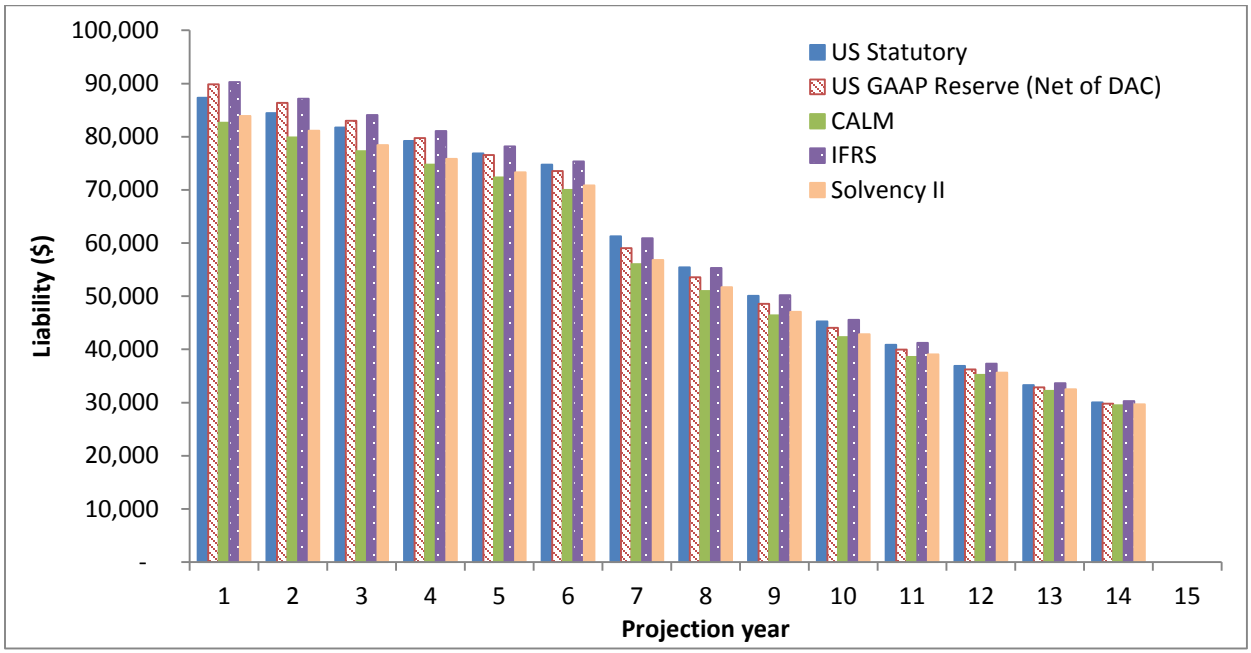


Figure 36: Deferred Annuity US GAAP Liability and DAC Projection

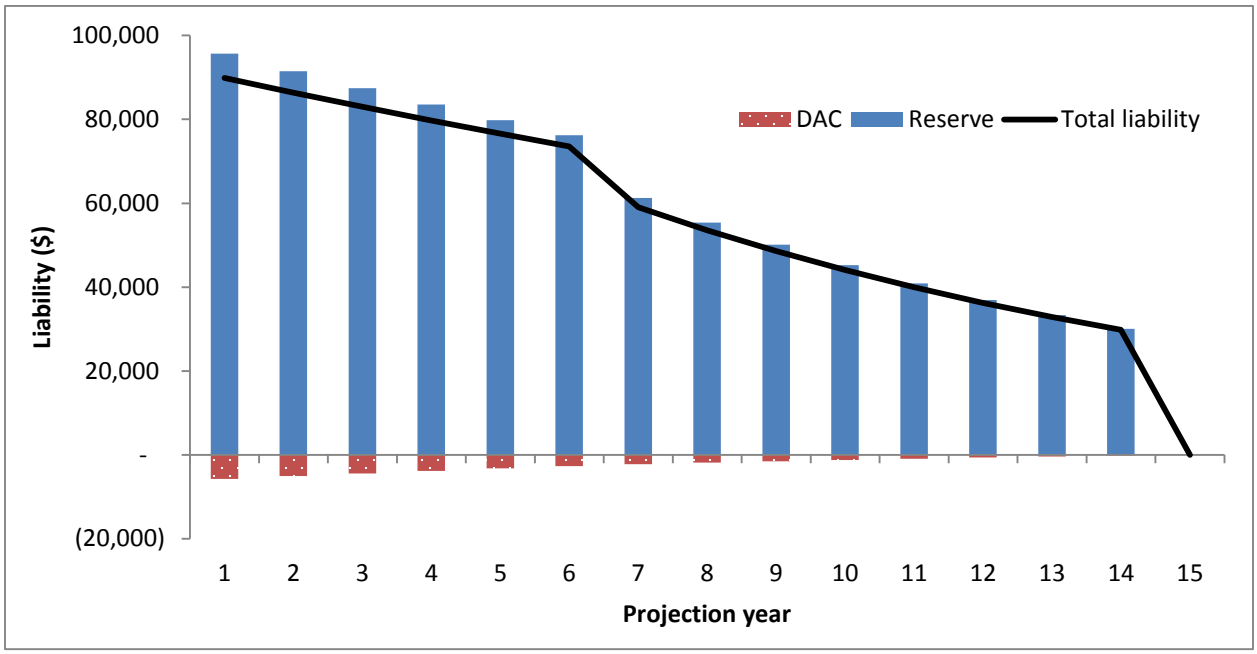


Figure 37: Deferred Annuity IFRS Liability Projection

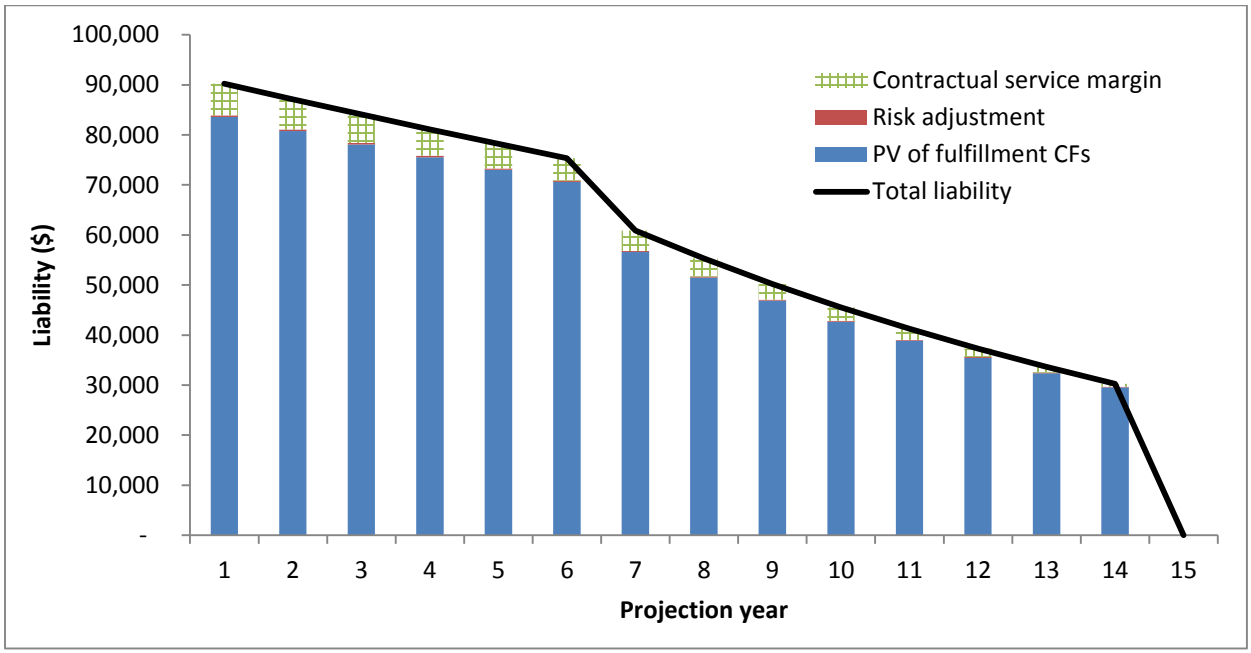
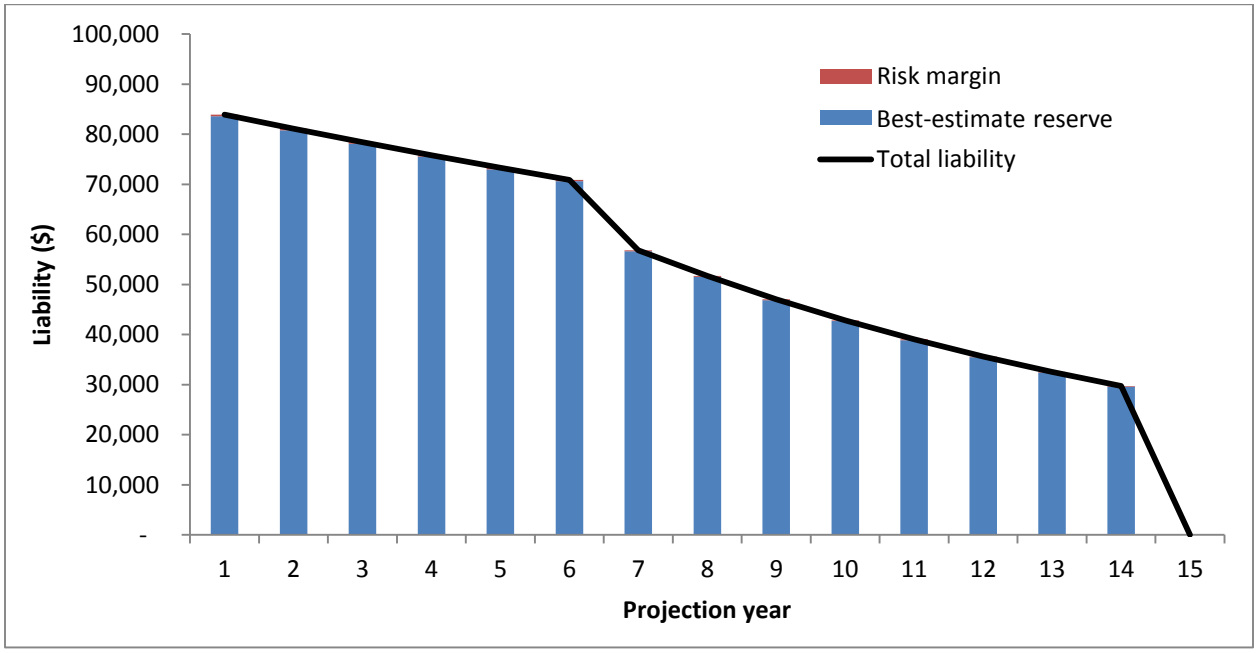


Figure 38: Deferred Annuity Solvency II Liability Projection

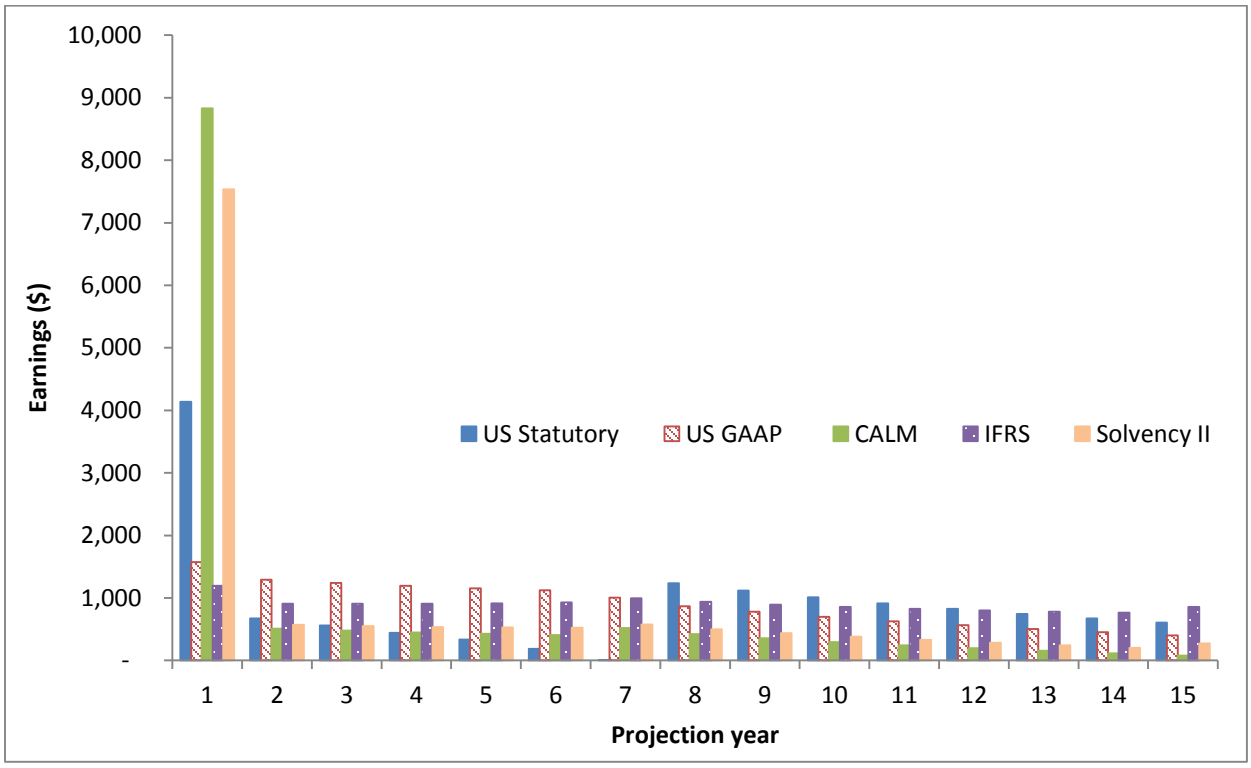


Note that the Solvency II liability at issue of $86,777 (time zero not illustrated in the graph above) would have been $93,270 had an RFR rather than the matched rate been used, as was intended during most of the years of Solvency II development.

Earnings emergence

The earnings emergence in Figure 39 below shows some interesting comparisons across bases. Readers should take this result with caution as the relationship between bases could change depending on the relationship between commissions, surrender charge scale and the CALM interest rate scenario.

Figure 39: Deferred Annuity Pretax Income



US Statutory

US Statutory reporting is characterized as a solvency-targeted measurement regime with focus on producing a conservative balance sheet. It has little focus on earnings, and therefore less focus on matching revenues and expenses and no explicit effort to eliminate gains at contract inception. Conservatism in the measurement basis for this product is reflected in the use of prescribed valuation assumptions as well as in the CARVM reserve methodology, which requires testing of every possible policyholder behavior path and choosing the one that produces the greatest reserve.

Earnings emergence is characterized by an opening reserve that is in the middle of the range, relative to the other bases. During the surrender charge period, the reserve is driven by the path where the policyholder takes free partial withdrawals until the end of the surrender charge period, then elects full surrender. Reserves decrease slowly at first due to the run-off of the surrender charges, which produces low earnings emergence over the surrender charge period. Afterward, the reserve is driven by the path where the policyholder elects immediate full surrender. The product produces higher earnings in the post-surrender-charge period because

the surrender charge schedule causes reserves to be below account value at issue and this reduction in reserves is amortized throughout the surrender charge period, lowering US Statutory income during that time.

US GAAP

US GAAP measurement is focused primarily on the income statement, and as a result, DAC is used to effect a matching of acquisition costs with the generation of profits over the life of the policy. The choice of account value as a reserve reflects the conceptual affinity of the product to similar account-based investments and positions earnings emergence to be driven by explicit fees and investment margins rather than reserve release. Income emerges over the lifetime of the business in large part driven by investment spread and the level of in-force policies remaining each year.

CALM

CALM is a gross premium-based framework that balances the objectives of a conservative balance sheet with meaningful income emergence. CALM is a unified framework across different insurance products that is principle-based, uses realistic assumptions with explicit MfADs, does not attempt to smooth earnings, and in most cases, does not explicitly attempt to eliminate a gain at inception. This study incorporates MfADs on each of the assumptions, but the results show that this mechanism does not generate particularly conservative reserves for products like this with limited actuarial assumptions and investment risk. CALM shows the highest income of all bases in the first year, effectively front-ending the profit margins at issue in excess of the established PfADs.

Proposed IFRS

Like CALM, this framework balances balance sheet and income statement objectives, with a similar driving philosophy, and is a principle-based measurement. The proposed IFRS standard considers risk assumption to be the fundamental service provided by the contract and thus has an explicit risk adjustment incorporated in the measurement model. Earnings emergence follows the release from risk, consistent with this conceptual underpinning. Conservatism is provided through the CSM, which eliminates any gain at inception of a contract.

For this product, the risk adjustment does not have a large impact for the same reason that PfADs are modest under CALM, but the CSM adds a considerable level of conservatism. As a result, income emerges in proportion to the in-force over the lifetime of the in-force.

Solvency II market-consistent balance sheet

The Solvency II balance sheet is part of a larger framework designed for solvency purposes. This study shows "income emergence," in order to provide a comparison across the other measurement bases, but the focus of this framework is on the market-consistent balance sheet.

The Solvency II model is very similar to the present value of fulfillment cash flows used in IFRS. The main difference with IFRS is the lack of conservatism via a CSM. Without a CSM, the results show a large gain at inception, and reduced "earnings" in the remaining years.

Based on the way that this study set the assumptions, the Solvency II reserve is more conservative than the CALM reserve, which may be counterintuitive given that the CALM reserve specifically attempts to be conservative. The reason this happens is because the CALM assumptions have PfADs, but the PfADs set in the

study (generally a multiplier of 110 percent) do not have a large impact on the reserve, whereas the reference to real-world assets in the discounting under CALM is less conservative than the Solvency II discount rates for a deferred annuity.

5.4. Sensitivity Analysis

Four sensitivities for the deferred annuity product exhibit each reporting basis's treatment of emerging experience and evolving economic assumptions. The following table summarizes the sensitivities tested:

Sensitivity	Description
1	Surrender experience is 10 percent higher than expected.
2	In addition to the change to experience under Sensitivity 1, reflect the update in liability assumptions after three years.
3	One percent parallel increase to the RFR after five years to both experience and the best-estimate assumptions.
4	One percent parallel decrease to the RFR after five years to both experience and the best-estimate assumptions.

The following sections discuss the results of the sensitivities.

5.4.1. Surrender Rate

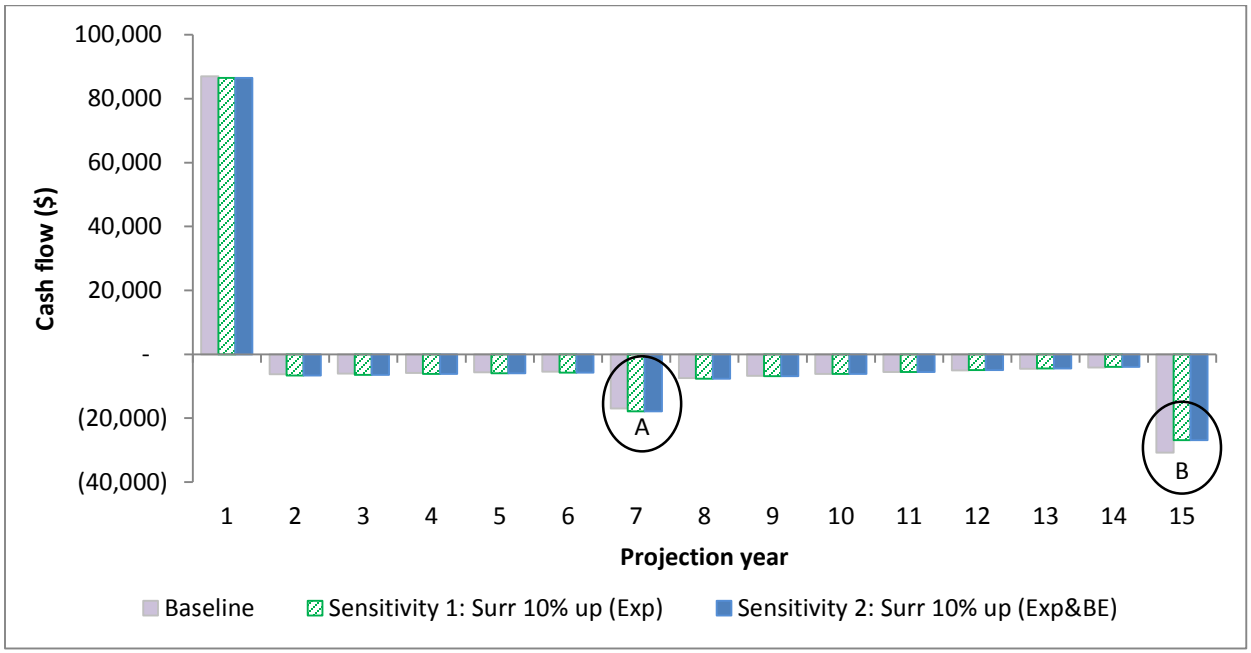
The following two surrender rate sensitivities are considered:

- Sensitivity 1: Ten percent parallel increase to surrender rates under the experience assumptions in every year.
- Sensitivity 2: In addition to the change to experience, the best-estimate assumptions unlock after three years to be equal to the shocked experience assumptions. The intention is to approximate a delayed response by the company as experience emerges over time.

Cash flow projections

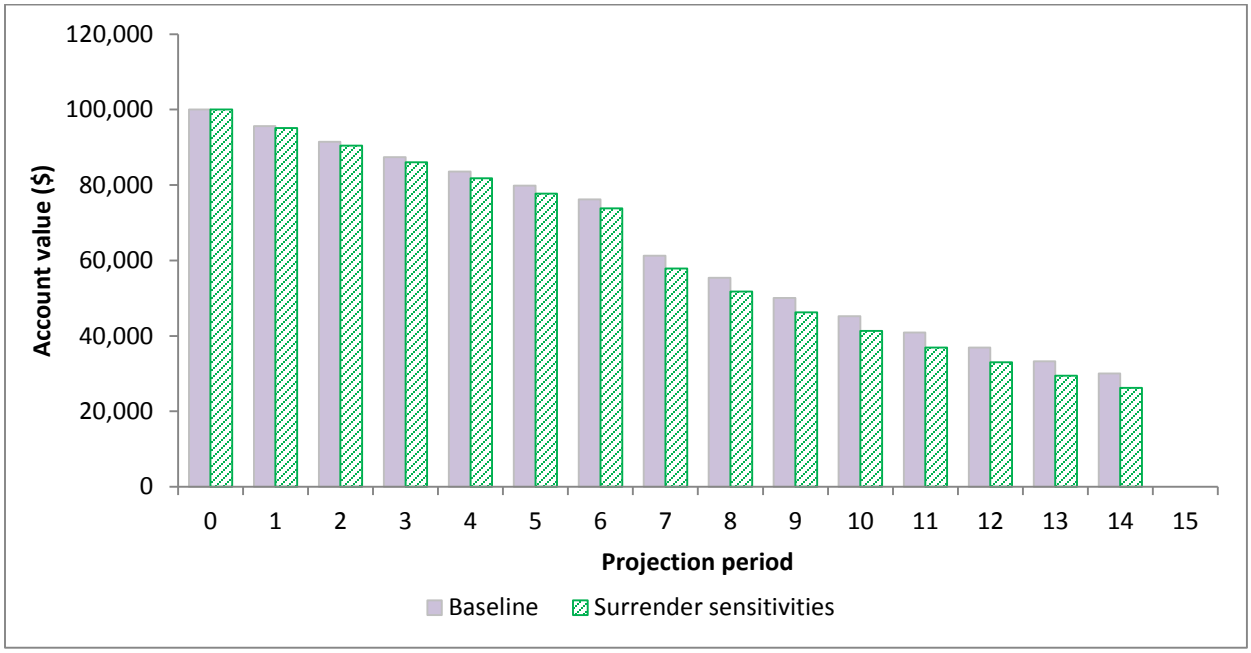
Figure 40 below illustrates the change to net cash flows under the sensitivities (cash flows do not change between Sensitivity 1 and Sensitivity 2). During the first few years of the projection, net outflows are increased because of the higher surrenders. This has the largest effect at the shock lapse after the end of the surrender charge period, in year 7, as highlighted in circled area A. Benefits in the later years are reduced as the reduced in-force has a larger impact than the increased surrenders in those years. The persistency effect is largest at the terminal surrender in year 15, as highlighted in area B.

Figure 40: Net Cash Flow Projection



The effect on persistency in the account value projection can be seen in Figure 41 below.

Figure 41: Account Value Projection



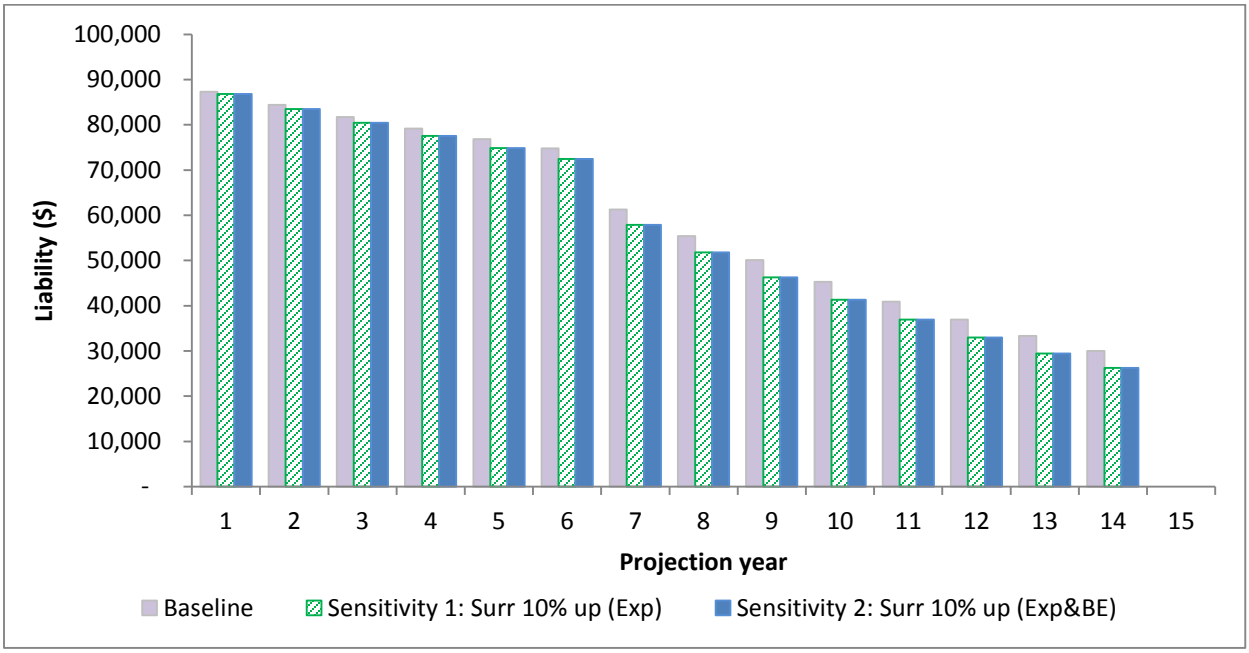
Liability projections

The following analysis shows the impact of the sensitivities on the net liability for each basis.

US Statutory

Under US Statutory accounting, the CARVM reserve is equal to the net present value of all future guaranteed benefits, considering every possible election by the policyholder and holding a reserve for the stream that produces the highest reserve. There is no surrender assumption to adjust in Sensitivity 2, since every alternative path is considered. However, the reserve does change from the baseline to the sensitivities because the reserve is calculated based on the closing account value, which is reduced by the higher surrenders.

Figure 42: US Statutory Liability Impact



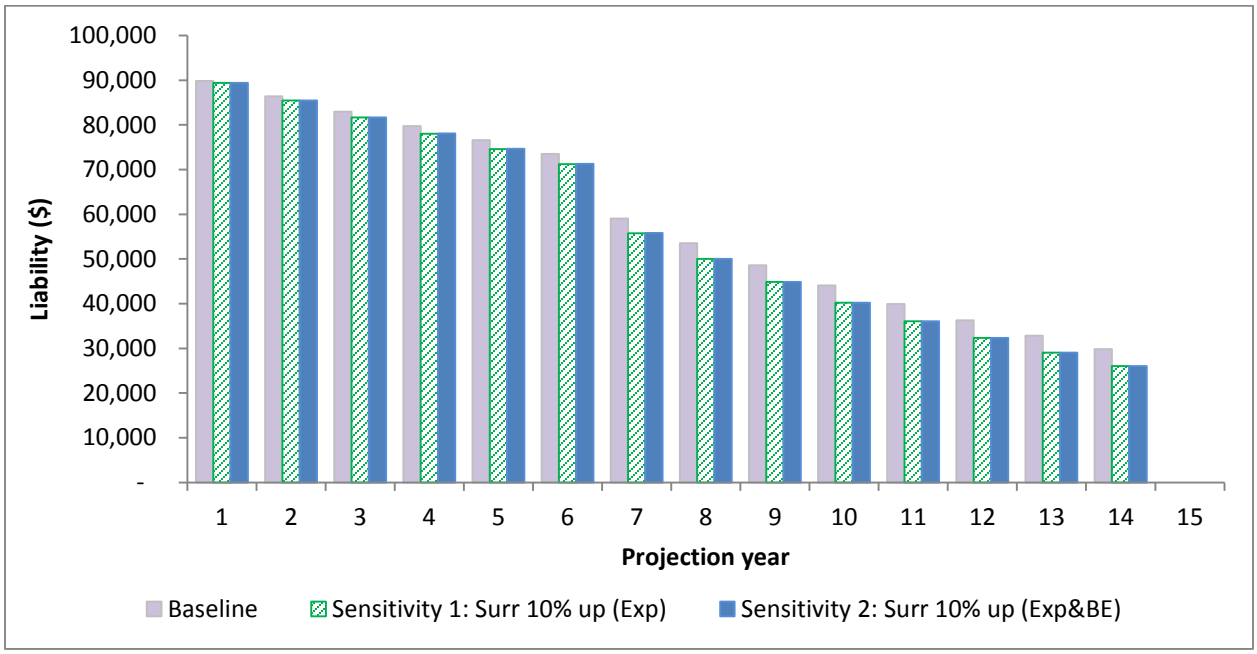
US GAAP

The US GAAP reserve is equal to account value, and the reserve is therefore affected in a similar manner to the US Statutory reserve. Additionally, the DAC is affected by the assumption change under Sensitivity 2, since DAC is amortized in proportion to estimated gross profits and the assumptions are not locked in.

Under Sensitivity 1, the DAC is trued up each year by replacing the expected gross profits with actual gross profits for the years prior to the valuation date. The higher actual surrender margin drives a slightly lower DAC, partially offsetting the lower reserve. Under Sensitivity 2, the best-estimate surrender assumption is unlocked in year 4 with a 10 percent increase. Estimated gross profits for years 4 to 6 (last year of the surrender charge period) increase, which produces a lower DAC and an increase to the net US GAAP liability.

Overall, the impact of DAC unlocking is minimal as compared to the change in reserve for both sensitivities, and barely visible in Figure 43.

Figure 43: US GAAP Liability (Net of DAC) Impact



CALM and Solvency II

Like the prior two bases, CALM and Solvency II liabilities are affected by the change in account value in Sensitivity 1 and they are reduced proportionally.

Under Sensitivity 2, the best-estimate surrender assumption with PADs is unlocked in year 4 with a 10 percent increase, resulting in a higher surrender benefit as compared to Sensitivity 1. As a result, the projected benefit cash flows under both bases are higher under Sensitivity 2 as compared to Sensitivity 1 for duration 4 and beyond.

For CALM and Solvency II, this translates into a slightly higher liability in Sensitivity 2, as shown in Figure 44 and Figure 45 below.

Figure 44: CALM Liability Impact

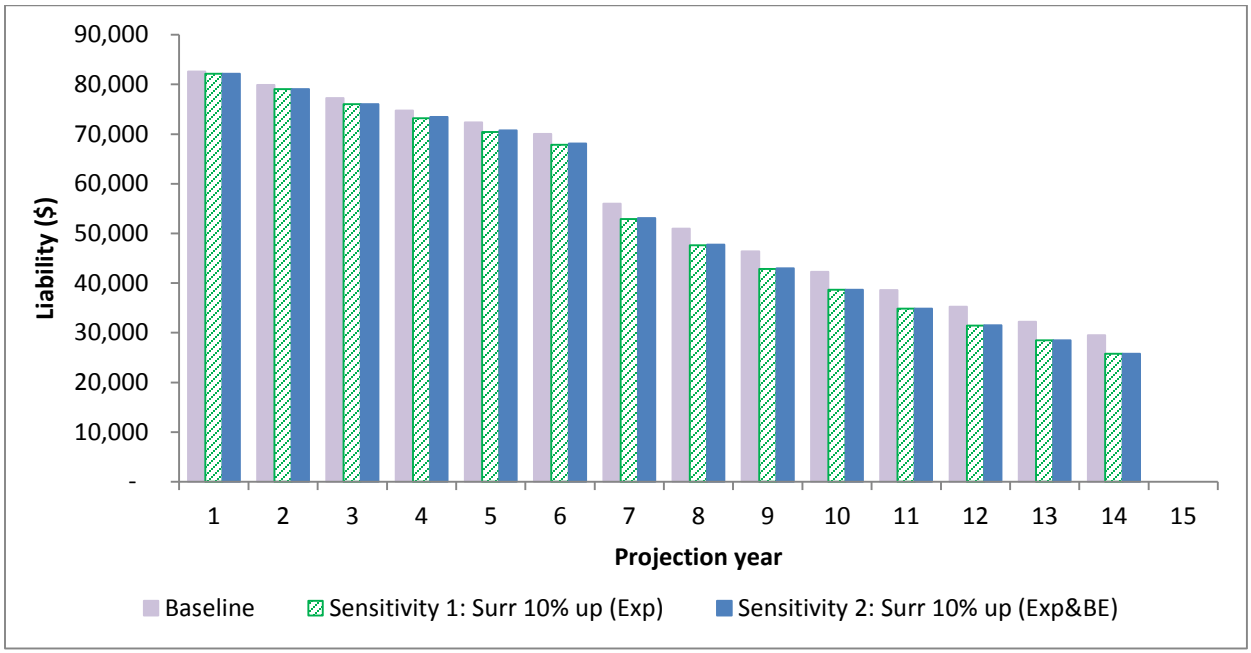
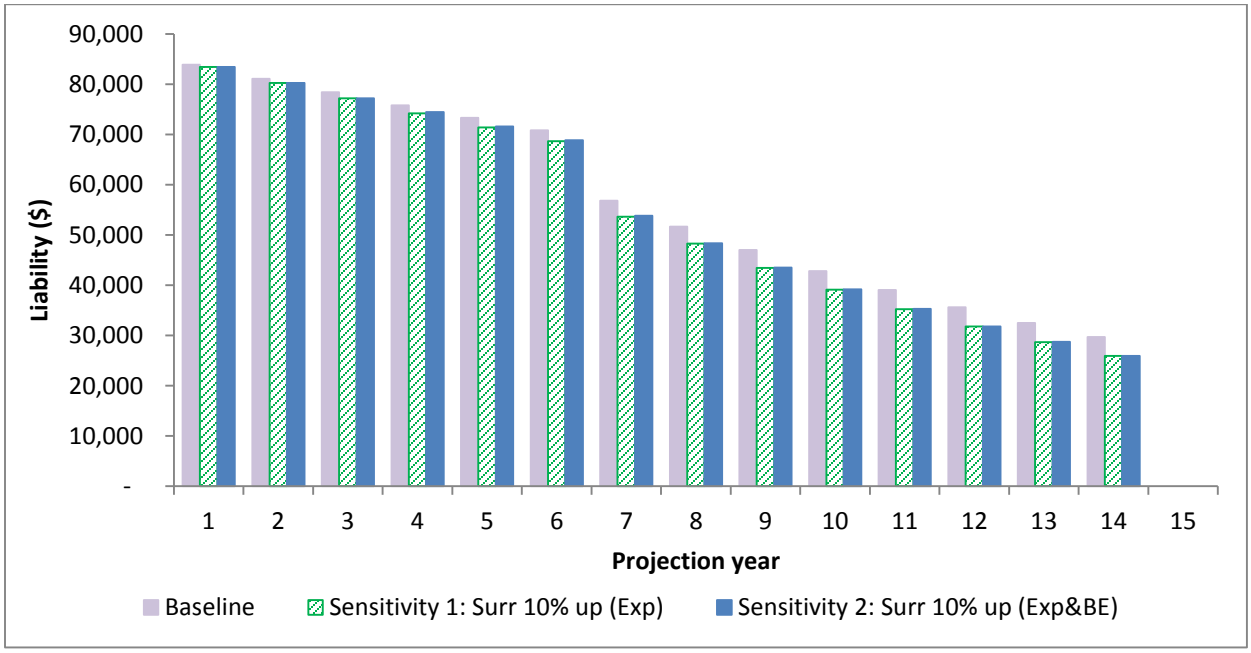


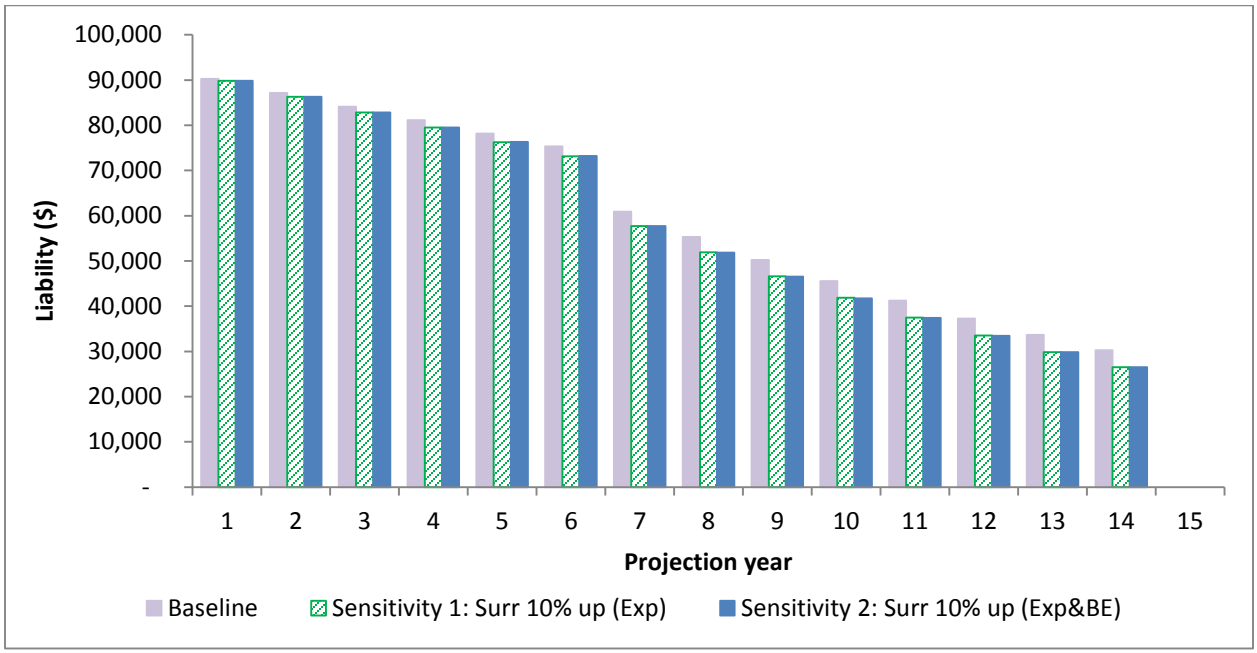
Figure 45: Solvency II Liability Impact



IFRS

IFRS is similar to Solvency II. However, for IFRS, the CSM is reduced in year 4 to absorb the increase in PV of fulfillment cash flows and risk adjustments, per the current proposed standard, and the net impact of unlocking the assumption on the IFRS total liability is zero, in that year. In subsequent years, the CSM is calculated using a straight-line amortization. The net effect in later years is slightly non-zero because of the different runoff pattern of the PV of fulfillment cash flows versus the CSM.

Figure 46: IFRS Liability Impact



Earnings emergence

The earnings emergence under Sensitivity 1 can be characterized as follows:

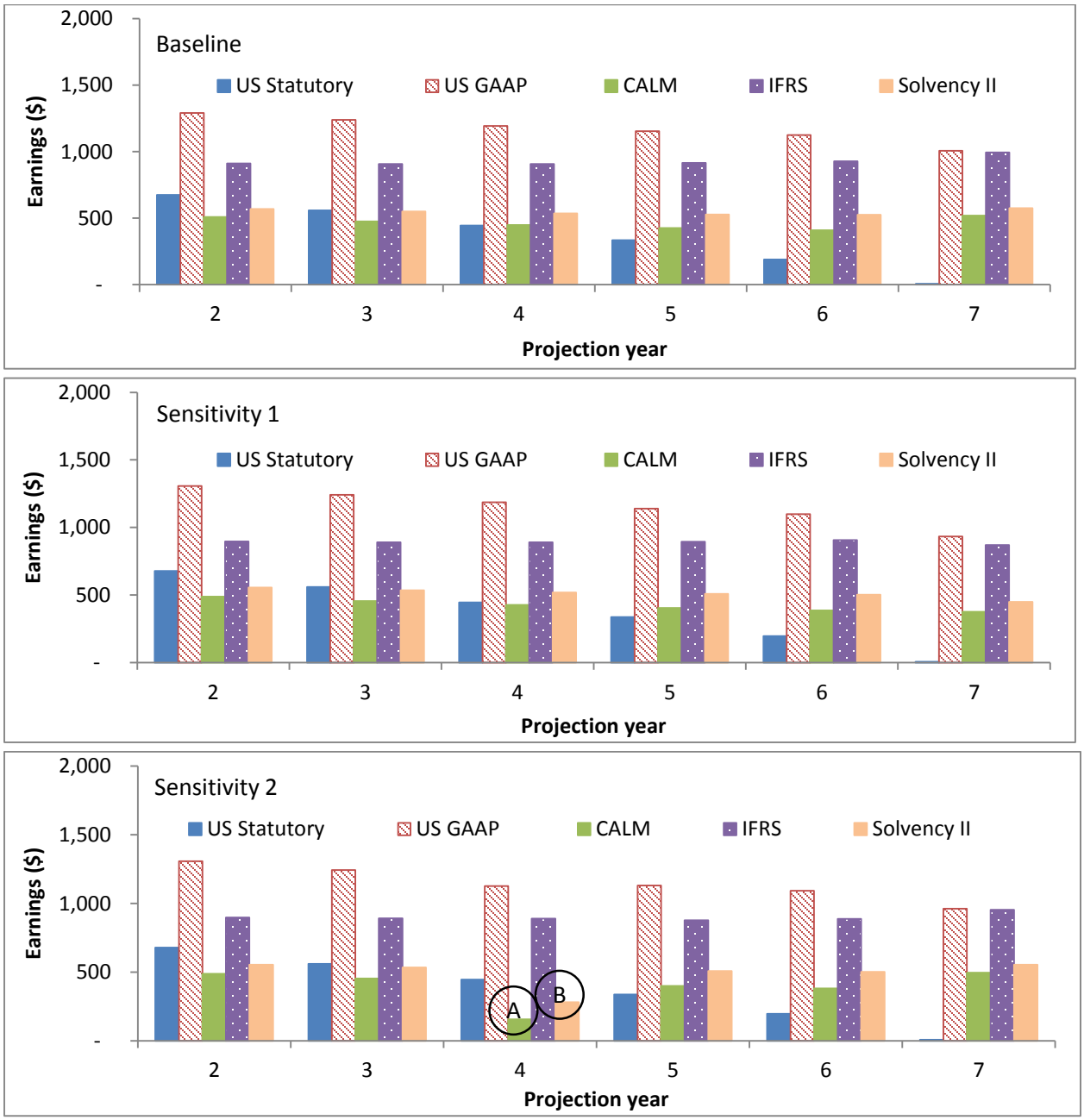
- During the surrender charge period, the impact is small and shows the net result of the reduced persistency, and the gain from surrender charges.
- After the end of the surrender charge period, earnings are reduced on all bases as a result of lower persistency.

The earnings emergence under Sensitivity 2 can be characterized as follows:

- In year 4, the CALM and Solvency II earnings are reduced because of the assumption change, as shown in areas A and B in Figure 47. US GAAP is reduced slightly because of the reduction to the DAC. IFRS is unaffected, as the CSM absorbs the impact of the change.
- In year 7, the results show that earnings are generally less sensitive to surrenders after considering the updated liabilities.

The following graphs highlight the changes in earnings emergence during years 2 through 7 of the projection. These net the projection cash flows shown above, changes in investment income (driven by changes in the US Statutory balance sheet), and changes in projected reserves.

Figure 47: Earnings Emergence



The effect of decreased surrenders is not addressed explicitly in the study, but the effects are expected to be symmetrical on all bases (including IFRS, which allows the CSM to absorb the assumption change in either direction).

5.4.2. Risk-Free Rate

The following two interest rate sensitivities are considered:

- Sensitivity 3: One percent parallel increase to the RFR after five years to both experience and the best-estimate assumptions.
- Sensitivity 4: One percent parallel decrease to the RFR after five years to both experience and the best-estimate assumptions.

The study makes certain assumptions to perform this sensitivity test for the purposes of the illustration:

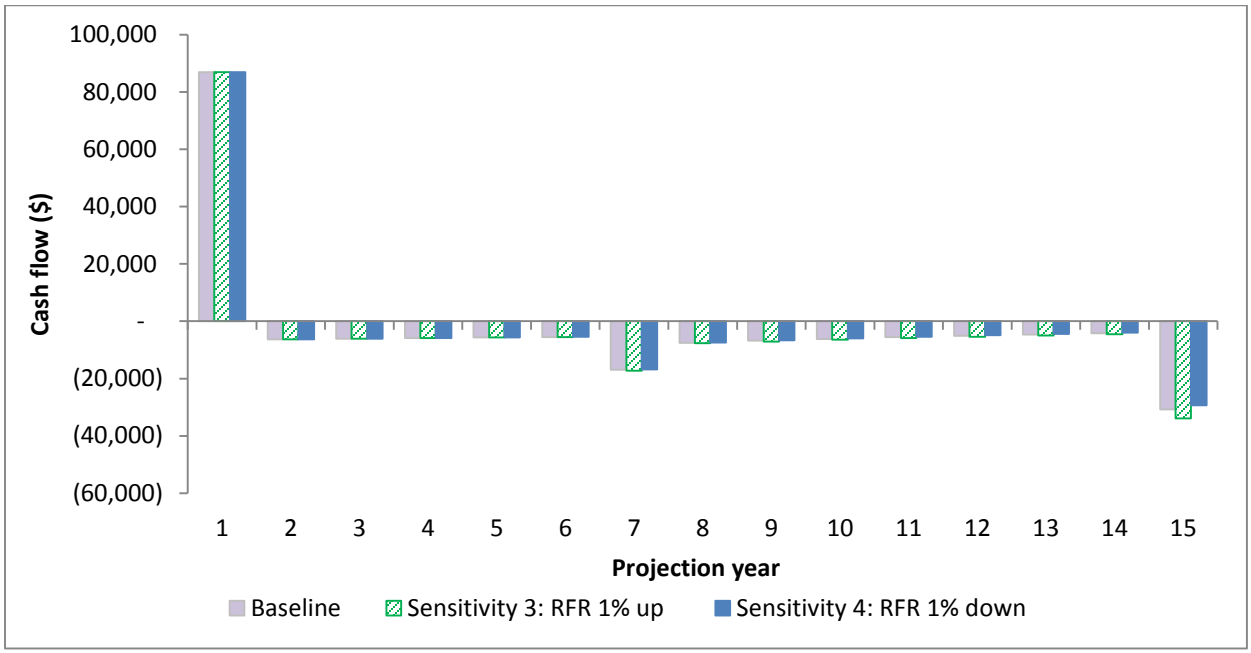
1. The duration of the asset portfolio is the same as the duration of the liability.
2. The asset cash flows are at least sufficient to cover liability cash flows, so no reinvestment is necessary.
3. Assets are recorded as held for trading purposes where available (US GAAP, CALM, IFRS), which means that the change in fair value of assets flows through income for all measurement bases discussed in this study except for US Statutory reporting.
4. The insurance company ties credited rates to the current market yields. In practice, crediting strategies may be linked to anything from current yields (credited rates are sensitive) to book yields (credited rates are not sensitive).
5. Under IFRS, the insurance company does not elect to have the changes in discount rate flow through other comprehensive income instead of regular income.

The following figures illustrate the cash flow and liability projections, and earnings emergence under the baseline scenario and both RFR sensitivities.

Cash flow projections

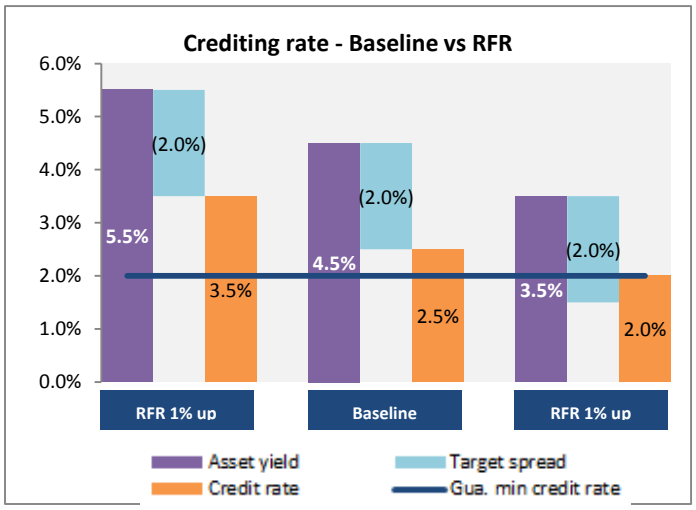
Figure 48 illustrates the change to net product cash flows under the sensitivities. The product cash flows are affected indirectly by the impact of credited rates to account values, which grows over time.

Figure 48: Net Product Cash Flow Projection



As illustrated in Figure 49, under the baseline scenario, the asset yield is 4.5 percent and the target spread is 2 percent, yielding a crediting rate of 2.5 percent, which is above the guaranteed minimum crediting rate of 2 percent. Under the RFR up sensitivity, the crediting rate increases the full 1 percent with the 1 percent growth in asset yield. On the other hand, under the RFR down sensitivity, asset yield less target spread nets to 1.5 percent, which is below the guaranteed crediting rate of 2 percent. The crediting rate is floored at 2 percent, and it only decreases 0.5 percent while the asset yield drops 1 percent.

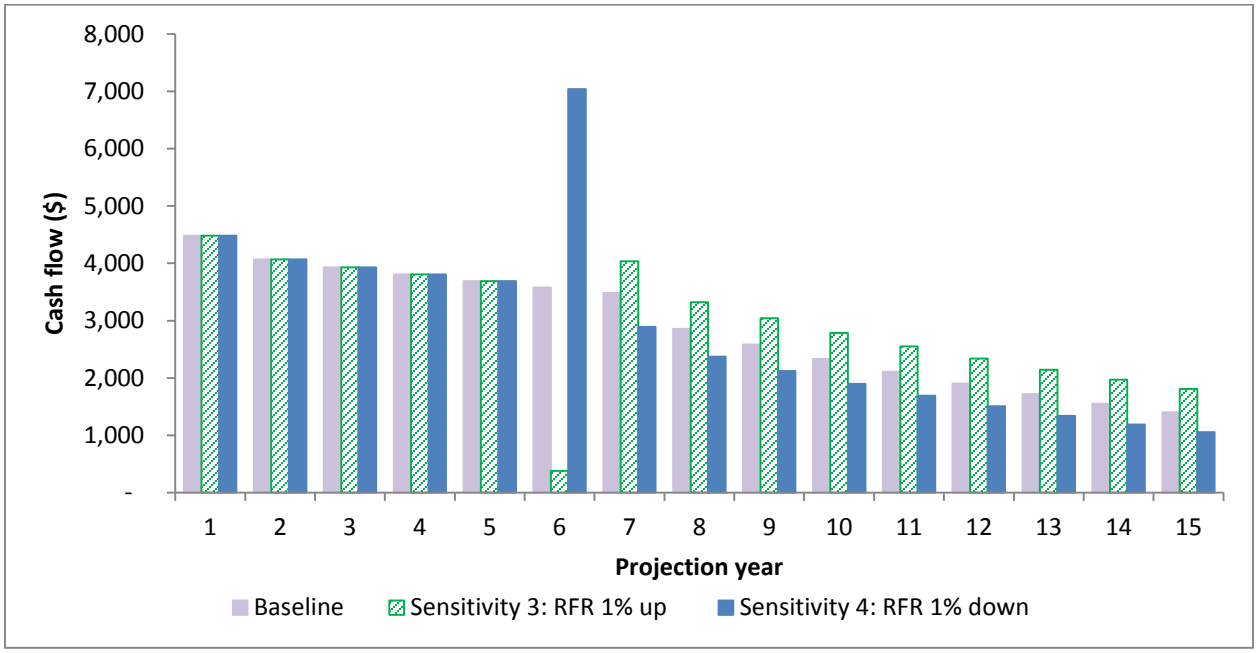
Figure 49: RFR Sensitivity Crediting Rate Impact



The asymmetric impact is most clearly seen in Figure 48, in the final projection year, where the impact of the RFR up sensitivity is about double the impact of the RFR down sensitivity.

Figure 50 below displays the change to investment income for all bases except US Statutory. In year 6, there is a capital gain or loss resulting from the change in fair value of the assets, and in subsequent years, the assets converge toward the par value, which unwinds the capital gain or loss. As the assets are held for trading, the capital gains and losses flow through ordinary income.

Figure 50: Investment Income Projection



Note: Investment income is not included in the net projected cash flow in Figure 50 above.

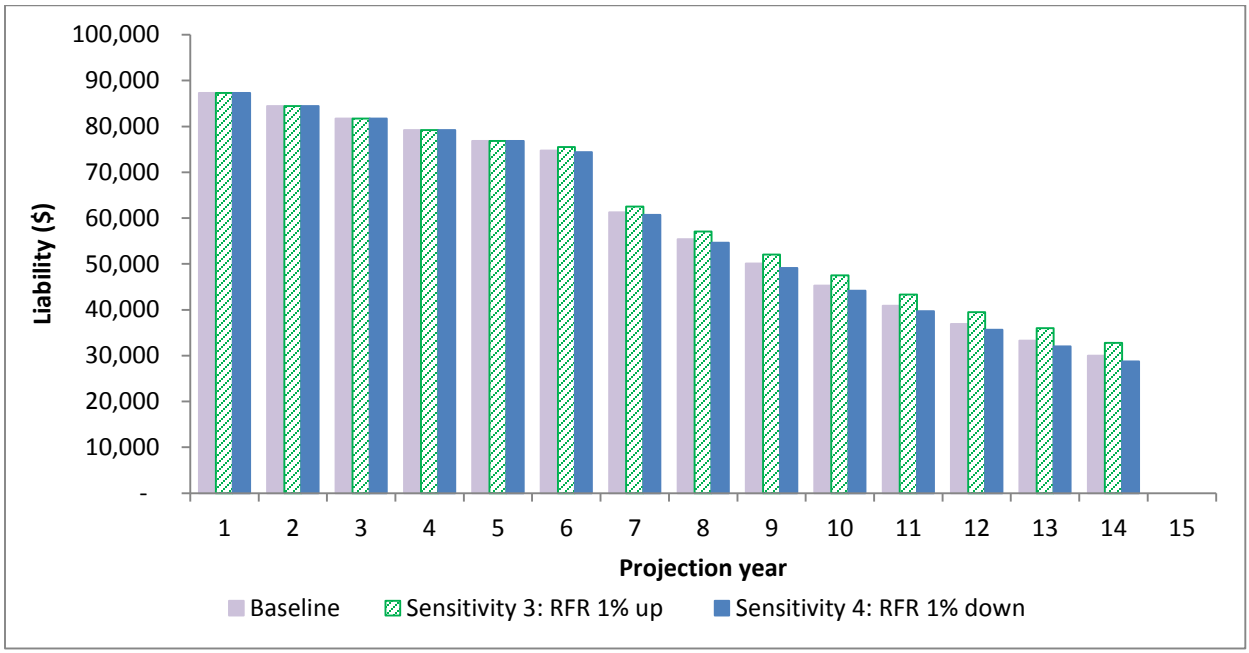
Liability projections

The following analysis shows the impact of the sensitivities on the net liability for each basis.

US Statutory

The impact on US Statutory reserves is shown below in Figure 51. US Statutory reserves are calculated with prescribed interest rate assumptions, so any change comes solely from the change in ending account values.

Figure 51: US Statutory Liability Impact



As noted under the discussion of product cash flows above, the impacts are not symmetric due to the flooring of the credited rate under the down shock.

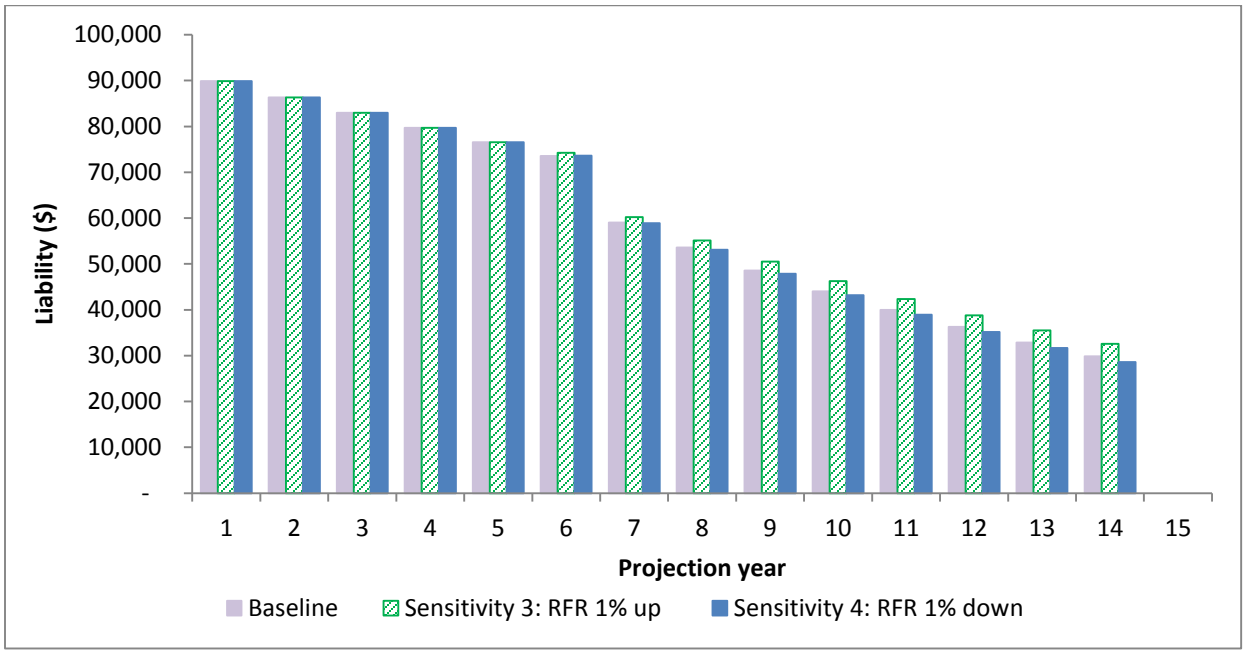
US GAAP

The US GAAP reserve is equal to account value, and the reserve is therefore affected in a similar manner to the US Statutory reserve. Additionally, the DAC is affected by assumption changes under Sensitivities 3 and 4, since the assumptions are not locked in.

In year 6, DAC is unlocked with the updated interest rate assumptions. In addition, DAC is trued up in years 6 and later by replacing expected gross profits with actual gross profits. Under the up scenario, both the asset yield and crediting rate increase the full 1 percent; thus the impact on interest margin is minimal. On the other hand, the interest margin is reduced under the down scenario since the asset yield decreases by 1 percent while the crediting rate only decreases by 0.5 percent. This accelerates the amortization of DAC, which reduces earnings in year 6.

Changes in the DAC are minimal in comparison to changes in the reserve.

Figure 52: Net GAAP Liability Impact

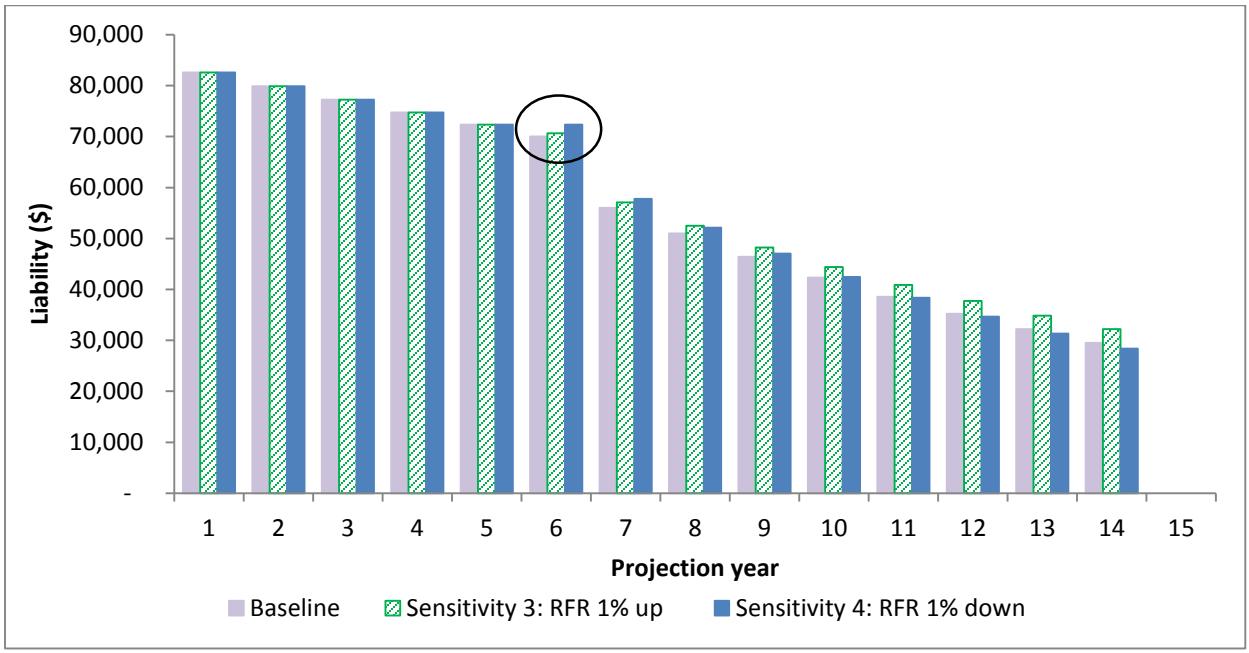


CALM

The CALM reserve is affected by the ending account value in a similar manner to the US Statutory reserve and US GAAP net liability. Additionally, the CALM reserve is affected by changes in the asset yields and the carrying values of the assets. Under CALM, the liabilities are modeled using a single "worst-case scenario" of declining interest rates that begin at 4.5 percent, declining to 3.55 percent over the projection. Unlike the other accounting bases, the crediting rate is projected to hit the 2 percent minimum starting in year 6 even in the baseline scenario. For the up sensitivity, the 1 percent RFR increase is fully reflected in the asset yields while only partially reflected in the credited rates (because the credited rates are projected to be at the floor for some years, and do not rise the full 1 percent). The impacts on crediting rate and asset yield are mostly offsetting, but the reserve increases because of the increased account value. Under the down scenario, the asset yield decreases by 1 percent from the baseline. The crediting rate decreases to the 2 percent floor, which is unchanged from the baseline starting in year 6.

The immediate effect of both sensitivities is to increase the liability, due to either the credited rate, which increases the account values when interest rates rise, or the discount rate, which mimics the higher carrying value of assets used to record the CALM liability. Year 6 changes are highlighted in the circled area in Figure 53. The up sensitivity ultimately retains the increased liability due to the higher account values in later years, while the down sensitivity ultimately drops due to lower account values and the natural runoff of the market value gains as assets are reinvested over time.

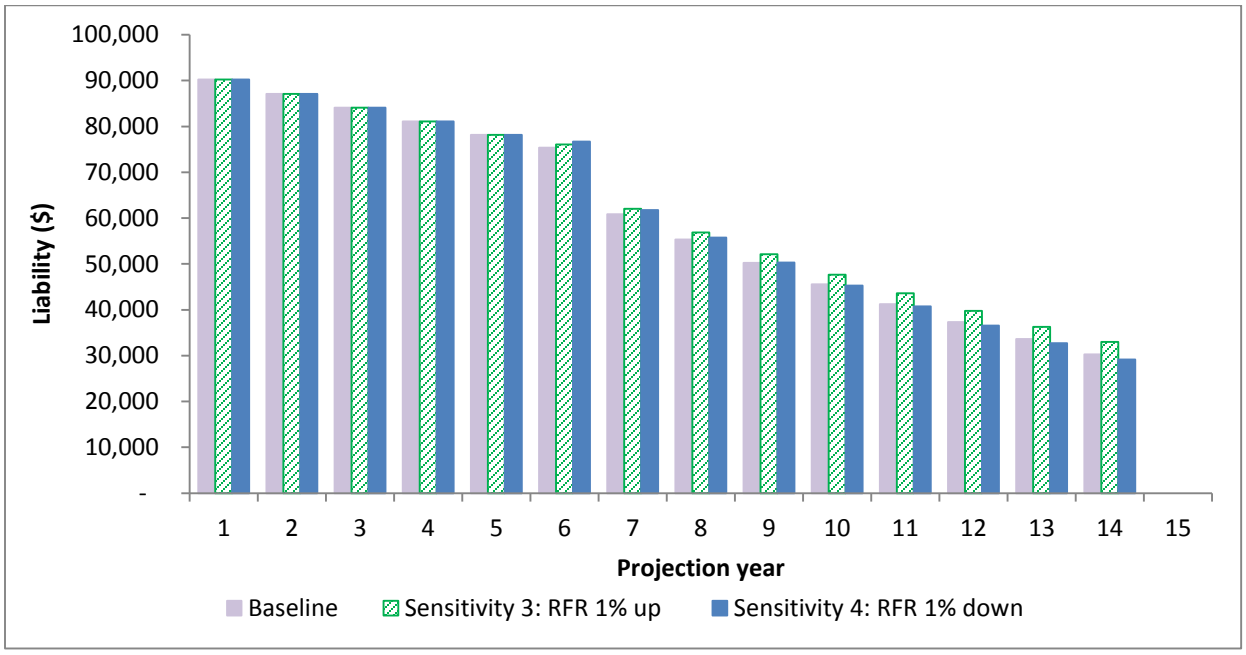
Figure 53: CALM Liability Impact



IFRS

The IFRS liability is affected by both the ending account value and the discount rate, similar to CALM. The results under the up sensitivity are similar to CALM as discussed above. However, under the down sensitivity, the effect of the assumption change is dampened relative to CALM. This is because the CALM baseline scenario has lower credited rates than the IFRS baseline scenarios, so a larger portion of the reduction in the credited rate was floored at the guaranteed rate. In other words, there was a higher degree of spread compression under CALM.

Figure 54: IFRS Liability Impact

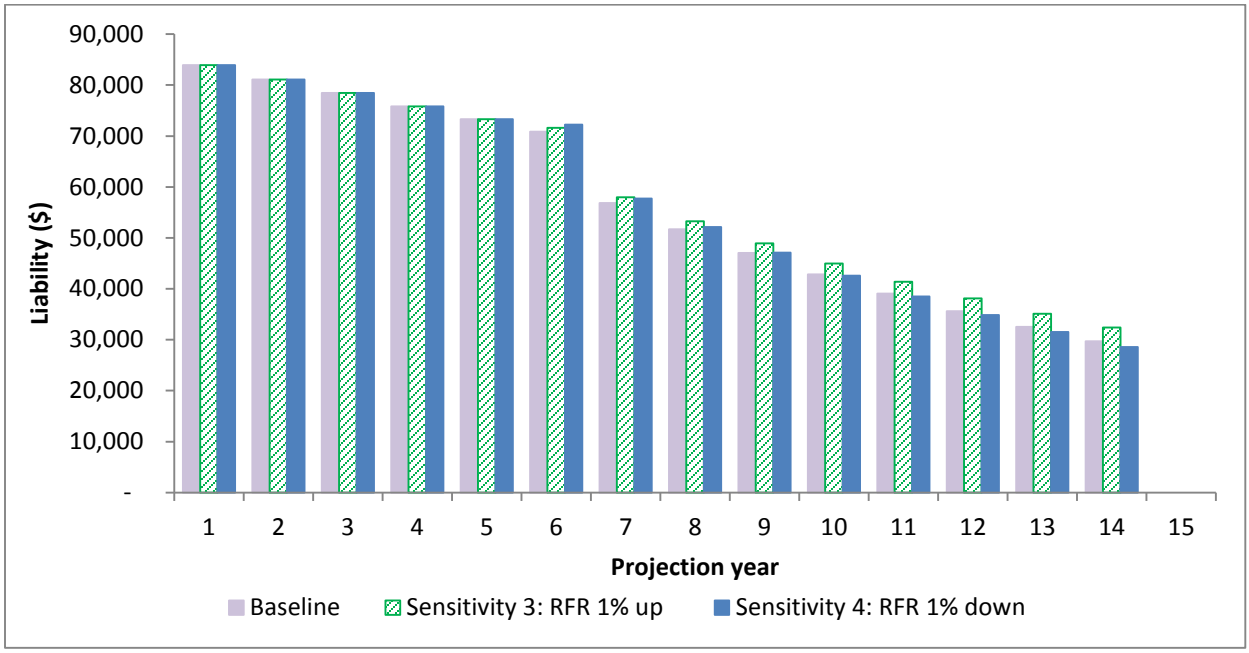


Note that under IFRS, the CSM only unlocks for noneconomic assumptions but not for economic assumptions. Therefore, the change in reserves in year 6 is not absorbed by the CSM as it is under the surrender sensitivities.

Solvency II

The Solvency II liability behaves the same as the IFRS liability, as the CSM under IFRS is unaffected by these sensitivities.

Figure 55: Solvency II Liability Impact



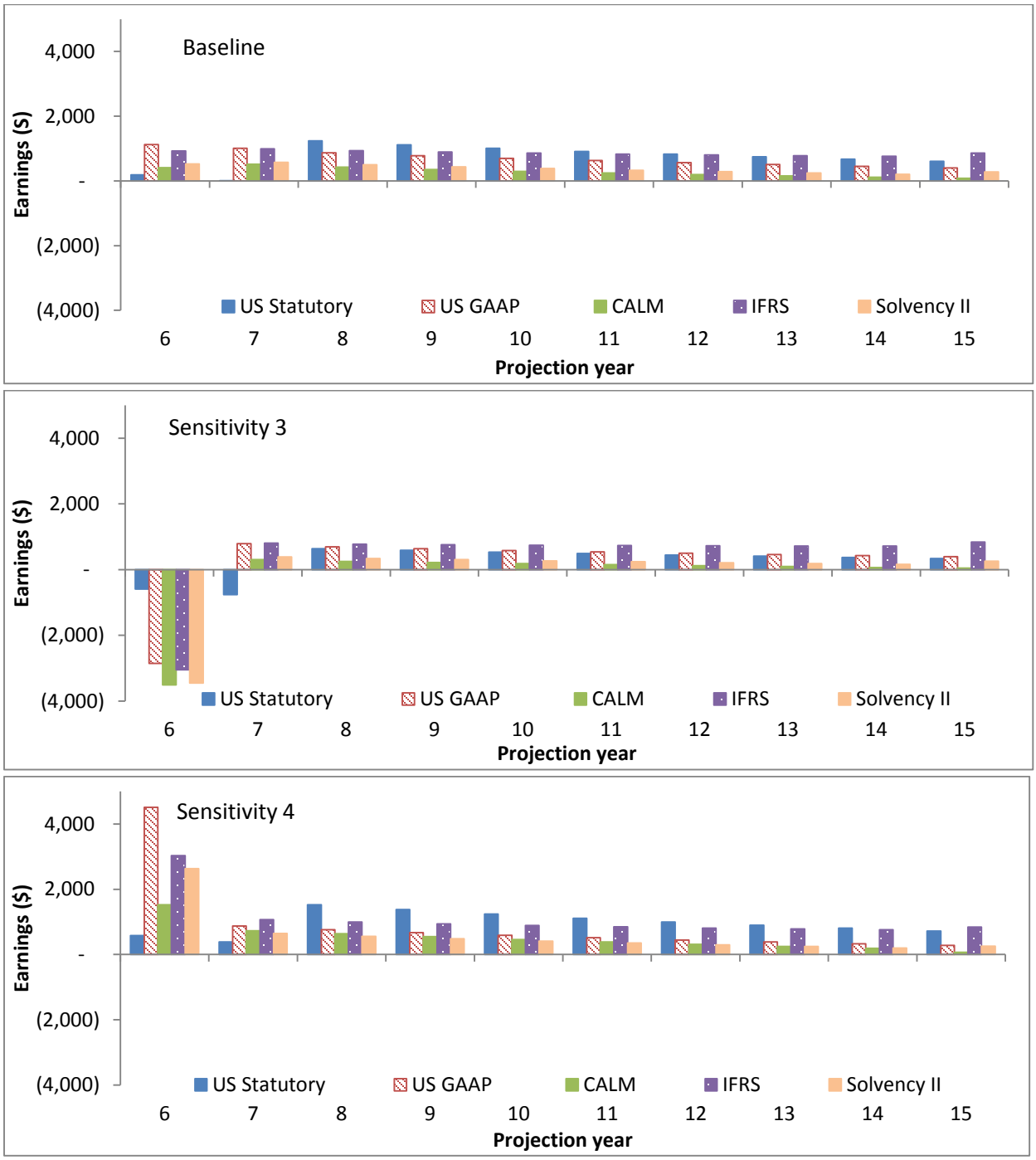
Earnings emergence

The earnings emergence under Sensitivities 3 and 4 can be characterized as follows:

- As noted under the US Statutory results above, the predominant effects are:
  - The cumulative impact to account values
  - Reduced spreads in the downward sensitivity
  - The lack of impact to investment income as assets are held at book value and no reinvestment is required in this illustration.
- The reduced spreads are anticipated in the liabilities for CALM, IFRS and Solvency II. This results in an immediate loss in year 6 in the downward sensitivity and a smaller reduction to earnings in later years.
- Additionally, under US GAAP, CALM, IFRS and Solvency II, the capital gain or loss in year 6 and subsequent unwind have a significant impact on income emergence.

Figure 56 below highlights the changes in earnings emergence during years 6 through 15 of the projection. These results show the net impact from the various income components discussed above, including investment income.

Figure 56: Earnings Emergence



6. Appendix A—Balance Sheets and Income Statements

6.1. Term Life Insurance

6.1.1. US Statutory—Income Statement

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Revenue																					
(+)	Gross premiums	17,500	14,872	13,083	11,900	11,061	10,280	9,554	8,878	8,250	7,665	6,155	3,733	3,234	2,856	2,551	2,281	2,056	1,850	1,641	1,399
(+)	Ceded premiums	-1,028	-1,554	-1,927	-2,038	-2,179	-2,284	-2,356	-2,420	-2,538	-2,678	-1,440	-874	-758	-670	-598	-535	-482	-434	-385	-327
(+)	Investment income	515	387	329	289	255	221	221	205	153	114	22	13	8	6	4	2	1	0	0	0
	Total revenue	16,987	13,705	11,485	10,151	9,138	8,218	7,420	6,663	5,865	5,101	4,737	2,872	2,484	2,192	1,957	1,749	1,574	1,416	1,257	1,072
Benefits																					
(-)	Death benefits	2,803	4,239	5,256	5,559	5,942	6,228	6,425	6,599	6,921	7,303	3,928	2,384	2,068	1,827	1,632	1,459	1,315	1,184	1,050	893
(-)	Ceded death benefits	-934	-1,413	-1,752	-1,853	-1,981	-2,076	-2,142	-2,200	-2,307	-2,434	-1,309	-795	-689	-609	-544	-486	-438	-395	-350	-298
(-)	Surrender benefits	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
(-)	Partial withdrawal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
(-)	Change in gross reserve	19,367	4,235	1,229	18	-1,514	-2,750	-3,719	-4,562	-3,812	-7,089	-466	-51	-22	0	-4	-3	-8	-12	-12	-1
(-)	Change in ceded reserve	-1,880	-49	-60	-155	-210	-196	-156	-75	-50	2,363	155	17	7	0	1	1	3	4	4	0
	Total benefits	19,356	7,012	4,674	3,569	2,238	1,206	408	-238	752	143	2,308	1,555	1,364	1,218	1,085	970	871	781	692	594
Expenses																					
(-)	Commissions	15,750	744	654	595	553	514	478	444	412	383	0	0	0	0	0	0	0	0	0	0
(-)	Expense allowances	-500	-425	-374	-340	-316	-294	-273	-254	-236	-219	-33	-20	-17	-14	-13	-12	-10	-9	-8	-7
(-)	Acquisition expense	12,700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
(-)	Other issuance expense	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
(-)	Maintenance expense	1,800	1,560	1,400	1,299	1,231	1,167	1,107	1,049	994	942	144	88	76	67	62	56	51	47	43	39
(-)	Financing expense	206	194	236	248	248	233	199	159	119	85	14	9	9	9	9	9	9	8	8	8
(-)	Premium tax	350	297	262	238	221	206	191	178	165	153	123	75	65	57	51	46	41	37	33	28
	Total expenses	30,306	2,370	2,178	2,040	1,938	1,827	1,701	1,576	1,455	1,345	248	152	133	119	108	99	91	83	75	67
Pretax income		**-32,675**	**4,323**	**4,633**	**4,541**	**4,961**	**5,185**	**5,311**	**5,326**	**3,658**	**3,614**	**2,180**	**1,164**	**988**	**855**	**764**	**679**	**612**	**552**	**489**	**410**

6.1.2. US Statutory—Balance Sheet

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Assets																				
Invested assets	8,606	7,313	6,422	5,675	4,913	4,917	4,547	3,397	2,538	492	300	187	133	88	50	17	0	0	0	0
Alternate assets	19,367	23,602	24,831	24,849	23,335	19,868	15,874	11,924	8,492	1,403	937	886	864	864	860	857	837	802	769	710
Total assets	**27,973**	**30,915**	**31,253**	**30,524**	**28,248**	**24,785**	**20,420**	**15,320**	**11,030**	**1,895**	**1,236**	**1,073**	**996**	**952**	**910**	**873**	**837**	**802**	**769**	**710**
Liability and surplus																				
Gross reserve																				
Basic statutory reserve	0	8,462	14,114	17,949	19,633	19,007	16,306	11,902	8,186	1,403	937	886	864	864	860	857	849	837	826	824
Deficiency statutory reserve	19,367	15,140	10,717	6,900	3,702	1,579	560	402	306	0	0	0	0	0	0	0	0	0	0	0
Ceded reserve	-1,880	-1,929	-1,989	-2,143	-2,353	-2,549	-2,705	-2,780	-2,831	-468	-312	-295	-288	-288	-287	-286	-283	-279	-275	-275
Retained earnings	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Target surplus	10,485	9,242	8,411	7,818	7,266	6,748	6,259	5,797	5,369	960	612	483	420	376	337	302	271	244	218	160
Total liability and surplus	**27,973**	**30,915**	**31,253**	**30,524**	**28,248**	**24,785**	**20,420**	**15,320**	**11,030**	**1,895**	**1,236**	**1,073**	**996**	**952**	**910**	**873**	**837**	**802**	**769**	**710**

6.1.3. US GAAP—Income Statement

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Revenue																					
(+)	Gross premiums	17,500	14,872	13,083	11,900	11,061	10,280	9,554	8,878	8,250	7,665	6,155	3,733	3,234	2,856	2,551	2,281	2,056	1,850	1,641	1,399
(+)	Ceded premiums	-1,028	-1,554	-1,927	-2,038	-2,179	-2,284	-2,356	-2,420	-2,538	-2,678	-1,440	-874	-758	-670	-598	-535	-482	-434	-385	-327
(+)	Investment income	515	387	329	289	255	221	221	205	153	114	22	13	8	6	4	2	1	0	0	0
	Total revenue	16,987	13,705	11,485	10,151	9,138	8,218	7,420	6,663	5,865	5,101	4,737	2,872	2,484	2,192	1,957	1,749	1,574	1,416	1,257	1,072
Benefits																					
(-)	Death benefits	2,803	4,239	5,256	5,559	5,942	6,228	6,425	6,599	6,921	7,303	3,928	2,384	2,068	1,827	1,632	1,459	1,315	1,184	1,050	893
(-)	Ceded death benefits	-934	-1,413	-1,752	-1,853	-1,981	-2,076	-2,142	-2,200	-2,307	-2,434	-1,309	-795	-689	-609	-544	-486	-438	-395	-350	-298
(-)	Surrender benefits	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
(-)	Partial withdrawal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
(-)	Change in gross reserve	6,528	3,714	1,758	841	-32	-795	-1,456	-2,085	-2,872	-3,711	-229	-145	-121	-103	-92	-82	-74	-66	-58	-48
(-)	Change in FAS113 asset/liab	-187	-135	-101	-85	-71	-59	-48	-38	-26	-18	96	60	50	42	37	32	29	25	22	17
	Total benefit	8,210	6,405	5,160	4,462	3,859	3,299	2,780	2,276	1,717	1,139	2,486	1,504	1,307	1,157	1,033	923	832	748	663	564
Expenses																					
(-)	Commissions	15,750	744	654	595	553	514	478	444	412	383	0	0	0	0	0	0	0	0	0	0
(-)	Reinsurance allowance	-500	-425	-374	-340	-316	-294	-273	-254	-236	-219	-33	-20	-17	-14	-13	-12	-10	-9	-8	-7
(-)	Acquisition expense	12,700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
(-)	Other issuance expense	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
(-)	Maintenance expense	1,800	1,560	1,400	1,299	1,231	1,167	1,107	1,049	994	942	144	88	76	67	62	56	51	47	43	39
(-)	Financing expense	206	194	236	248	248	233	199	159	119	85	14	9	9	9	9	9	9	8	8	8
(-)	Premium tax	350	297	262	238	221	206	191	178	165	153	123	75	65	57	51	46	41	37	33	28
(-)	Change in DAC asset	-24,556	2,449	2,065	1,837	1,723	1,617	1,519	1,429	1,345	1,198	1,242	774	640	539	476	420	374	331	286	231
	Total expenses	5,750	4,819	4,243	3,878	3,661	3,444	3,221	3,004	2,800	2,542	1,490	926	773	658	584	519	464	414	362	299
Pretax income		**3,028**	**2,481**	**2,082**	**1,811**	**1,618**	**1,475**	**1,420**	**1,383**	**1,348**	**1,420**	**761**	**441**	**404**	**377**	**340**	**307**	**278**	**254**	**231**	**209**

6.1.4. US GAAP—Balance Sheet

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Assets																				
Invested assets	8,606	7,313	6,422	5,675	4,913	4,917	4,547	3,397	2,538	492	300	187	133	88	50	17	0	0	0	0
FAS113 asset/liability	187	322	423	509	580	638	686	724	749	768	672	612	562	520	483	451	422	396	375	358
DAC asset	24,556	22,108	20,043	18,206	16,482	14,865	13,346	11,917	10,572	9,374	8,133	7,358	6,718	6,179	5,703	5,283	4,909	4,578	4,292	4,060
Total assets	**33,349**	**29,743**	**26,889**	**24,389**	**21,975**	**20,420**	**18,578**	**16,037**	**13,860**	**10,634**	**9,104**	**8,157**	**7,412**	**6,787**	**6,236**	**5,750**	**5,331**	**4,975**	**4,666**	**4,418**
Liability and surplus																				
Gross reserve	6,528	10,242	12,000	12,841	12,809	12,014	10,558	8,473	5,601	1,890	1,661	1,516	1,395	1,292	1,200	1,118	1,045	979	921	873
Shareholder equity	26,821	19,501	14,889	11,549	9,166	8,406	8,020	7,565	8,258	8,744	7,443	6,642	6,018	5,495	5,036	4,632	4,286	3,996	3,746	3,545
Total liability and shareholder equity	**33,349**	**29,743**	**26,889**	**24,389**	**21,975**	**20,420**	**18,578**	**16,037**	**13,860**	**10,634**	**9,104**	**8,157**	**7,412**	**6,787**	**6,236**	**5,750**	**5,331**	**4,975**	**4,666**	**4,418**

6.1.5. CALM—Income Statement

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Revenue																					
(+)	Gross premiums	17,500	14,872	13,083	11,900	11,061	10,280	9,554	8,878	8,250	7,665	6,155	3,733	3,234	2,856	2,551	2,281	2,056	1,850	1,641	1,399
(+)	Ceded premiums	-1,028	-1,554	-1,927	-2,038	-2,179	-2,284	-2,356	-2,420	-2,538	-2,678	-1,440	-874	-758	-670	-598	-535	-482	-434	-385	-327
(+)	Investment income	515	387	329	289	255	221	221	205	153	114	22	13	8	6	4	2	1	0	0	0
	Total revenue	16,987	13,705	11,485	10,151	9,138	8,218	7,420	6,663	5,865	5,101	4,737	2,872	2,484	2,192	1,957	1,749	1,574	1,416	1,257	1,072
Benefits																					
(-)	Death benefits	2,803	4,239	5,256	5,559	5,942	6,228	6,425	6,599	6,921	7,303	3,928	2,384	2,068	1,827	1,632	1,459	1,315	1,184	1,050	893
(-)	Ceded death benefits	-934	-1,413	-1,752	-1,853	-1,981	-2,076	-2,142	-2,200	-2,307	-2,434	-1,309	-795	-689	-609	-544	-486	-438	-395	-350	-298
(-)	Surrender benefits	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
(-)	Partial withdrawal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
(-)	Change in gross reserve	-17,994	6,880	4,514	3,304	2,211	1,219	323	-552	-1,618	-2,750	1,032	500	409	340	279	227	183	144	107	70
(-)	Change in ceded reserve	-3,583	218	200	205	216	233	255	281	316	365	113	47	48	51	51	51	51	50	48	43
	Total benefit	-19,708	9,924	8,218	7,215	6,389	5,605	4,861	4,128	3,312	2,484	3,764	2,136	1,836	1,609	1,419	1,250	1,110	984	855	708
Expenses																					
(-)	Commissions	15,750	744	654	595	553	514	478	444	412	383	0	0	0	0	0	0	0	0	0	0
(-)	Reinsurance allowance	-500	-425	-374	-340	-316	-294	-273	-254	-236	-219	-33	-20	-17	-14	-13	-12	-10	-9	-8	-7
(-)	Acquisition expense	12,700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
(-)	Other issuance expense	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
(-)	Maintenance expense	1,800	1,560	1,400	1,299	1,231	1,167	1,107	1,049	994	942	144	88	76	67	62	56	51	47	43	39
(-)	Financing expense	206	194	236	248	248	233	199	159	119	85	14	9	9	9	9	9	9	8	8	8
(-)	Premium tax	350	297	262	238	221	206	191	178	165	153	123	75	65	57	51	46	41	37	33	28
	Total expenses	30,306	2,370	2,178	2,040	1,938	1,827	1,701	1,576	1,455	1,345	248	152	133	119	108	99	91	83	75	67
Pretax income		**6,389**	**1,411**	**1,089**	**895**	**810**	**787**	**857**	**960**	**1,097**	**1,272**	**724**	**584**	**516**	**464**	**430**	**399**	**373**	**350**	**326**	**296**

6.1.6. CALM—Balance Sheet

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Assets																				
Invested assets	8,606	7,313	6,422	5,675	4,913	4,917	4,547	3,397	2,538	492	300	187	133	88	50	17	0	0	0	0
Total assets	**8,606**	**7,313**	**6,422**	**5,675**	**4,913**	**4,917**	**4,547**	**3,397**	**2,538**	**492**	**300**	**187**	**133**	**88**	**50**	**17**	**0**	**0**	**0**	**0**
Liability and surplus																				
Gross reserve	-17,994	-11,114	-6,600	-3,296	-1,085	135	458	-94	-1,712	-4,462	-3,430	-2,929	-2,520	-2,180	-1,901	-1,674	-1,491	-1,347	-1,239	-1,169
Ceded reserve	-3,583	-3,365	-3,165	-2,960	-2,744	-2,510	-2,255	-1,974	-1,658	-1,293	-1,180	-1,133	-1,085	-1,034	-982	-931	-881	-831	-783	-740
Shareholder equity	30,183	21,792	16,187	11,931	8,741	7,293	6,344	5,465	5,909	6,247	4,909	4,250	3,738	3,302	2,934	2,622	2,372	2,177	2,022	1,909
Total liability and shareholder equity	**8,606**	**7,313**	**6,422**	**5,675**	**4,913**	**4,917**	**4,547**	**3,397**	**2,538**	**492**	**300**	**187**	**133**	**88**	**50**	**17**	**0**	**0**	**0**	**0**

6.1.7. IFRS—Income Statement (Traditional Presentation—FAS60)

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Revenue																					
(+)	Gross premiums	17,500	14,872	13,083	11,900	11,061	10,280	9,554	8,878	8,250	7,665	6,155	3,733	3,234	2,856	2,551	2,281	2,056	1,850	1,641	1,399
(+)	Ceded premiums	-1,028	-1,554	-1,927	-2,038	-2,179	-2,284	-2,356	-2,420	-2,538	-2,678	-1,440	-874	-758	-670	-598	-535	-482	-434	-385	-327
(+)	Investment income	515	387	329	289	255	221	221	205	153	114	22	13	8	6	4	2	1	0	0	0
	Total revenue	16,987	13,705	11,485	10,151	9,138	8,218	7,420	6,663	5,865	5,101	4,737	2,872	2,484	2,192	1,957	1,749	1,574	1,416	1,257	1,072
Benefits																					
(-)	Death benefits	2,803	4,239	5,256	5,559	5,942	6,228	6,425	6,599	6,921	7,303	3,928	2,384	2,068	1,827	1,632	1,459	1,315	1,184	1,050	893
(-)	Ceded death benefits	-934	-1,413	-1,752	-1,853	-1,981	-2,076	-2,142	-2,200	-2,307	-2,434	-1,309	-795	-689	-609	-544	-486	-438	-395	-350	-298
(-)	Surrender benefits	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
(-)	Partial withdrawal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
(-)	Change (increase) in PV of fulfillment cash flows	-31,075	7,027	4,771	3,648	2,692	1,843	1,094	380	-471	-1,380	1,700	905	765	662	582	510	451	397	339	267
(-)	Change (increase) in risk adjustment	9,561	-1,150	-761	-539	-502	-467	-434	-404	-376	-4,189	-297	-68	-48	-34	-30	-27	-24	-22	-20	-17
(-)	Change (increase) in contractual service margin	2,129	-275	-186	-135	-125	-116	-107	-99	-92	-847	-60	-15	-10	-7	-7	-6	-5	-5	-4	-4
(-)	Change (decrease) in ceded PV of fulfillment cash flows	415	249	155	112	72	38	8	-21	-58	-97	-124	-65	-55	-48	-42	-36	-32	-28	-23	-17
(-)	Change (decrease) in ceded risk adjustment	-4,249	511	338	240	223	208	193	180	167	1,862	132	30	21	15	13	12	11	10	9	8
(-)	Change (decrease) in ceded contractual service margin	4,186	-537	-362	-263	-244	-226	-209	-194	-180	-1,682	-120	-29	-21	-15	-13	-12	-10	-9	-8	-7
	Total benefit	-17,164	8,651	7,460	6,769	6,078	5,431	4,827	4,241	3,605	-1,465	3,849	2,349	2,031	1,791	1,591	1,414	1,267	1,132	993	825
Expenses																					
(-)	Commissions	15,750	744	654	595	553	514	478	444	412	383	0	0	0	0	0	0	0	0	0	0
(-)	Reinsurance allowance	-500	-425	-374	-340	-316	-294	-273	-254	-236	-219	-33	-20	-17	-14	-13	-12	-10	-9	-8	-7
(-)	Acquisition expense	12,700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
(-)	Other issuance expense	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
(-)	Maintenance expense	1,800	1,560	1,400	1,299	1,231	1,167	1,107	1,049	994	942	144	88	76	67	62	56	51	47	43	39
(-)	Financing expense	206	194	236	248	248	233	199	159	119	85	14	9	9	9	9	9	9	8	8	8
(-)	Premium tax	350	297	262	238	221	206	191	178	165	153	123	75	65	57	51	46	41	37	33	28
	Total expenses	30,306	2,370	2,178	2,040	1,938	1,827	1,701	1,576	1,455	1,345	248	152	133	119	108	99	91	83	75	67
Pretax income		**3,846**	**2,684**	**1,847**	**1,341**	**1,121**	**960**	**891**	**847**	**805**	**5,222**	**639**	**371**	**321**	**282**	**258**	**236**	**217**	**201**	**188**	**180**

6.1.8. IFRS—Income Statement (Earned Premium Presentation)

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Revenue																					
(+)	Expected claims	1,869	2,826	3,504	3,706	3,961	4,152	4,283	4,399	4,614	4,869	2,619	1,589	1,378	1,218	1,088	973	877	789	700	595
(+)	Expected expenses and premium taxes	1,850	1,603	1,437	1,333	1,263	1,197	1,134	1,074	1,018	964	247	151	131	116	105	95	86	78	71	63
(+)	Release of risk adjustment	938	639	423	300	279	259	241	225	209	2,327	165	38	27	19	17	15	14	12	11	10
(+)	Release of contractual service margin	1,182	812	547	398	369	342	317	293	272	2,529	180	43	31	22	20	17	15	14	12	11
(+)	Release of acquisition expense	5,131	3,524	2,378	1,731	1,603	1,485	1,375	1,273	1,178	10,857	774	186	133	96	85	75	66	59	52	46
	Insurance contract revenue	10,971	9,404	8,290	7,467	7,476	7,435	7,350	7,264	7,291	21,546	3,986	2,007	1,700	1,470	1,314	1,175	1,058	952	846	724
(+)	Investment income	515	387	329	289	255	221	221	205	153	114	22	13	8	6	4	2	1	0	0	0
	Total revenue	16,987	13,705	11,485	10,151	9,138	8,218	7,420	6,663	5,865	5,101	4,737	2,872	2,484	2,192	1,957	1,749	1,574	1,416	1,257	1,072
Benefits																					
(-)	Death benefits	2,803	4,239	5,256	5,559	5,942	6,228	6,425	6,599	6,921	7,303	3,928	2,384	2,068	1,827	1,632	1,459	1,315	1,184	1,050	893
(-)	Ceded death benefits	-934	-1,413	-1,752	-1,853	-1,981	-2,076	-2,142	-2,200	-2,307	-2,434	-1,309	-795	-689	-609	-544	-486	-438	-395	-350	-298
(-)	Surrender benefits	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
(-)	Partial withdrawal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
	Total benefit	1,869	2,826	3,504	3,706	3,961	4,152	4,283	4,399	4,614	4,869	2,619	1,589	1,378	1,218	1,088	973	877	789	700	595
Expenses																					
(-)	Commissions	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
(-)	Reinsurance allowance	-500	-425	-374	-340	-316	-294	-273	-254	-236	-219	-33	-20	-17	-14	-13	-12	-10	-9	-8	-7
(-)	Acquisition expense	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
(-)	Other issuance expense	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
(-)	Maintenance expense	1,800	1,560	1,400	1,299	1,231	1,167	1,107	1,049	994	942	144	88	76	67	62	56	51	47	43	39
(-)	Financing expense	206	194	236	248	248	233	199	159	119	85	14	9	9	9	9	9	9	8	8	8
(-)	Premium tax	350	297	262	238	221	206	191	178	165	153	123	75	65	57	51	46	41	37	33	28
(-)	Acquisition expense amortization	5,131	3,524	2,378	1,731	1,603	1,485	1,375	1,273	1,178	10,857	774	186	133	96	85	75	66	59	52	46
(-)	Interest accretion	-1,213	-866	-630	-463	-336	-249	-197	-177	-190	-241	-270	-278	-257	-238	-220	-205	-192	-180	-170	-164
	Total expenses	5,774	4,284	3,272	2,713	2,653	2,549	2,402	2,228	2,031	11,577	753	60	9	-24	-28	-31	-35	-38	-43	-51
Pretax income		**3,843**	**2,680**	**1,842**	**1,337**	**1,117**	**955**	**886**	**842**	**798**	**5,214**	**636**	**371**	**321**	**282**	**257**	**236**	**217**	**201**	**189**	**180**

Note: Although the presentation is different, the pretax income for both the earned premium approach and FAS60 presentation is the same. The tables above exhibit minor differences attributable to rounding.

6.1.9. IFRS—Balance Sheet

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Assets																				
Invested assets	8,606	7,313	6,422	5,675	4,913	4,917	4,547	3,397	2,538	492	300	187	133	88	50	17	0	0	0	0
Total assets	**8,606**	**7,313**	**6,422**	**5,675**	**4,913**	**4,917**	**4,547**	**3,397**	**2,538**	**492**	**300**	**187**	**133**	**88**	**50**	**17**	**0**	**0**	**0**	**0**
Liability and surplus																				
PV of fulfillment cash flows	-31,075	-24,048	-19,277	-15,629	-12,937	-11,094	-10,000	-9,620	-10,091	-11,471	-9,771	-8,866	-8,100	-7,438	-6,857	-6,347	-5,896	-5,499	-5,159	-4,892
Risk adjustment	9,561	8,411	7,650	7,111	6,609	6,142	5,707	5,303	4,927	738	441	373	325	292	261	234	210	188	169	151
Contractual service margin	2,129	1,854	1,669	1,534	1,409	1,293	1,185	1,086	994	147	86	72	61	54	47	41	36	32	27	24
Ceded PV of fulfillment cash flows	415	663	818	930	1,002	1,040	1,048	1,026	969	871	747	682	627	579	537	501	469	441	417	400
Ceded risk adjustment	-4,249	-3,738	-3,400	-3,160	-2,937	-2,730	-2,537	-2,357	-2,190	-328	-196	-166	-145	-130	-116	-104	-93	-84	-75	-67
Ceded contractual service margin	4,186	3,649	3,288	3,025	2,782	2,556	2,347	2,153	1,973	291	171	143	122	108	94	83	73	63	55	48
Shareholder equity	27,639	20,521	15,674	11,865	8,986	7,710	6,796	5,805	5,956	10,244	8,821	7,949	7,242	6,624	6,083	5,608	5,202	4,858	4,565	4,336
Total liability and shareholder equity	**8,606**	**7,313**	**6,422**	**5,675**	**4,913**	**4,917**	**4,547**	**3,397**	**2,538**	**492**	**300**	**187**	**133**	**88**	**50**	**17**	**0**	**0**	**0**	**0**

6.1.10. Solvency II—Income Statement

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Revenue																					
(+)	Gross premiums	17,500	14,872	13,083	11,900	11,061	10,280	9,554	8,878	8,250	7,665	6,155	3,733	3,234	2,856	2,551	2,281	2,056	1,850	1,641	1,399
(+)	Ceded premiums	-1,028	-1,554	-1,927	-2,038	-2,179	-2,284	-2,356	-2,420	-2,538	-2,678	-1,440	-874	-758	-670	-598	-535	-482	-434	-385	-327
(+)	Investment income	515	387	329	289	255	221	221	205	153	114	22	13	8	6	4	2	1	0	0	0
	Total revenue	16,987	13,705	11,485	10,151	9,138	8,218	7,420	6,663	5,865	5,101	4,737	2,872	2,484	2,192	1,957	1,749	1,574	1,416	1,257	1,072
Benefits																					
(-)	Death benefits	2,803	4,239	5,256	5,559	5,942	6,228	6,425	6,599	6,921	7,303	3,928	2,384	2,068	1,827	1,632	1,459	1,315	1,184	1,050	893
(-)	Ceded death benefits	-934	-1,413	-1,752	-1,853	-1,981	-2,076	-2,142	-2,200	-2,307	-2,434	-1,309	-795	-689	-609	-544	-486	-438	-395	-350	-298
(-)	Surrender benefits	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
(-)	Partial withdrawal	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
(-)	Change (increase) in best-estimate liability	-32,024	7,164	4,863	3,710	2,729	1,863	1,104	386	-464	-1,365	1,731	943	800	695	612	538	478	422	364	292
(-)	Change (increase) in risk margin	9,561	-1,150	-761	-539	-502	-467	-434	-404	-376	-4,189	-297	-68	-48	-34	-30	-27	-24	-22	-20	-17
(-)	Change (decrease) in ceded best-estimate liability	303	255	164	120	82	49	20	-7	-41	-77	-117	-64	-54	-47	-41	-36	-32	-28	-24	-19
(-)	Change (decrease) in ceded risk margin	-4,249	511	338	240	223	208	193	180	167	1,862	132	30	21	15	13	12	11	10	9	8
	Total benefit	-24,540	9,606	8,109	7,237	6,494	5,804	5,166	4,553	3,900	1,099	4,068	2,431	2,097	1,846	1,641	1,459	1,309	1,171	1,029	858
Expenses																					
(-)	Commissions	15,750	744	654	595	553	514	478	444	412	383	0	0	0	0	0	0	0	0	0	0
(-)	Reinsurance allowance	-500	-425	-374	-340	-316	-294	-273	-254	-236	-219	-33	-20	-17	-14	-13	-12	-10	-9	-8	-7
(-)	Acquisition expense	12,700	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
(-)	Other issuance expense	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
(-)	Maintenance expense	1,800	1,560	1,400	1,299	1,231	1,167	1,107	1,049	994	942	144	88	76	67	62	56	51	47	43	39
(-)	Financing expense	206	194	236	248	248	233	199	159	119	85	14	9	9	9	9	9	9	8	8	8
(-)	Premium tax	350	297	262	238	221	206	191	178	165	153	123	75	65	57	51	46	41	37	33	28
	Total expenses	30,306	2,370	2,178	2,040	1,938	1,827	1,701	1,576	1,455	1,345	248	152	133	119	108	99	91	83	75	67
Pretax income		**11,222**	**1,729**	**1,198**	**873**	**705**	**587**	**553**	**535**	**510**	**2,657**	**421**	**289**	**254**	**227**	**207**	**190**	**175**	**162**	**153**	**146**

6.1.11. Solvency II—Balance Sheet

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
Assets																				
Invested assets	8,606	7,313	6,422	5,675	4,913	4,917	4,547	3,397	2,538	492	300	187	133	88	50	17	0	0	0	0
Total assets	**8,606**	**7,313**	**6,422**	**5,675**	**4,913**	**4,917**	**4,547**	**3,397**	**2,538**	**492**	**300**	**187**	**133**	**88**	**50**	**17**	**0**	**0**	**0**	**0**
Liability and surplus																				
Best-estimate liability	-32,024	-24,859	-19,996	-16,286	-13,557	-11,694	-10,590	-10,204	-10,668	-12,033	10,302	-9,359	-8,559	-7,865	-7,253	-6,715	-6,238	-5,815	-5,452	-5,160
Risk margin	9,561	8,411	7,650	7,111	6,609	6,142	5,707	5,303	4,927	738	441	373	325	292	261	234	210	188	169	151
Ceded best-estimate liability	303	558	721	842	924	973	993	986	944	867	750	686	632	585	544	507	475	447	423	404
Ceded risk margin	-4,249	-3,738	-3,400	-3,160	-2,937	-2,730	-2,537	-2,357	-2,190	-328	-196	-166	-145	-130	-116	-104	-93	-84	-75	-67
Shareholder equity	35,015	26,942	21,447	17,169	13,874	12,225	10,973	9,669	9,525	11,248	9,607	8,653	7,879	7,206	6,615	6,094	5,646	5,264	4,935	4,672
Total liability and shareholder equity	**8,606**	**7,313**	**6,422**	**5,675**	**4,913**	**4,917**	**4,547**	**3,397**	**2,538**	**492**	**300**	**187**	**133**	**88**	**50**	**17**	**0**	**0**	**0**	**0**

6.2. Deferred Annuity

6.2.1. US Statutory—Income Statement

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Revenue															
(+) Premiums	100,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-
(+) Investment income	4,483	4,067	3,932	3,807	3,689	3,581	3,483	2,855	2,582	2,334	2,109	1,905	1,720	1,551	1,399
Total revenue	104,483	4,067	3,932	3,807	3,689	3,581	3,483	2,855	2,582	2,334	2,109	1,905	1,720	1,551	1,399
Benefits															
(-) Death benefits	289	302	315	326	337	346	355	306	296	287	279	273	268	264	262
(-) Surrender benefits	4,530	4,380	4,233	4,089	3,949	3,812	15,323	6,158	5,566	5,030	4,543	4,101	3,700	3,336	30,056
(-) Partial withdrawals	1,533	1,466	1,401	1,339	1,279	1,222	1,167	938	848	766	692	625	563	508	458
(-) Increase in statutory reserve	87,301	-2,890	-2,703	-2,515	-2,327	-2,099	-13,475	-5,869	-5,325	-4,830	-4,382	-3,976	-3,609	-3,276	-30,026
Total benefits	93,654	3,258	3,246	3,239	3,238	3,281	3,370	1,532	1,386	1,252	1,132	1,022	923	833	751
Expenses															
(-) Commissions	6,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-
(-) Acquisition expense	500	-	-	-	-	-	-	-	-	-	-	-	-	-	-
(-) Other issuance expense	50	-	-	-	-	-	-	-	-	-	-	-	-	-	-
(-) Maintenance expenses	140	134	128	122	117	112	107	86	78	70	63	57	52	47	42
(-) Financing expense	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
(-) Premium tax	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total expenses	6,690	134	128	122	117	112	107	86	78	70	63	57	52	47	42
Pretax income	**4,139**	**675**	**558**	**445**	**334**	**188**	**7**	**1,237**	**1,119**	**1,011**	**914**	**825**	**745**	**672**	**606**

6.2.2. US Statutory—Balance Sheet

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Assets															
Invested assets	90,381	87,389	84,591	81,987	79,578	77,405	63,454	57,378	51,865	46,865	42,328	38,212	34,476	31,085	-
Total assets	**90,381**	**87,389**	**84,591**	**81,987**	**79,578**	**77,405**	**63,454**	**57,378**	**51,865**	**46,865**	**42,328**	**38,212**	**34,476**	**31,085**	**-**
Liability and surplus															
Basic statutory reserve	87,301	84,411	81,708	79,193	76,867	74,768	61,292	55,423	50,098	45,268	40,886	36,910	33,302	30,026	-
Deficiency statutory reserve	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Target surplus	3,079	2,977	2,882	2,793	2,711	2,637	2,162	1,955	1,767	1,597	1,442	1,302	1,175	1,059	-
Total liability and capital	**90,381**	**87,389**	**84,591**	**81,987**	**79,578**	**77,405**	**63,454**	**57,378**	**51,865**	**46,865**	**42,328**	**38,212**	**34,476**	**31,085**	**-**

6.2.3. US GAAP—Income Statement (Traditional Presentation—FAS60)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Revenue															
(+) Premiums	100,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-
(+) Investment income	4,483	4,067	3,932	3,807	3,689	3,581	3,483	2,855	2,582	2,334	2,109	1,905	1,720	1,551	1,399
Total revenue	104,483	4,067	3,932	3,807	3,689	3,581	3,483	2,855	2,582	2,334	2,109	1,905	1,720	1,551	1,399
Benefits															
(-) Death benefits	289	302	315	326	337	346	355	306	296	287	279	273	268	264	262
(-) Surrender benefits	4,530	4,380	4,233	4,089	3,949	3,812	15,323	6,158	5,566	5,030	4,543	4,101	3,700	3,336	30,056
(-) Partial withdrawals	1,533	1,466	1,401	1,339	1,279	1,222	1,167	938	848	766	692	625	563	508	458
(-) Increase in GAAP reserve	95,644	-4,191	-4,031	-3,877	-3,728	-3,585	-14,939	-5,869	-5,325	-4,830	-4,382	-3,976	-3,609	-3,276	-30,026
Total benefits	101,997	1,958	1,918	1,878	1,837	1,795	1,906	1,532	1,386	1,252	1,132	1,022	923	833	751
Expenses															
(-) Commissions	6,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-
(-) Acquisition expense	500	-	-	-	-	-	-	-	-	-	-	-	-	-	-
(-) Other issuance expense	50	-	-	-	-	-	-	-	-	-	-	-	-	-	-
(-) Maintenance expenses	140	134	128	122	117	112	107	86	78	70	63	57	52	47	42
(-) Financing expense	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
(-) Premium tax	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
(-) Decrease in DAC	-5,777	685	648	614	581	550	464	371	340	311	285	262	241	221	204
Total expenses	913	818	776	736	698	662	571	457	417	381	349	319	292	268	246
Pretax income	**1,573**	**1,291**	**1,238**	**1,193**	**1,155**	**1,124**	**1,007**	**866**	**779**	**700**	**629**	**564**	**505**	**451**	**402**

6.2.4. US GAAP—Income Statement (Margin Presentation—FAS97)

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Revenue																
(+)	Surrender charge	503	433	368	308	252	201	0	0	0	0	0	0	0	0	0
(+)	Investment income	4,483	4,067	3,932	3,807	3,689	3,581	3,483	2,855	2,582	2,334	2,109	1,905	1,720	1,551	1,399
	Total revenue	4,986	4,500	4,301	4,114	3,941	3,782	3,483	2,855	2,582	2,334	2,109	1,905	1,720	1,551	1,399
Expenses																
(-)	Interest credited	2,500	2,391	2,286	2,186	2,089	1,995	1,906	1,532	1,386	1,252	1,132	1,022	923	833	751
(-)	Commissions	6,000	0	0	0	0	0	0	0	0	0	0	0	0	0	0
(-)	Acquisition expense	500	0	0	0	0	0	0	0	0	0	0	0	0	0	0
(-)	Other issuance expense	50	0	0	0	0	0	0	0	0	0	0	0	0	0	0
(-)	Maintenance expenses	140	134	128	122	117	112	107	86	78	70	63	57	52	47	42
(-)	Financing expense	0	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
(-)	Premium tax	0	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*	*0*
(-)	Decrease in DAC	-5,777	685	648	614	581	550	464	371	340	311	285	262	241	221	204
	Total expenses	3,413	3,210	3,062	2,922	2,787	2,657	2,476	1,989	1,803	1,634	1,480	1,341	1,215	1,101	997
Pretax income		**1,573**	**1,291**	**1,238**	**1,193**	**1,155**	**1,124**	**1,007**	**866**	**779**	**700**	**629**	**564**	**505**	**451**	**402**

6.2.5. US GAAP—Balance Sheet

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Assets															
Invested assets	90,381	87,389	84,591	81,987	79,578	77,405	63,454	57,378	51,865	46,865	42,328	38,212	34,476	31,085	-
Deferred acquisition cost asset	5,777	5,092	4,444	3,831	3,250	2,699	2,235	1,864	1,524	1,213	928	666	426	204	-
Total assets	**96,158**	**92,481**	**89,035**	**85,817**	**82,827**	**80,104**	**65,690**	**59,242**	**53,390**	**48,078**	**43,256**	**38,878**	**34,902**	**31,289**	**-**
Liability and shareholder equity															
GAAP reserve	95,644	91,453	87,422	83,545	79,817	76,232	61,292	55,423	50,098	45,268	40,886	36,910	33,302	30,026	-
Equity	514	1,028	1,613	2,272	3,010	3,872	4,397	3,819	3,291	2,810	2,370	1,968	1,600	1,263	-
Total liability and shareholder equity	**96,158**	**92,481**	**89,035**	**85,817**	**82,827**	**80,104**	**65,690**	**59,242**	**53,390**	**48,078**	**43,256**	**38,878**	**34,902**	**31,289**	**-**

6.2.6. CALM—Income Statement

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Revenue															
(+) Premiums	100,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-
(+) Investment income	4,483	4,067	3,932	3,807	3,689	3,581	3,483	2,855	2,582	2,334	2,109	1,905	1,720	1,551	1,399
Total revenue	104,483	4,067	3,932	3,807	3,689	3,581	3,483	2,855	2,582	2,334	2,109	1,905	1,720	1,551	1,399
Benefits															
(-) Death benefits	289	302	315	326	337	346	355	306	296	287	279	273	268	264	262
(-) Surrender benefits	4,530	4,380	4,233	4,089	3,949	3,812	15,323	6,158	5,566	5,030	4,543	4,101	3,700	3,336	30,056
(-) Partial withdrawals	1,533	1,466	1,401	1,339	1,279	1,222	1,167	938	848	766	692	625	563	508	458
(-) Increase in CALM reserve	82,612	-2,724	-2,620	-2,519	-2,418	-2,319	-13,989	-5,056	-4,562	-4,112	-3,712	-3,348	-3,018	-2,718	-29,497
Total benefits	88,965	3,425	3,329	3,236	3,147	3,061	2,857	2,346	2,148	1,971	1,802	1,650	1,513	1,390	1,279
Expenses															
(-) Commissions	6,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-
(-) Acquisition expense	500	-	-	-	-	-	-	-	-	-	-	-	-	-	-
(-) Other issuance expense	50	-	-	-	-	-	-	-	-	-	-	-	-	-	-
(-) Maintenance expenses	140	134	128	122	117	112	107	86	78	70	63	57	52	47	42
(-) Financing expense	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
(-) Premium tax	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total expenses	6,690	134	128	122	117	112	107	86	78	70	63	57	52	47	42
Pretax income	**8,828**	**508**	**476**	**448**	**426**	**409**	**520**	**424**	**356**	**293**	**243**	**197**	**155**	**114**	**78**

6.2.7. CALM—Balance Sheet

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Assets															
Invested assets	90,381	87,389	84,591	81,987	79,578	77,405	63,454	57,378	51,865	46,865	42,328	38,212	34,476	31,085	-
Total assets	**90,381**	**87,389**	**84,591**	**81,987**	**79,578**	**77,405**	**63,454**	**57,378**	**51,865**	**46,865**	**42,328**	**38,212**	**34,476**	**31,085**	**-**
Liability and shareholder equity															
CALM reserve	82,612	79,888	77,268	74,750	72,331	70,012	56,023	50,967	46,405	42,293	38,581	35,233	32,215	29,497	-
Equity	7,769	7,500	7,322	7,237	7,247	7,393	7,431	6,411	5,461	4,572	3,747	2,979	2,261	1,587	-
Total liability and shareholder equity	**90,381**	**87,389**	**84,591**	**81,987**	**79,578**	**77,405**	**63,454**	**57,378**	**51,865**	**46,865**	**42,328**	**38,212**	**34,476**	**31,085**	**-**

6.2.8. IFRS—Income Statement (Traditional Presentation—FAS60)

		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Revenue																
(+)	Premiums	100,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-
(+)	Investment income	4,483	4,067	3,932	3,807	3,689	3,581	3,483	2,855	2,582	2,334	2,109	1,905	1,720	1,551	1,399
	Total revenue	104,483	4,067	3,932	3,807	3,689	3,581	3,483	2,855	2,582	2,334	2,109	1,905	1,720	1,551	1,399
Benefits																
(-)	Death benefits	289	302	315	326	337	346	355	306	296	287	279	273	268	264	262
(-)	Surrender benefits	4,530	4,380	4,233	4,089	3,949	3,812	15,323	6,158	5,566	5,030	4,543	4,101	3,700	3,336	30,056
(-)	Partial withdrawals	1,533	1,466	1,401	1,339	1,279	1,222	1,167	938	848	766	692	625	563	508	458
(-)	Increase in PV of fulfillment cash flows	83,569	-2,772	-2,684	-2,596	-2,510	-2,426	-13,987	-5,111	-4,626	-4,185	-3,785	-3,422	-3,093	-2,796	-29,576
(-)	Increase in risk adjustment	334	-11	-11	-10	-10	-10	-56	-20	-19	-17	-15	-14	-12	-11	-118
(-)	Increase in contractual service margin	6,344	-342	-356	-371	-387	-403	-420	-438	-456	-475	-495	-516	-538	-561	-584
	Total benefits	96,600	3,023	2,898	2,777	2,658	2,542	2,381	1,833	1,610	1,406	1,218	1,046	888	741	498
Expenses																
(-)	Commissions	6,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-
(-)	Acquisition expense	500	-	-	-	-	-	-	-	-	-	-	-	-	-	-
(-)	Other issuance expense	50	-	-	-	-	-	-	-	-	-	-	-	-	-	-
(-)	Maintenance expenses	140	134	128	122	117	112	107	86	78	70	63	57	52	47	42
(-)	Financing expense	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
(-)	Premium tax	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	Total expenses	6,690	134	128	122	117	112	107	86	78	70	63	57	52	47	42
Pretax income		**1,193**	**910**	**906**	**908**	**915**	**928**	**995**	**937**	**895**	**858**	**827**	**801**	**780**	**764**	**859**

6.2.9. IFRS—Income Statement (Earned Premium Presentation)

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Revenue															
(+) Release of risk adjustment	11	11	11	10	10	10	56	20	18.5	16.7	15.1	13.7	12.4	11.2	118
(+) Release of contractual service margin	328	342	356	371	387	403	420	438	456	475	495	516	538	561	584
(+) Release of acquisition expense	322	336	350	365	380	396	413	430	448	467	486	507	528	550	573
Insurance contract revenue	662	689	717	746	777	809	889	888	923	959	997	1,037	1,078	1,122	1,276
(+) Investment income	4,483	4,067	3,932	3,807	3,689	3,581	3,483	2,855	2,582	2,334	2,109	1,905	1,720	1,551	1,399
Total revenue	5,145	4,756	4,650	4,553	4,466	4,390	4,372	3,744	3,505	3,293	3,106	2,941	2,798	2,673	2,674
Expenses															
(-) Acquisition expense amortization	322	336	350	365	380	396	413	430	448	467	486	507	528	550	573
(-) Interest accretion	3,630	3,510	3,393	3,281	3,172	3,066	2,964	2,377	2,162	1,968	1,792	1,633	1,490	1,360	1,242
Total expenses	3,952	3,846	3,743	3,645	3,552	3,462	3,377	2,807	2,610	2,435	2,279	2,140	2,018	1,910	1,815
Pretax income	**1,193**	**910**	**906**	**908**	**915**	**928**	**995**	**937**	**895**	**858**	**827**	**801**	**780**	**764**	**859**

6.2.10. IFRS—Balance Sheet

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Assets															
Invested assets	90,381	87,389	84,591	81,987	79,578	77,405	63,454	57,378	51,865	46,865	42,328	38,212	34,476	31,085	-
Total assets	**90,381**	**87,389**	**84,591**	**81,987**	**79,578**	**77,405**	**63,454**	**57,378**	**51,865**	**46,865**	**42,328**	**38,212**	**34,476**	**31,085**	**-**
Liability and shareholder equity															
PV of fulfillment cash flows	83,569	80,796	78,113	75,516	73,006	70,581	56,593	51,482	46,857	42,672	38,887	35,465	32,372	29,576	-
Risk adjustment	334	323	312	302	292	282	226	206	187	171	156	142	129	118	-
Contractual service margin	6,344	6,002	5,646	5,274	4,887	4,484	4,064	3,626	3,170	2,694	2,199	1,682	1,145	584	-
Equity	133	267	520	894	1,393	2,058	2,571	2,064	1,652	1,328	1,087	923	831	806	-
Total liability and shareholder equity	**90,381**	**87,389**	**84,591**	**81,987**	**79,578**	**77,405**	**63,454**	**57,378**	**51,865**	**46,865**	**42,328**	**38,212**	**34,476**	**31,085**	**-**

6.2.11. Solvency II—Income Statement

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Revenue															
(+) Premiums	100,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-
(+) Investment income	4,483	4,067	3,932	3,807	3,689	3,581	3,483	2,855	2,582	2,334	2,109	1,905	1,720	1,551	1,399
Total revenue	104,483	4,067	3,932	3,807	3,689	3,581	3,483	2,855	2,582	2,334	2,109	1,905	1,720	1,551	1,399
Benefits															
(-) Death benefits	289	302	315	326	337	346	355	306	296	287	279	273	268	264	262
(-) Surrender benefits	4,530	4,380	4,233	4,089	3,949	3,812	15,323	6,158	5,566	5,030	4,543	4,101	3,700	3,336	30,056
(-) Partial withdrawals	1,533	1,466	1,401	1,339	1,279	1,222	1,167	938	848	766	692	625	563	508	458
(-) Increase in best-estimate liability	83,569	-2,772	-2,684	-2,596	-2,510	-2,426	-13,987	-5,111	-4,626	-4,185	-3,785	-3,422	-3,093	-2,796	-29,576
(-) Increase in risk margin	334	-11	-11	-10	-10	-10	-56	-20	-19	-17	-15	-14	-12	-11	-118
Total benefits	90,256	3,365	3,255	3,148	3,045	2,945	2,802	2,271	2,066	1,881	1,714	1,562	1,425	1,302	1,082
Expenses															
(-) Commissions	6,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-
(-) Acquisition expense	500	-	-	-	-	-	-	-	-	-	-	-	-	-	-
(-) Other issuance expense	50	-	-	-	-	-	-	-	-	-	-	-	-	-	-
(-) Maintenance expenses	140	134	128	122	117	112	107	86	78	70	63	57	52	47	42
(-) Financing expense	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
(-) Premium tax	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total expenses	6,690	134	128	122	117	112	107	86	78	70	63	57	52	47	42
Pretax income	**7,537**	**568**	**550**	**536**	**528**	**524**	**575**	**499**	**438**	**383**	**332**	**285**	**242**	**203**	**275**

6.2.12. Solvency II—Balance Sheet

	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Assets															
Invested assets	90,381	87,389	84,591	81,987	79,578	77,405	63,454	57,378	51,865	46,865	42,328	38,212	34,476	31,085	-
Total assets	**90,381**	**87,389**	**84,591**	**81,987**	**79,578**	**77,405**	**63,454**	**57,378**	**51,865**	**46,865**	**42,328**	**38,212**	**34,476**	**31,085**	**-**
Liability and shareholder equity															
Best-estimate liability	83,569	80,796	78,113	75,516	73,006	70,581	56,593	51,482	46,857	42,672	38,887	35,465	32,372	29,576	-
Risk margin	334	323	312	302	292	282	226	206	187	171	156	142	129	118	-
Equity	6,478	6,269	6,166	6,168	6,280	6,542	6,635	5,690	4,821	4,022	3,286	2,605	1,975	1,390	-
Total liability and shareholder equity	**90,381**	**87,389**	**84,591**	**81,987**	**79,578**	**77,405**	**63,454**	**57,378**	**51,865**	**46,865**	**42,328**	**38,212**	**34,476**	**31,085**	**-**

7. Appendix B—Model Assumptions

7.1. Term Life Insurance

Level premium for 10 years followed by one-year YRT premiums, renewable until age 80

Term life Insurance (years)	10
Maximum age	80
Sales ($)	15,000,000
Average face amount ($)	150,000
Issue age	40
Sex	Male
Risk class	Nonsmoker
Premium mode	Annual
LOC cost	1.00%
Captive reinsurance	Coinsurance
Coinsurance percentage	100.00%
External reinsurance	YRT
Direct writer retention	100,000
Reinsurance expense allowances (per 1,000 ceded face)	0.10

NOTE: The assumption tables reflect assumptions on a time scale (i.e., when they are incurred) and not a policy duration basis. For example, time 0 is equivalent to the moment of issue, and time 1 is the first policy anniversary.

	SOURCE	MULTIPLE	0	1	2	3	4	5	6	7	8	9	10
Premium													
Guaranteed premium scale ($/1,000 FA)			0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	8.70
Current premium scale ($/1,000 FA)			0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	5.99
Policy fee ($)			40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00
Expenses													
Commission (% of premium)			90.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	5.00	0.00
Per policy acquisition expense			100.00	-	-	-	-	-	-	-	-	-	-
Per 1,000 face amount acquisition expense			0.18	-	-	-	-	-	-	-	-	-	-
Per policy maintenance expense			15.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00
Per 1,000 face amount expense			0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
Expense inflation (%)				2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00

	SOURCE	MULTIPLE	11	12	13	14	15	16	17	18	19	20
Premium												
Guaranteed premium scale ($/1,000 FA)	300% of 2001 CSO male nonsmoker		9.72	10.86	12.15	13.56	15.06	16.74	18.51	20.37	22.41	
Current premium scale ($/1,000 FA)	150% of best-estimate mortality		6.08	6.23	6.31	6.29	6.28	6.31	6.34	6.28	5.95	
Policy fee ($)			40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	40.00	
Expenses												
Commission (% of premium)												
Per policy acquisition expense			0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
Per 1,000 face amount acquisition expense			-	-	-	-	-	-	-	-	-	
Per policy maintenance expense			-	-	-	-	-	-	-	-	-	
Per 1,000 face amount expense			15.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00	15.00	
Expense inflation (%)			2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	2.00	

	SOURCE	MULTIPLE	0	1	2	3	4	5	6	7	8	9	10
Mortality (rate per 1,000)													
Mortality improvement	1.25% per year			1.00	0.99	0.98	0.96	0.95	0.94	0.93	0.92	0.91	0.89
Mortality deterioration after shock	225% shock, runs off linearly over 10 years			1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Best estimate, experience, IFRS, Solvency II	2014 VBT M Ns N	110.00%		0.19	0.33	0.47	0.55	0.63	0.71	0.78	0.87	0.98	1.11
Statutory valuation: select & ultimate	2001 CSO M Ns N	100.00%		0.73	0.90	1.05	1.19	1.38	1.63	1.90	2.17	2.40	2.63
Statutory valuation: ultimate	2001 CSO M Ns N	100.00%		1.46	1.58	1.73	1.90	2.10	2.33	2.55	2.79	2.93	3.09
Statutory valuation: x-factors	Reduces mortality to 200% of best estimate			51%	74%	89%	92%	91%	87%	83%	80%	82%	85%
US GAAP	110% of best estimate			0.21	0.37	0.52	0.60	0.69	0.78	0.86	0.95	1.08	1.22
CALM	110% of best estimate, excl. mortality improvement			0.21	0.37	0.53	0.62	0.72	0.83	0.93	1.04	1.19	1.37

	SOURCE	MULTIPLE	11	12	13	14	15	16	17	18	19	20	11
Mortality (rate per 1,000)													
Mortality improvement	1.25% per year		0.88	0.87	0.86	0.85	0.84	0.83	0.82	0.81	0.80	0.79	
Mortality deterioration after shock	225% shock, runs off linearly over 10 years		3.25	3.03	2.80	2.58	2.35	2.13	1.90	1.68	1.45	1.23	
Best estimate, experience, IFRS, Solvency II	2014 VBT M Ns N	110.00%	3.99	4.05	4.15	4.21	4.20	4.19	4.21	4.23	4.18	3.97	
Statutory valuation: select & ultimate	2001 CSO M Ns N	100.00%	2.90	3.24	3.62	4.05	4.52	5.02	5.58	6.17	6.79	7.47	
Statutory valuation: ultimate	2001 CSO M Ns N	100.00%	3.32	3.59	3.96	4.36	4.87	5.50	6.14	6.83	7.42	8.10	
Statutory valuation: x-factors	Reduces mortality to 200% of best estimate		100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	
US GAAP	110% of best estimate		4.39	4.46	4.57	4.63	4.62	4.60	4.63	4.65	4.60	4.37	
CALM	110% of best estimate, excludes. mortality improvement		4.97	5.11	5.30	5.44	5.49	5.55	5.65	5.75	5.76	5.53	

	SOURCE	MULTIPLE	0	1	2	3	4	5	6	7	8	9
Lapses												
Best estimate, experience, IFRS, Solvency II				15.00%	12.00%	9.00%	7.00%	7.00%	7.00%	7.00%	7.00%	85.00%
Statutory valuation				0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
US GAAP	90% of best estimate (for non-shock lapses)			13.50%	10.80%	8.10%	6.30%	6.30%	6.30%	6.30%	6.30%	85.00%
CALM	110% of best estimate (for non-shock lapses)			16.50%	13.20%	9.90%	7.70%	7.70%	7.70%	7.70%	7.70%	85.00%

	SOURCE	MULTIPLE	11	12	13	14	15	16	17	18	19	20
Lapses												
Best estimate, experience, IFRS, Solvency II			40.00%	15.00%	12.50%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%	10.00%
Statutory valuation			0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
US GAAP	90% of best estimate (for non-shock lapses)		40.00%	13.50%	11.25%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%	9.00%
CALM	110% of best estimate (for non-shock lapses)		40.00%	16.50%	13.75%	11.00%	11.00%	11.00%	11.00%	11.00%	11.00%	11.00%

	SOURCE	MULTIPLE	0	1	2	3	4	5	6	7	8	9	10
Asset yield													
Risk-free rate				3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
Credit spread				2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
Defaults				0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%
Unexpected default margin				0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
Statutory discount rate (prescribed)				3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%
CALM discount rate				4.5%	4.2%	4.2%	4.1%	4.1%	4.0%	4.0%	3.9%	3.9%	3.8%

	SOURCE	MULTIPLE	11	12	13	14	15	16	17	18	19	20
Asset yield												
Risk-free rate			3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
Credit spread			2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
Defaults			0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%
Unexpected margin			0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
Statutory discount rate (prescribed)			3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%
CALM discount rate			3.8%	3.7%	3.7%	3.6%	3.6%	3.5%	3.5%	3.4%	3.4%	3.3%

Solvency II asset illiquidity premium		0.50%
IFRS reinsurance non-performance risk		0.50%
RBC Charges		
C-1 charge	Prescribed: 100% in AAA corporate bonds	0.30%
C-2 charge	Estimated based on ~ $5M book	0.10%
C-3 charge	Prescribed	0.50%
C-4 charge	Prescribed	2.00%
Covariance percentage		60%
Target ratio	300% RBC for direct, 200% for captive	200%

7.2. Deferred Annuity

Issue age 50
Sex M

	Source	Multiple	0	1	2	3	4	5	6	7	8	9	10
Premium			100,000	-	-	-	-	-	-	-	-	-	-
Surrender charge (% of account value)			10.0%	10.0%	9.0%	8.0%	7.0%	6.0%	5.0%	0.0%	0.0%	0.0%	0.0%
Surrender													
Best estimate / experience				5.0%	5.0%	5.0%	5.0%	5.0%	5.0%	20.0%	10.0%	10.0%	10.0%
PADded		110%		5.5%	5.5%	5.5%	5.5%	5.5%	5.5%	22.0%	11.0%	11.0%	11.0%
Mortality													
Best estimate / experience	A2000	90%		0.002822	0.003084	0.003357	0.003639	0.003931	0.004235	0.004547	0.004869	0.005211	0.005586
PADded	A2000	99%		0.003105	0.003393	0.003693	0.004003	0.004324	0.004658	0.005001	0.005356	0.005732	0.006145
Statutory reserve calculation	A2000			0.003136	0.003427	0.003730	0.004043	0.004368	0.004705	0.005052	0.005410	0.005790	0.006207
Statutory reserve calculation (annuitization benefit)	83IAM			0.004057	0.004431	0.004812	0.005198	0.005591	0.005994	0.006409	0.006839	0.007290	0.007782
Free partial withdrawal utilization (% of account value)													
Best estimate / experience				1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%
PADded		110%		1.7%	1.7%	1.7%	1.7%	1.7%	1.7%	1.7%	1.7%	1.7%	1.7%
Statutory reserve calculation				10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%	10.0%
Persistency													
Best estimate / experience			1	0.933109	0.870464	0.811802	0.756880	0.705466	0.657344	0.515632	0.454882	0.401152	0.353634
PADded			1	0.926522	0.858195	0.794668	0.735614	0.680728	0.629727	0.480666	0.418481	0.364203	0.316834
Expenses													
Commission (% of first year premium)			6.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%	0.0%
Per policy acquisition expense			500	-	-	-	-	-	-	-	-	-	-
Per policy other issuance expense			50	-	-	-	-	-	-	-	-	-	-
Initial per policy maintenance expense													

	Source	Multiple	0	1	2	3	4	5	6	7	8	9	10
Best estimate / experience				140	-	-	-	-	-	-	-	-	-
PADded		115%		161	-	-	-	-	-	-	-	-	-
Expense inflation				0.0%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%	2.5%
Guaranteed crediting rate				2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
Asset yield													
Risk-free rate													
Best estimate / experience				3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%	3.0%
CALM scenario				3.0%	2.7%	2.7%	2.6%	2.6%	2.5%	2.5%	2.4%	2.4%	2.3%
Credit spread				2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
Default shave				0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%
Unexpected default shave				0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%	0.1%
Solvency II illiquidity premium				0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%	0.5%
Target spread				2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%	2.0%
Discount rate													
Statutory reserve calculation—type A	Prescribed			4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%	4.0%
Statutory reserve calculation—type C	Prescribed			3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%	3.5%
Guaranteed valuation rate for annuitization benefit				1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%	1.5%
C1 charge (assuming investing 100% in AAA corporate bonds)	Prescribed		0.30%	0.30%	0.30%	0.30%	0.30%	0.30%	0.30%	0.30%	0.30%	0.30%	0.30%
C3 charge	Prescribed		1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%	1.00%
C4 charge	Prescribed		2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%	2.00%
Covariance (C1, C3)			90%	90%	90%	90%	90%	90%	90%	90%	90%	90%	90%
Target RBC ratio			300%	300%	300%	300%	300%	300%	300%	300%	300%	300%	300%

	Source	Multiple	11	12	13	14	15
Premium			-	-	-	-	-
Surrender charge (% of account value)			0.0%	0.0%	0.0%	0.0%	0.0%
Surrender							
Best estimate / experience			10.0%	10.0%	10.0%	10.0%	100.0%
PADded		110%	11.0%	11.0%	11.0%	11.0%	100.0%
Mortality							
Best estimate / experience	A2000	90%	0.006012	0.006503	0.007076	0.007745	0.008525
PADded	A2000	99%	0.006613	0.007153	0.007783	0.008520	0.009377
Statutory reserve calculation	A2000		0.006680	0.007225	0.007862	0.008606	0.009472
Statutory reserve calculation (annuitization benefit)	83IAM		0.008338	0.008983	0.009740	0.010630	0.011664
Free partial withdrawal utilization (% of account value)							
Best estimate / experience			1.5%	1.5%	1.5%	1.5%	1.5%
PADded		110%	1.7%	1.7%	1.7%	1.7%	1.7%
Statutory reserve calculation			10.0%	10.0%	10.0%	10.0%	10.0%
Persistency							
Best estimate / experience			0.311612	0.274448	0.241577	0.212499	-
PADded			0.275495	0.239420	0.207937	0.180460	-
Expenses							
Commission (% of first year premium)			0.0%	0.0%	0.0%	0.0%	0.0%
Per policy acquisition expense			-	-	-	-	-
Per policy other issuance expense			-	-	-	-	-
Initial per policy maintenance expense							
Best estimate / experience			-	-	-	-	-
PADded		115%	-	-	-	-	-
Expense inflation			2.5%	2.5%	2.5%	2.5%	2.5%
Guaranteed crediting rate			2.0%	2.0%	2.0%	2.0%	2.0%
Asset yield							

	Source	Multiple	11	12	13	14	15
Risk-free rate							
Best estimate / experience			3.0%	3.0%	3.0%	3.0%	3.0%
CALM scenario			2.3%	2.2%	2.2%	2.1%	2.1%
Credit spread			2.0%	2.0%	2.0%	2.0%	2.0%
Default shave			0.5%	0.5%	0.5%	0.5%	0.5%
Unexpected default shave			0.1%	0.1%	0.1%	0.1%	0.1%
Solvency II illiquidity premium			0.5%	0.5%	0.5%	0.5%	0.5%
Target spread			2.0%	2.0%	2.0%	2.0%	2.0%
Discount rate							
Statutory reserve calculation—type A	Prescribed		4.0%	4.0%	4.0%	4.0%	4.0%
Statutory reserve calculation—type C	Prescribed		3.5%	3.5%	3.5%	3.5%	3.5%
Guaranteed valuation rate for annuitization benefit			1.5%	1.5%	1.5%	1.5%	1.5%
C1 charge (assuming investing 100% in AAA corporate bonds)	Prescribed		0.30%	0.30%	0.30%	0.30%	0.30%
C3 charge	Prescribed		1.00%	1.00%	1.00%	1.00%	1.00%
C4 charge	Prescribed		2.00%	2.00%	2.00%	2.00%	2.00%
Covariance (C1, C3)			90%	90%	90%	90%	90%
Target RBC ratio			300%	300%	300%	300%	300%