

International Financial Reporting Standards (IFRS) Update – Life

Actuaries' Clubs of Boston & Hartford/Springfield Joint Meeting 2011

November 17, 2011

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Agenda

- Insurance Contract Objective and Timeline
- Contract Model
- Cash flows included
- Acquisition Costs
- Life Case Study: Ten-Year Term Insurance Contract

Note

Text in blue boxes at the bottom of the slides contain updates from recent IASB/FASB joint board meetings since the Exposure Draft

Insurance Contract Objectives and Timeline

Insurance Project

Key Objectives for Phase II of the IASB's Insurance Project

- Introduce a single IFRS accounting model for all types of insurance contracts
- Make the new accounting model highly transparent
- Align insurance accounting with IFRS accounting in other industries to extent possible

Timeline

- The IASB has been working on improving insurance accounting for over 13 year
 - The FASB joined the insurance accounting project in Oct 2008 to achieve convergence
 - IASB published its Exposure Draft on July 31, 2010 independent of the FASB
 - The FASB published its Discussion Paper on September 17, 2010
 - Comment letters were received at the end of 2010; Roundtables ongoing in 2011
 - The IASB will issue a review draft or re-expose in 2012
 - The FASB intends to issue an exposure draft early in 2012.
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Contract Model

Insurance Contract Definition

A contract under which one party (the (re)insurer) accepts significant insurance risk from another party (the policyholder) by agreeing to compensate the policyholder if a specified uncertain future event (the insured event) adversely affects the policyholder.

A contract is an insurance contract ONLY if it transfers significant insurance risk on a contract by contract basis

Decisions/Commentary since Exposure draft

- In March, the Boards tentatively reaffirmed the above definition of the insurance contract with Staff to provide additional guidance on time value of money and loss scenarios to prove commercial substance**

Measurement Model Background

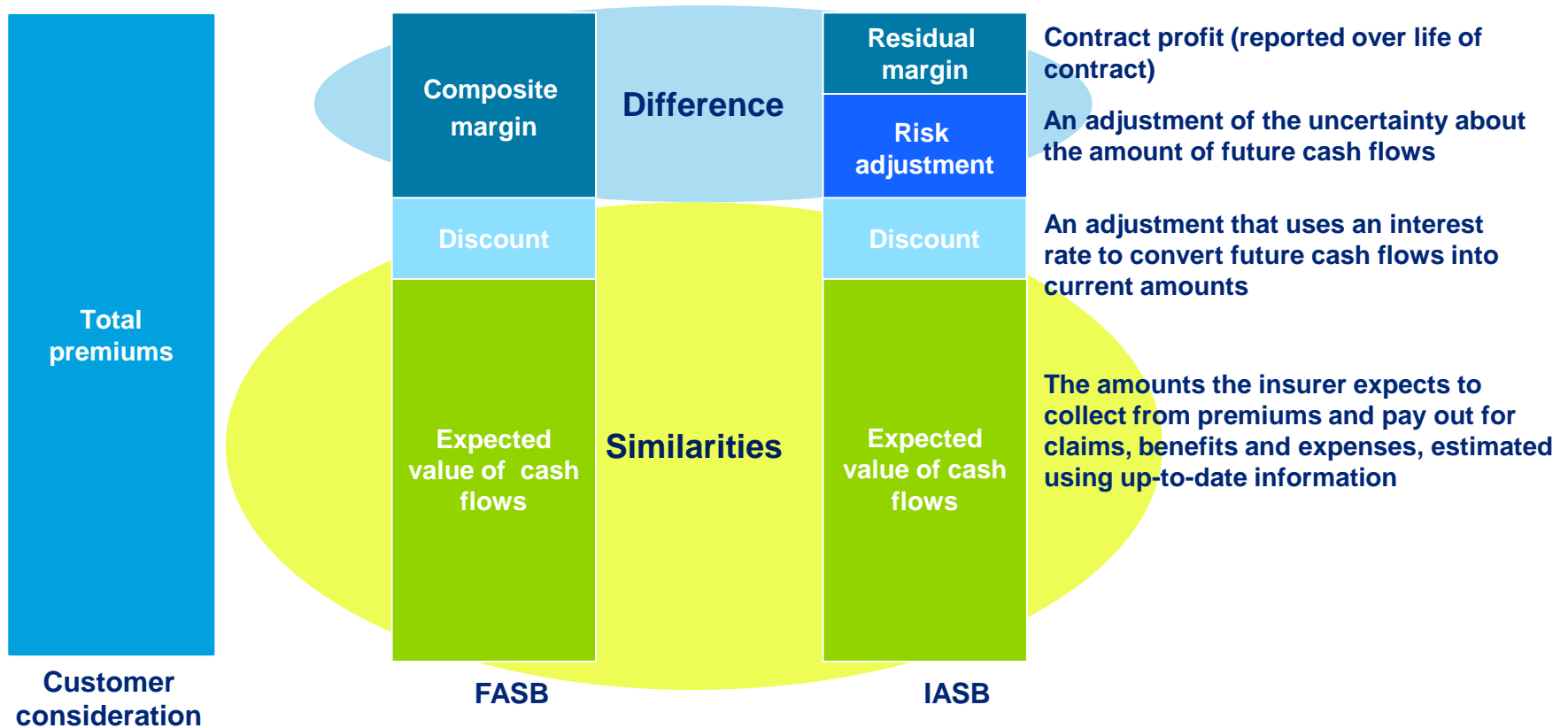
Measurement model principles

- Measurement model based on the following principle:
 - Insurance contracts create a bundle of cash flows that work together to create a package of cash inflows and outflows
 - Measurement model proposed for all types of insurance (and reinsurance) contracts
 - Model is a current assessment of insurer's rights and obligations under contract
 - Model has three building blocks
 - A modified approach for short-duration contracts
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Decisions/Commentary since Exposure draft

- July board meeting discussed whether modified approach should be a one or two model approach

Current fulfillment value



Decisions/Commentary since Exposure draft

Margin approach

- In May, IASB and FASB have confirmed the above approaches and will not converge to a single opinion on margins

Building block 1: Cash flows estimate

A current, unbiased and probability weighted estimate of the contractual cash flows

- Current — re-assessed at each reporting period
 - Incorporate, in an unbiased way, all available information about the amount and timing of all cash flows
 - Probability weighted cash flows — Stochastic modeling may be required
 - If observable market data exists, incorporate in the model to the extent possible
 - Non-market variables utilize entity-specific cash flows
-

Decisions/Commentary since Exposure draft

- “Expected cash flows” – current, probability weighted cash flows to fulfill the contract
- Clarified that expected is the mathematical mean of the cash flows
- Requirement for probability-weighted estimates does not mean stochastic modeling BUT need to determine the mathematical mean of the cash flows rather than a single most likely outcome

Building block 2: Discount Rate

Adjusts first building block for time value of money

- Discount rate based on characteristics of the insurance liability:
 - Currency
 - Duration
 - Liquidity
- Use an **asset based discount rate ONLY** if the amount, timing or uncertainty of the cash flows depend on performance of assets, e.g. **participating contracts**
- Discount rate is a market consistent interest rate based on a “**risk free rate**” **plus an illiquidity premium** based on the characteristics of liability cash flows.
- No further guidance on how to calculate the illiquidity premium
- Disclosures on discount rate, impact of illiquidity and sensitivities

Decisions/Commentary since Exposure draft

February Updates

- Current discount rate rather than locked-in is appropriate
- Top-down or bottom up approaches are acceptable; IASB staff has provided guidance on top-down approach
- The discount rate should exclude any factors that influence the observed rates but are not relevant to the insurance contract obligation
- Discount rate is appropriate for long liabilities; short duration discounting not required if impact immaterial

Building block 3: Margins – Risk adjustment

An adjustment to reflect uncertainty in the estimate of fulfillment cash flows

- Explicitly reported as a component of the insurance contract liability, defined as:
“the maximum amount an insurer would rationally pay to be relieved of the risk that the fulfillment cash flows exceed those expected”
- Re-measured at each reporting period; Estimated at portfolio level
- Reflects diversification arising within a portfolio of insurance contracts
- Diversification across portfolios of insurance contracts is not allowed

Decisions/Commentary since Exposure draft

Staff recommendation updates from September 2011 meetings

- *Risk Adjustment = “Compensation the insurer requires for bearing the uncertainty inherent in the cash flows that arise as the insurer fulfils the insurance contract”*

Building block 3: Margins – Risk adjustment

Three permitted techniques for estimating risk adjustment

- Confidence interval (or Value at Risk (VaR))
 - Likelihood that the actual outcome will be within specified interval
 - Easier to communicate and calculate compared to other techniques
 - **Not useful for probability distributions that are not statistically normal**
- Conditional Tail Expectation (CTE or TVaR)
 - Reflects extreme losses; focuses on probability distribution tail → reflects aspects of insurance
 - Judgment required to determine band and may need to change in future periods
- Cost of Capital
 - Applied in pricing, valuations, regulatory reporting (e.g. Solvency II risk margin), etc.
 - Reflects est. cost of holding required capital to meet obligations with high confidence
 - Need to determine capital rate that reflects risk relevant to liability.
- Guidance provided for when to use which technique

Decisions/Commentary since Exposure draft

Staff recommendation updates from September 2011 meetings

- *In line with the application of valuation techniques for Level 3 measurement in IFRS 13 (FV Measurement), the Board does not limit the range of available techniques and the related inputs to estimate the risk adjustment*

Building block 3: Margins – Residual Margin

A margin to eliminate any gain at inception of the contract

- A residual margin arises when:
 - PV of future cash inflows > PV of future cash outflows + risk adj.
- Estimated at level of portfolio of insurance contracts, with same inception date and similar coverage duration (cohort)
- Calculated at initial recognition and earned over coverage period
- Cannot be negative, as a loss must be recognized immediately through income
- Interest expense accretion required using discount rate locked-in at inception

Decisions/Commentary since Exposure draft

Recalculation and amortization

- In the June, the IASB voted 8-7 in favor of recalibrating the residual margin prospectively
- Also agreed RM to be recognized over coverage period based on transfer of services
- Residual margin should not be negative
- Unlocking changes in financial variables could create an accounting mismatch w/ assets
- It could be difficult to explain to analysts why there would be a net loss reported in one period for contracts ultimately expected to be profitable

FASB Composite Margin

A margin to eliminate any gain at inception of the contract

- A composite margin arises when:
PV of future cash inflows > PV of future cash outflows + risk adjustment
- Estimated at portfolio level of insurance contracts, with same inception date and similar coverage duration (cohort)
- Measured at inception and released as risk exposure unwinds based on the following specified formula:

$$\frac{\text{Premium allocated to current period} + \text{Current period claims and benefits}}{\text{Total contract premium} + \text{Total claims and benefits}}$$

- No interest accretion
-

FASB Composite Margin

A margin to eliminate any gain at inception of the contract

Decisions/Commentary since Exposure draft

FASB tentative decisions at May meeting

- Measurement model should use a single margin approach that recognizes profit as the insurer satisfies its performance obligation to compensate the policyholder in the event of a loss to the policyholder
- Insurer satisfies its performance obligation when released from exposure to risk evidenced by a reduction in the variability of cash outflows
- Should not re-measure or recalibrate the composite margin
- Consider the inclusion of an onerous contract test as part of the model

FASB tentative decisions at Sept 7th meeting

- The board decided the insurer is released from risk through the “reduction in variability of cash flows”
- The FASB staff assumed that the reduction in the variability of cash flows would be driven by timing or by frequency and severity
- If timing is the driver of the variability of the cash flows than the reduction of variability takes places over
 - The passage of time (straight-line amortization) or a pattern that reflects the reduction in the uncertainty of that timing

Cash Flows Included

Which cash flows are included?

- Includes all incremental cash flows that arise as the insurer fulfills the insurance contract:
 - Premiums and cash flows that arise within the “contract boundary”
 - Claims and benefits paid to policyholders, plus associated costs
 - Surrender and participating benefits
 - Cash flows resulting from options and guarantees
 - Incremental costs of selling, underwriting and initiating at individual contract level
 - Transaction-based taxes and levies
 - Policy administration and maintenance costs
 - Some overhead-type costs such as claims software, etc
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Which cash flows are included?

Decisions/Commentary since Exposure draft

Tentative Decisions from February

- To clarify that all directly incurred costs in fulfilling a portfolio of insurance contracts should be included in the cash flows used to determine liability, including:
 - Costs directly related to the fulfillment of contracts in the portfolio
 - Costs directly attributable to contract activity as part of fulfilling that portfolio of contracts and that can be allocated to those portfolios
 - Other costs specifically chargeable to the policyholder under the terms of the contract
- Confirm that costs not directly related to the insurance contracts or contract activities should be recognized as expenses in the period in which they are incurred
- Provide application guidance based on IAS 2 Inventories and IAS 11 Construction Contracts
- Eliminate the term “incremental” from the discussion of fulfillment cash flows that was proposed in the ED/DP

Cash Flows Excluded

- Excludes the following cash flows as the insurer fulfills the insurance contract:
 - Investment returns
 - Payments to and from reinsurers
 - Cash flows that may arise from future insurance contracts
 - Non-incremental acquisition costs
 - Cash flows arising from abnormal amounts of wasted labour
 - General overheads
 - Income tax payments and receipts
 - Cash flows from unbundled components
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Decisions/Commentary since Exposure draft

In June, tentatively decided to exclude indirect costs such as:

- | | |
|---|--------------------------|
| - software dedicated to contract acquisition | - rent and occupancy |
| - equipment maintenance and depreciation | - utilities |
| - agent and sales staff recruiting and training | - other general overhead |
| - administration | - advertising |

Scenario Requirements

- The starting point for an estimate of cash flows is a range of scenarios that reflects the full range of possible outcomes.
 - Estimates of cash flows in a scenario shall include all cash flows within the boundary of an existing contract that are incremental at the level of a portfolio of insurance contracts
 - Each scenario specifies the amount and timing of the cash flows for a particular outcome, and the estimated probability of that outcome.
 - The cash flows from each scenario are discounted and weighted by the estimated probability of that outcome in order to derive an expected present value.
 - Probability assigned to each scenario shall reflect conditions at end of reporting period.
 - In estimating the probability of each cash flow scenario relating to non-market variables, an insurer shall use all available current information at the end of the reporting period.
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Scenario Requirements

Decisions/Commentary since Exposure draft

February Updates

- The accounting model should be based on current estimates, rather than carrying forward estimates made at contract inception and inputs that are consistent with observable market data, where available.
- The cash flows incorporated in the measurement of the insurance liability are those that will arise as the insurer fulfills the insurance contract.
- The model will use the expected value of future cash flows rather than a single, most likely outcome.
- Measurement objective of expected value refers to the mean that considers all relevant information.
- That not all possible scenarios need to be identified and quantified, provided that the estimate is consistent with the measurement objective of determining the mean.

Acquisition Costs

Definition of Acquisition Costs

- Acquisition costs were defined in the proposals as the direct and indirect costs of selling, underwriting and initiating an **insurance contract**
 - Incremental acquisition costs were defined in the proposal as:
 - The costs of selling, underwriting and initiating an insurance contract that would not have been incurred if the insurer had not issued that particular contract, but no other direct and indirect costs.
 - These costs were to be identified at the level of an individual insurance contract
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Decisions/Commentary since Exposure draft

- In June both Boards agreed that only direct costs should be treated as acquisition costs
- Disagreement remains between the Boards on inclusion of unsuccessful sales efforts
 - FASB – include only costs associated with successful sales
 - IASB – include unsuccessful sales costs on a portfolio basis (as of June 2011)
- Building block 1 should exclude indirect costs such as:
 - Software dedicated to contract acquisition
 - Equipment maintenance and depreciation
 - Agent and sales staff recruiting and training
 - Administration
 - Rent and occupancy
 - Utilities
 - Other general overheads
 - Advertising

Illustrative example of relief from acquisition costs (Assume single premium payout annuity for 10 years)

Time = 0	Company A	Company B	Time = 1	Company A	Company B
Premium	100	100	Premium	0	0
Incremental Acquisition Costs	10	0	Incremental Acquisition Costs	0	0
Non-incremental Acquisition Costs	0	10	Non-incremental Acquisition Costs	0	0
Total Benefit	60	60	Total Benefit	54	54
Risk Adjustment	10	10	Risk Adjustment	9	9
Current Fulfillment Value	-20	-30	Current Fulfillment Value	63	63
Residual Margin	20	30	Residual Margin	18	27
Total Liability	0	0	Total Liability	81	90

- Relief of \$9 results from \$10 expenses incremental

Illustrative example of relief from acquisition costs (Assume single premium payout annuity for 10 years)

Statement of comprehensive income	Company A	Company B
Underwriting margin		
Change in risk adjustment	1	1
Release of residual margin	2	3
Losses at initial recognition of an insurance contract	0	0
Non-incremental acquisition costs	0	-10
Investment income – net	10	10
Net income before tax	13	4

Life Case Study: 10-Year Term Insurance Contract

Case Study

Product: 10 year level term life insurance

- Insured Characteristics
 - Male
 - Issue Age 45
 - Face Amount of \$50K
- Guaranteed Fixed Level Annual Premium Payments for 10 years
- \$4.5 per \$1,000 face (\$225 Annually)
- No explicit policy fee used to determine annual premiums
- Commission on premium is 75% in year 1 and 5% thereafter
- Non-commission acquisition expenses of \$75 per policy
- Annual maintenance expenses of \$10 per policy with 3% inflation
- Investment yield is 6% annually
- Experience Mortality – 75% of 2001 CSO Table
- Experience Lapse – 8% for years 1-9, and 100% for year 10

IASB base case

Income statement view of the residual margin amortization

	<u>Yr 1</u>	<u>Yr 2</u>	<u>Yr 3</u>	<u>Yr 4</u>	<u>Yr 5</u>	<u>Yr 6</u>	<u>Yr 7</u>	<u>Yr 8</u>	<u>Yr 9</u>	<u>Yr 10</u>	<u>Total</u>
<i>(a) Underwriting margin</i>											
Change in risk adjustment	6	5	5	5	5	5	4	4	4	4	43
Amortization of Residual Margin	13	14	15	15	15	16	17	18	20	22	168
Increase/Decrease of Residual Margin	0	0	0	0	0	0	0	0	0	0	0
<i>(b) Gains / losses at initial recognition</i>	0	0	0	0	0	0	0	0	0	0	0
<i>(c) Acquisition costs that are not incremental</i>	(19)	0	0	0	0	0	0	0	0	0	(19)
<i>(d) Experience variances and changes in estimates</i>	0	0	0	0	0	0	0	0	0	0	0
<i>(e) Interest on insurance contract liabilities</i>	6	9	7	5	3	2	2	0	0	0	33
<i>(f) Investment Income</i>	(1)	16	18	19	19	19	19	17	15	12	153
Net Income	4	44	44	44	43	42	41	40	39	37	378

FASB base case

Income statement view of the composite margin amortization

	<u>Yr 1</u>	<u>Yr 2</u>	<u>Yr 3</u>	<u>Yr 4</u>	<u>Yr 5</u>	<u>Yr 6</u>	<u>Yr 7</u>	<u>Yr 8</u>	<u>Yr 9</u>	<u>Yr 10</u>	<u>Total</u>
<i>(a) Underwriting margin</i>											
Amortization of composite margin – Direct	24	23	22	22	21	20	20	20	20	20	211
Increase/decrease of composite margin	0	0	0	0	0	0	0	0	0	0	0
<i>(b) Gains / losses at initial recognition</i>											
<i>(c) Acquisition costs that are not incremental</i>	(19)	0	0	0	0	0	0	0	0	0	(19)
<i>(d) Experience variances and changes in estimates</i>	0	0	0	0	0	0	0	0	0	0	0
<i>(e) Interest on insurance contract liabilities</i>	6	9	7	5	3	2	1	0	(0)	(0)	33
<i>(f) Investment Income</i>	(1)	16	18	19	19	19	19	17	15	12	153
Net Income	9	48	47	45	44	42	40	37	34	31	378

International Financial Reporting Standards (IFRS) Update – P&C

Actuaries' Clubs of Boston & Hartford/Springfield Joint Meeting 2011

November 17, 2011

Gerry Kirschner

Agenda

The Modified Approach under IASB Exposure Draft

Short duration contract margin & earnings comparison:
IASB, FASB and GAAP

New FASB Sept. 7 Proposal

Three Significant Unresolved P&C Issues

Modified approach

- The modified approach is required for **pre-claim liabilities** for contracts that meet both of the following definitions:
 - The coverage period is approximately one year or less
 - The contract does not contain embedded options or other derivatives that significantly affect the variability of cash flows
 - Pre-claims liability is the insurer's stand ready obligation to pay claims for future insured events arising under existing contracts.
 - **The pre-claims liability is the pre-claims obligation less the expected present value of future premiums within the boundary of the contract.**
 - The pre-claims obligation at initial recognition is the premium received at initial recognition, plus the expected present value of future premiums within the boundary of the contract less the incremental acquisition costs.
 - Consistent with the general measurement model, a current market discount rate would be used in discounting the pre-claims obligation.
-

Modified approach subsequent measurement

- **Pre-claims obligation** is reduced over coverage period in a systematic way that best reflects the exposure from providing insurance coverage, i.e., either:
 - The passage of time
 - On the basis of the expected timing of incurred claims and benefits if this pattern differs significantly from the passage of time.
- Interest should be accreted on the carrying amount of the pre-claims liability
- **Post-claims** liability (for claims incurred) is measured as the PV of the fulfillment cash flows as measured under building blocks - i.e., the post-claims liability reflects both the time value of money (calculated as the PV of the expected future cash flows) and a risk adjustment for uncertainty in the timing and amounts of the future cash flows
- Need to assess for **Onerous contracts**
 - The ability of the **insurer to unilaterally cancel** the contract
 - A contract is onerous if, at initial recognition or subsequently, the PV of the fulfillment cash flows of the future insured claims that are within the boundary of the contract exceeds the carrying amount of the pre-claims obligation. If onerous, the insurer shall recognize an additional liability and a corresponding expense, equal to difference between the carrying amount of the pre-claims obligation and the PV of the fulfillment cash flows.

Short duration contract margin & earnings comparison: IASB Exposure Draft, FASB Discussion Paper & US GAAP*

Simple example:

- Premium: \$1000; Loss: \$800
- Incremental Acquisition Cost :\$200
- One Year Contract Term
- Risk Adjustment for IASB example uses cost of capital at 8 percent
- FASB DP example amortizes Composite Margin proportional to earnings and payout pattern , short term UPR simplification not applied

Current US GAAP

Time =	0	0.5	1	1.5	2	2.5	3
Earned Premiums	-	500	500	-	-	-	-
Claims Expense	-	-400	-400	-	-	-	-
Discount	-	-	-	-	-	-	-
Risk Adjustment	-	-	-	-	-	-	-
Acquisition costs	-	-100	-100	-	-	-	-
Underwriting Income	-	-	-	-	-	-	-
Investment Return	-	12	12	11	10	9	8
Income	-	12	12	11	10	9	8

IASB Exposure Draft

Time =	0	0.5	1	1.5	2	2.5	3
Earned Premiums	200	400	400	-	-	-	-
Claims Expense	-	(400)	(400)	-	-	-	-
Discount	-	29	29	-	-	-	-
Risk Adjustment	-	(30)	(30)	-	-	-	-
Residual Margin	-	-	-	-	-	-	-
Acquisition costs	(200)	-	-	-	-	-	-
Underwriting Income	-	(2)	(2)	-	-	-	-
Unwind of Discount on Claims Reserves	-	-	(9)	(9)	(8)	(7)	(6)
Unwind of Risk Adjustment	-	-	7	8	7	6	6
Unwind of Residual Margin	-	-	-	-	-	-	-
Income After Unwind	-	(2)	(4)	(1)	-	-	-
Investment Return	-	12	12	11	10	9	8
Income	-	10	8	10	10	9	8

FASB Discussion Paper

Time =	0	0.5	1	1.5	2	2.5	3
Earned Premiums	1,000	-	-	-	-	-	-
Claims Expense	(800)	-	-	-	-	-	-
Discount	70	-	-	-	-	-	-
Composite Margin	(70)	-	-	-	-	-	-
Acquisition costs	(200)	-	-	-	-	-	-
Underwriting Income	-	-	-	-	-	-	-
Unwind of Discount on Claims Reserves	-	(11)	(10)	(9)	(8)	(7)	(6)
Unwind of Composite Margin	-	20	20	3	3	3	3
Income After Unwind	-	9	11	(6)	(4)	(3)	(3)
Investment Return	-	12	12	11	10	9	8
Income	-	21	22	5	6	6	5

Recent Developments: FASB Staff Proposal (Sept 7) to Change Methodology for Timing of Single Margin Release

1. FASB favors an approach that:

- Establishes a single composite margin during the policy coverage period that reflects the difference between earned premium and post-claim discounted incurred loss and loss expense accrual.
- Releases the single composite margin over a time period that reflects the variability over both the coverage and claims handling period.

2. Prior FASB recommended formula for determining the composite margin release pattern:

$$\frac{\text{Premium allocated to current period} + \text{Current losses paid}}{\text{Total contract premium} + \text{Total contract claims}}$$

- September 7, 2011 FASB Staff proposal: recognize profit based on an evaluation of changes in the relative amount of variability in the expected cash flow over the life of the contract and claims period, instead of being a function of elapsed time.

Short duration contract example of margin accrual and release under FASB Staff proposal reflecting release based on the reduction in variability of cash flows

Policy profile:

- Premium = \$1200;
- Ultimate loss = \$960
- Coverage period of one year
- Risk margin release pattern, based on analysis of standard deviations of remaining cashflow variability at different points in policy lifecycle:

Simplifying assumptions

- Premium collected in its entirety on day 1 of the coverage period
- No underwriting expenses
- Discount rate = 0%, i.e., no discounting of liabilities

Time	0	0.25	0.5	0.75	1.0	1.25	1.5	1.75	2.0
% of total margin to be held	100%	50%	33%	17%	8%	6%	4%	2%	0%
Std deviation of cashflow	60	30	20	10	5	3.5	2	1	0

Calculations:

	0	0.25	0.5	0.75	1.0	1.25	1.5	1.75	2.0
Total Margin Accrual Amount	0	60	120	180	240	n/a	n/a	n/a	n/a
Incremental Margin Accrual	0	60	60	60	60	0	0	0	0
Margin Held at End of Period	0	30 =60*50%	40 =120*33%	31 =180*17%	19	14	10	5	0
Margin Release during Period	0	-30 =60*(1-50%)	-50 =120*(1-33%) -30	-69 =180*(1-17%) -30-50	-71	-5	-5	-5	-5

Short duration contract revenue recognition under FASB Staff proposal

Policy profile:

- Premium = \$1200; Ultimate loss = \$960
- One year contract term
- Risk margin release pattern same as in prior slide

Simplifying assumptions

- Premium collected in its entirety on day 1 of the coverage period
- No underwriting expenses
- Discount amount at time $t+1$ = 80% of discount at time t + additional \$10 in each of the time periods 0.25 – 1.0

FASB Staff Proposal

Time	0	0.25	0.5	0.75	1	1.25	1.5	1.75	2
Balance Sheet									
Unearned Premium Liability	1,200	900	600	300	0	0	0	0	0
Undiscounted Claims Liability		240	480	720	960	960	960	960	960
Discount Amount		(10)	(18)	(24)	(30)	(24)	(19)	(15)	(12)
Discounted Claims Liability		230	462	696	930	936	941	945	948
Composite Margin		35	46	35	22	16	11	5	0
Income Statement									
Earned Premium		300	300	300	300	0	0	0	0
Change in Discounted Claims Liab		(230)	(232)	(234)	(235)	(6)	(5)	(4)	(3)
Incremental Margin Accrual		70	68	66	65	0	0	0	0
Incremental Margin Release		(35)	(57)	(77)	(78)	(5)	(5)	(5)	(5)
Underwriting Income		35	57	77	78	(1)	1	2	2

FASB Staff Proposal:

Year 1 income is the amount of risk margin released, i.e., \$247 (= 92% of the \$269 total risk margin of 70+68+66+65)

Years 2 and beyond: additional earnings come from additional margin release, somewhat offset by amortization of the discount

Short duration contract revenue recognition without a Composite Margin

Policy profile:

- Premium = \$1200; Ultimate loss = \$960
- One year contract term
- No Composite Margin assumed

Simplifying assumptions

- Premium collected in its entirety on day 1 of the coverage period
- No underwriting expenses
- Discount amount at time $t+1$ = 80% of discount at time t + additional \$10 in each of the time periods 0.25 – 1.0

Time	0	0.25	0.5	0.75	1	1.25	1.5	1.75	2
Balance Sheet									
Unearned Premium Liability	1,200	900	600	300	0	0	0	0	0
Undiscounted Claims Liability		240	480	720	960	960	960	960	960
Discount Amount		(10)	(18)	(24)	(30)	(24)	(19)	(15)	(12)
Discounted Claims Liability		230	462	696	930	936	941	945	948
Composite Margin		0	0	0	0	0	0	0	0
Income Statement									
Earned Premium		300	300	300	300	0	0	0	0
Change in Discounted Claims Liab		(230)	(232)	(234)	(235)	(6)	(5)	(4)	(3)
Incremental Margin Accrual									
Incremental Margin Release									
Underwriting Income		70	68	66	65	(6)	(5)	(4)	(3)

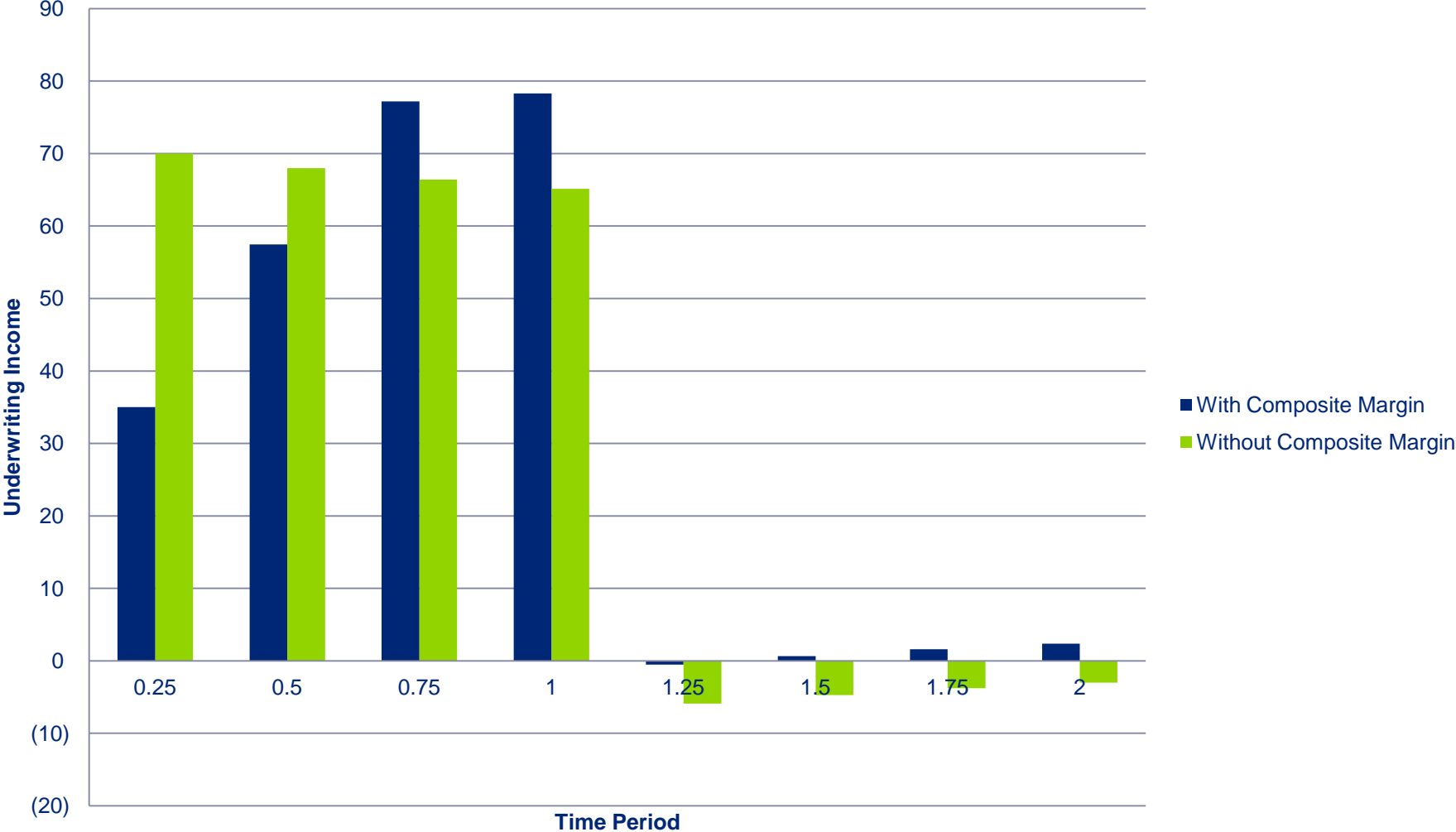
No Composite Margin:

Year 1 underwriting profit equals \$270, equal to the nominal profit of \$240 (1000-960) plus the \$30 discount at year end. In this manner future investment income is realized into profit over the policy term.

Years 2 and beyond: Company has an underwriting loss equal to amortization of discount which would presumably be offset by investment income.

Revenue recognition with and without a Composite Margin

Underwriting Income Comparison



3 Significant Unresolved P&C Issues related to IASB Exposure Draft discussion of risk margins

1. Choice of risk margin method and the appropriate percentile to use for each: confidence level, conditional tail expectation, cost of capital
2. Importance of definition of “portfolio” over which risk adjustments are determined and the implications for appropriately capturing diversification benefits
 - Risk margins are intended to be set by portfolio defined as a broad group of similar risks managed together.
3. Implication of situation where gross risk margin minus ceded risk margin does not produce a reasonable net risk margin
 - Based on the exposure draft, the cedent should estimate cash flows for the reinsurance contract in the same manner as the underlying contract being reinsured Gross / Ceded / Net risk margin values

Impact of Formula Used to Calculate Risk Margin

- Issue 1: Three formulas have gained approval as viable options for calculating risk margins. The formulas all produce different risk margin accrual and release patterns.
- Issue 2: No definitive guidance has been issued that defines the percentile to be used for each method.
- While the income recognized from writing a policy will ultimately be the same regardless of the risk margin formula or risk margin percentage, the income recognition pattern will vary based on these choices.
- These two issues might cause difficulties for outside parties looking to compare two companies' financial statements when the companies use different risk margin formulas and/or percentiles in deriving their risk margins.

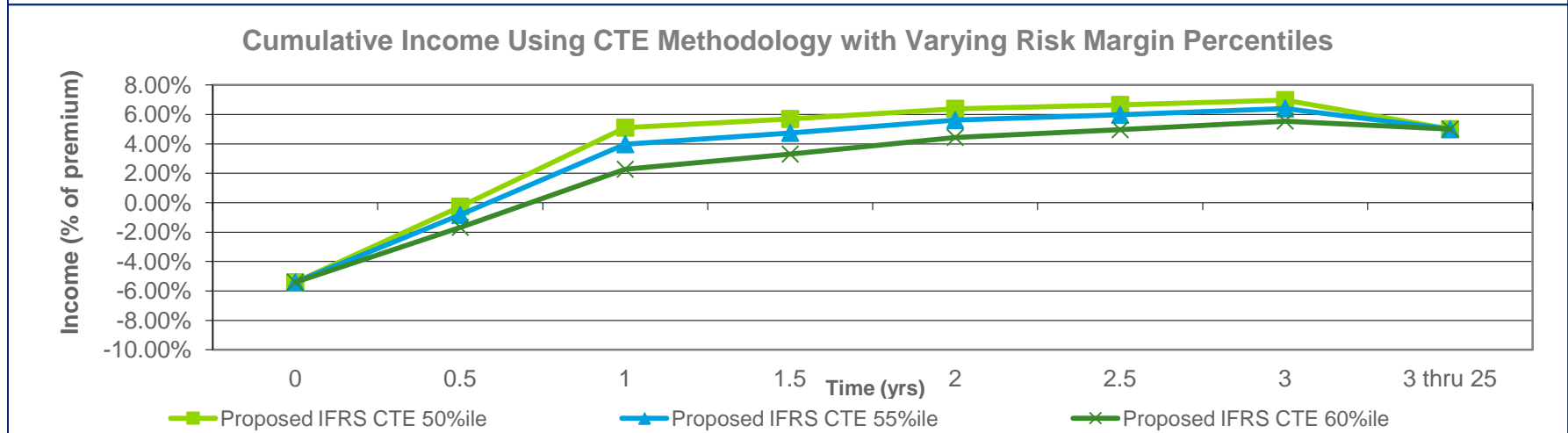
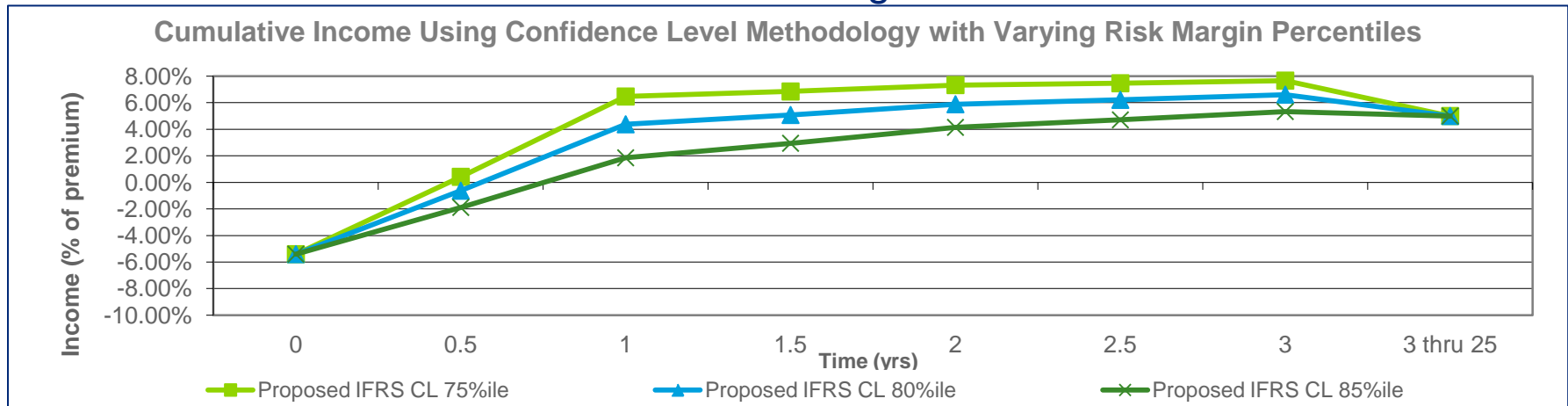
Impact of Formula Used to Calculate Risk Margin: Issue 1

- Analysis by the Casualty Actuarial Society's Accounting Changes Task Force indicates some general comparability in risk margin accrual and release can be achieved across the three methods. **It is very unlikely that comparability will be achieved in practice.**
- The charts track U/W profit for a Workers Compensation policy sold on day 1
- In order to maintain comparability between the 3 methods the CL method was based on 80 percentile and the CTE method was based at 55 percent.



Impact of Formula Used to Calculate Risk Margin: Issue 2

- Higher confidence percentages will defer recognition of income until later in a policy's life relative to lower confidence percentages. Differentials in the UW income at different confidence levels are higher with the CL method.

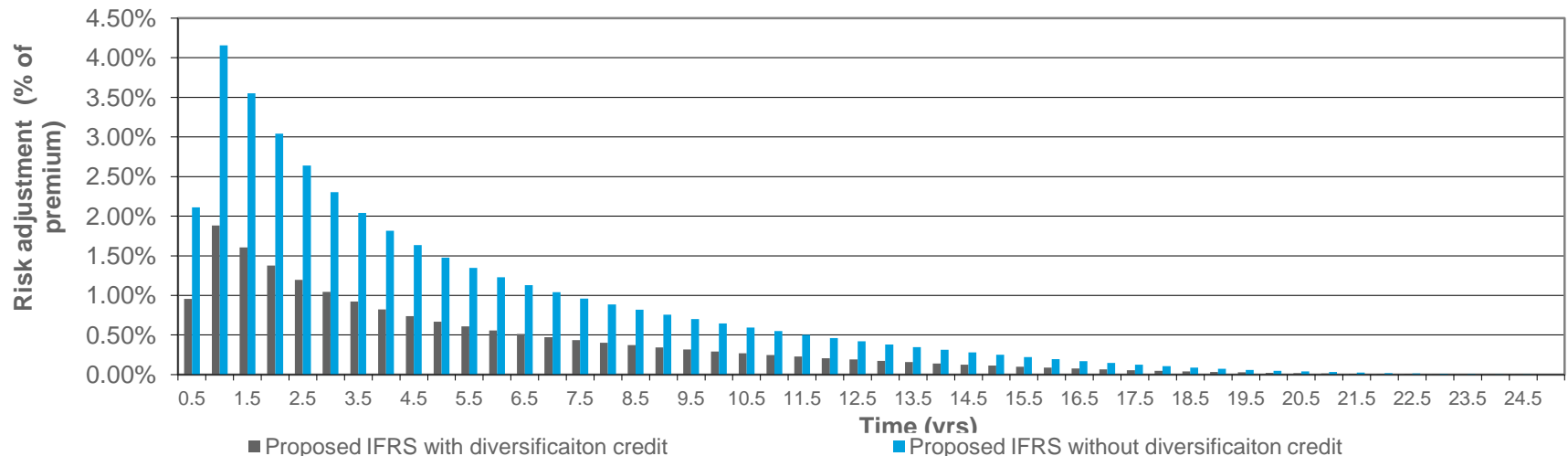


Exhibits are from analysis performed by the Casualty Actuarial Society's Accounting Changes Task Force

Portfolio Definition and Risk Margin Diversification Credit

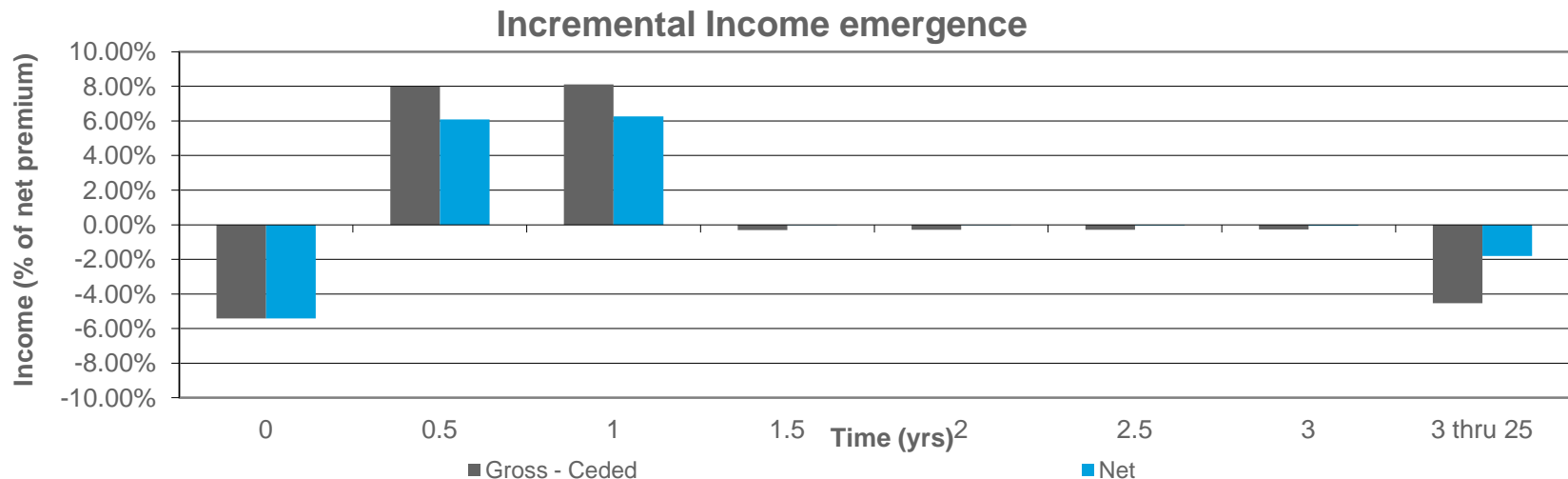
- Issue: Risk margins are not additive in the real world – simple addition of risk margins across portfolios prevents companies from recognizing a reduction in overall risk that arises from diversification across lines of business
- Analysis by the Casualty Actuarial Society's Accounting Changes Task Force indicates companies can expect potentially significant delays in income recognition arising from the inability to capture the benefits of risk diversification across lines of business
- They compared risk margins in different lines (CMP, AUTO,WC) packaged as separate portfolios vs one portfolio. The chart below show that introducing diversification credit halved the risk margin.

Difference in Level of Risk Adjustment over Life of an Average P&C Liability Policy



Derivation of Net Liability Risk Margin

- Issue: Risk margins are not additive – a Net Liability Risk Margin that is derived by subtracting a Ceded Margin from a Gross Margin will produce a lower risk margin than the value derived from direct calculations on the Net data.
- This issue exists if the ceded reinsurance is on an excess of loss basis as is the case in many P/C contracts
- Analysis by the Casualty Actuarial Society's Accounting Changes Task Force indicates companies would be able to accelerate recognition of net income by calculating net risk margins as the difference between gross and ceded risk margins. However, this acceleration would be subsequently offset by the recognition of higher net losses over the life of the claim payout pattern.





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