Session 7: Modeling Challenges Due to FASB Targeted Improvements

[SOA Antitrust Disclaimer]
[SOA Presentation Disclaimer]

LAS Session 007 - Modeling Challenges Due to FASB Targeted Improvements

Presenters:

Karthik Yadatore, FSA, MAAA

Principal and Consulting Actuary, Milliman

Rob Winawer, FSA, MAAA

Principal, Oliver Wyman

Steve Malerich, FSA, MAAA

Director, PwC

Moderator

Zohair Motiwalla, FSA, MAAA

Principal and Consulting Actuary, Milliman

Milliman

Karthik M. Yadatore, FSA, MAAA

LIFE AND ANNUITY SYMPOSIUM

MAY 20TH, 2019

Modeling Challenges Due to FASB Targeted Improvements

Market Risk Benefits (MRB)

Caveats and Limitations

Nothing in the presentation should be construed or interpreted as legal advice or strategic recommendations. This information is presented from the authors' point of view and any opinions expressed throughout the presentation are those of the authors, not necessarily those of Milliman.

Roadmap for implementation of MRB valuation

Involves several work streams

Accounting work stream	Methodology decisions	Actuarial model build	Data requirements	Controls and SOX	Looking beyond valuation and financial reporting

Accounting work stream

What needs to be done

- Categorization of benefits – MRB vs ED vs Insurance benefit
- Define “nominal” for your MRBs
- Option (Host contract adjustment) vs. non-option (attributable fee factor) valuation method
- Retained earnings impact disclosure
- Materiality and threshold policy

What does it entail

- Deep understanding of ASC 815-10, 820 and 944
- Develop inventory of product features and policy holder benefits. Understanding of policy benefits and fee structure
- Awareness of current industry practices for fair value reserves
- Awareness of industry’s intended thoughts for MRB valuation
- Collaborate with actuarial
- Communicate with your auditors and begin early

Accounting work stream

MRB: A contract or contract feature that both provides **protection** to the contract holder from **other-than-nominal capital market risk** and exposes the insurance entity to other-than-nominal capital market risk shall be recognized as a market risk benefit

Protection: The transfer of a loss in, or shortfall of the contract holder's account balance from the contract holder to the insurance entity, with such transfer exposing the insurance entity to capital market risk that would otherwise have been borne by the contract holder. Protection does not include the death benefit component of a life insurance contract

Other-than-nominal capital market risk: Risk of more than an insignificant amount and a risk that has a non remote probability of occurring due to capital market volatility

Benefit Type (examples)	MRB (Yes / No)
GMDB and DB in IUL and VUL	No: Does not meet protection criteria
GMWB in IUL	Yes: Meets protection definition and typically satisfies other-than-nominal criteria
GMAB, GMDB, GMIB and GMWB in FDA, FIA and VA	Yes: Meets protection definition and typically satisfies other-than-nominal criteria
Annuitization Benefit in FDA and FIA	Maybe: May not meet other-than-nominal capital market risk criteria
Account value guaranteed minimum credited rates	No: Does not meet protection criteria

Methodology decisions

- Are benefits sensitive to one or a combination of interest, equity and volatility?
- Host amortization method if using option valuation method
- Fees to include if using non-option valuation method
- Attribution of fees in absence of explicit contract and rider fees if using non-option valuation method
- Calculation of risk premium and method for release of risk premium
- Incorporation illiquidity premium
- Reflection of non-performance risk

Actuarial model build aspects

- Liability only or asset-liability model
- Crediting strategy – Earned rate less profit and expense spread or market driven
- Profit and expense spread under risk neutral framework
- ESG – Do you need to use a Heston model and generate stochastic implied volatility?
- Modeling non closed form crediting strategies and non standard indexes and funds
- Seriatim vs. compressed asset and liability inforce files
- How many scenarios to run

Data requirements

Source of issues

- MRBs need to valued from issue date for HGAAP cohorts and purchase date for PGAAP cohorts
- Entities will need pricing and PGAAP assumptions which may not be available
- Entities will need inforce files at cohort level. Cohort for MRBs usually defined as combination of issue year and month and, product and rider type
- Historical inforce files may not be available and if available, they may not be at the desired level of detail

Possible impacts and solutions

- Entity must make best efforts to recover assumptions and model inputs as of MRB issue date. Hindsight allowed only if prior period's assumptions are unobservable or otherwise unavailable and cannot be independently substantiated
- Market inputs drive economic assumptions. They are observable as of issue date and hence hindsight is unlikely to be permitted
- Hindsight likely to be used for prior period's insurance and actuarial assumptions when not available
- Practical "expedients" such as model office approach, simulation and ratio approach may be used in absence of historical inforce files and prior period assumptions

Controls and SOX

Drivers

- Greater amount of disclosures needed
- Actuarial judgment in disclosures
- More frequent experience studies required
- Increased scrutiny of assumptions and model inputs

Impact to entity’s operations

- Drive model transformation and automation
- Cloud based solutions will be sought after
- Increased use of predictive analytics
- Entity’s modeling officers and IT will hold greater sway

Looking beyond valuation and financial reporting

Do not limit efforts to valuation and financial reporting

How to forecast GAAP	**Impact to product pricing**	**ALM and hedge program impacts**	**Reinsurance**

Thank you

Karthik M. Yadatore, FSA, MAAA

Principal and Consulting Actuary

E-mail: Karthik.Yadatore@milliman.com

Phone: +1 206 504 5526

GAAP TARGETED IMPROVEMENTS
AN OVERVIEW

MAY 20, 2019

Rob Winawer, FSA MAAA

GAAP Long Duration Targeted Improvements objectives
Revisions to simplify and enhance financial reporting

1. **Simplify amortization of deferred acquisition costs**

2. **Improve timeliness by recognizing changes in expected traditional and limited pay future liability payments**

3. **Simplify reporting of market-based guarantees through consistent fair value accounting**

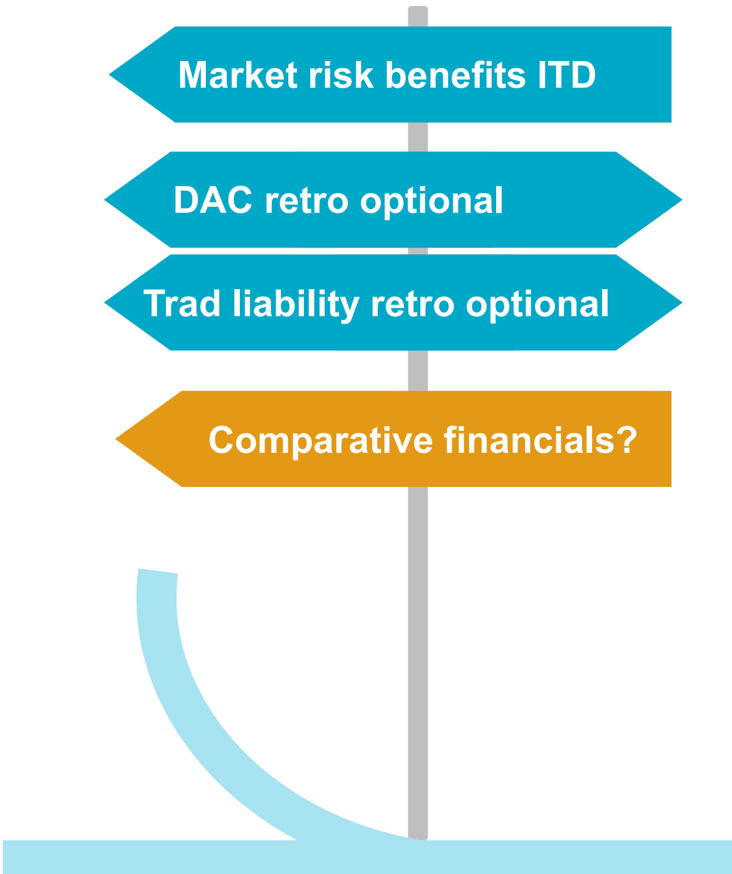
4. **Enhance effectiveness of required disclosures**

What's changing?

	DAC	Traditional liabilities	Market risk benefits	Disclosures
Term, WL, and LTC/DI	✓	✓	✗	✓
SPIA and Payout	✓	✓	✗	✓
FIA, VA	✓	✗	✓	✓
UL, DA, IUL, and VUL	✓	✗	✗	✓
Participating[1]	✓	✗	✗	✗
Short-duration	✗	✗	✗	✗

1. Provision for terminal dividend changes, as well.

One key choice for transition is whether to retroactively restate DAC and traditional liabilities on the opening balance sheet



Public companies start reporting 3/2021

Market risk benefits are remeasured inception to date

- Profit of hindsight allowed if data is lacking

Default transition approach for other than market risk benefits starts with existing balances

- Adjustment made for interest rates through AOCI
- Prospective transition using current assumptions

Companies have an alternative option to retroactively restate DAC and traditional liabilities

- Retroactive true up recorded through retained earnings
- Balances also adjusted for interest rates through AOCI
- Entity-wide issue year based decision
- Actual historical data required, which will challenge many companies

Addressing the need for comparative financials is not mentioned in ASU 2018-12

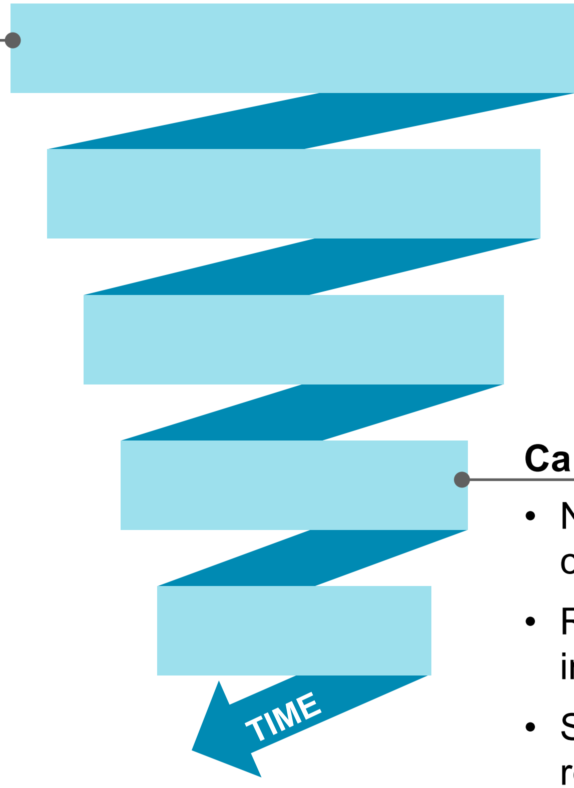
- Transition starting with the 1/1/2019 will allow for two years comparative financial data, but produces an overlap to actual reported

Some companies will find the transition balance sheet to be an opportunity to reshape financials

Capitalized costs now recognized using “straight-line amortization”

Amortization

- Amortized over expected term without interest
- Performed at individual contract level or may be grouped as long as it approximates individual
- Negative experience variance must be recognized immediately, positive are optional
- Assumption revisions recognized prospectively
- Shadow DAC no longer applies
- No longer subjected to impairment testing



Capitalization

- No change to definition of what’s capitalized
- Recognized for capitalization only after incurred
- Sales inducements and unearned revenue treated similarly except in scope for impairment testing

Grouped approach most popular and is subject to company and auditor discretion

Liability changes for traditional and limited payment contracts

		Financial line item impacted	Targeted improvements	Prior standards
1	Assumptions	Earnings as re-measurement	• Best estimate assumptions with no PADs • At least annual review of assumptions with unlocking	• Original assumptions with PADs locked-in at issue
2	Discount rate	Other Comprehensive Income	• Upper-medium grade fixed-income instrument yields updated quarterly • Original discount rate part of all future calculations	• Similar to other assumptions, locked-in at issue • Based on company's earned rate
3	Net premium ratio	Earnings	• Excludes maintenance expenses • Original rate discounting • Sufficiency test at cohort level through net premium ratio 100% cap	• Includes maintenance expenses • Impairment testing performed at the aggregate block level including DAC

Impairment testing at the more granular cohort level increases likelihood of recognition event

Fair value of guarantee benefit lifecycle

Measurement phases

Fair value is simpler than the previous mixed approaches and more conducive to hedging

AT INCEPTION

Multiple market risk benefits are combined

Fair value will not always be zero

SUBSEQUENT

Can be negative (an asset) or positive (a liability)

Net profit from unused charges, behavior variances, volatility, and risk premiums

Instrument specific credit risk changes reported through other comprehensive income

DERECOGNITION

Deferred profit liabilty posted or loss recognized for market risk benefit in excess of liability

Gain results rarely for "non-performance“

Other comprehensive income is released

The new standards promote transparency and reduce conflicts between economic and GAAP priorities for ALM

Financials will become significantly more transparent
Example: Traditional products

Quarterly disclosures

- Disaggregated year-to-date liability roll-forward reconciled to income statement
- Disaggregated year-to-date DAC roll-forward reconciled to balance sheet
- Undiscounted expected future cash flows
- Actual experience compared to expected
- Amount of revenue and interest recognized
- Related reinsurance recoverable
- Weighted average liability duration
- Weighted average interest rate and method used
- Quantitative and qualitative information about net premiums capped at gross premiums

Additional annual disclosures

- Nature of deferred costs and information about inputs, assumptions, judgement, and methods used
- Information about inputs, assumptions, judgement, and methods used to measure liabilities for policy benefits and the effect of those changes on measurement

Other reporting considerations

- Liability remeasurement is a new line in the income statement, separate from disclosures in the notes
- Disaggregated liability and DAC roll-forwards from ending balance before transition to opening balance of earliest period presented on new standards
- Elective retrospective transition effects shown separately from mandatory “modified retrospective” application
- Qualitative and quantitative information about transition adjustments to retained earnings and AOCI, net premiums exceeding gross premiums, and premium deficiencies

Expanded and auditable actuarial inputs to financials require stronger infrastructure
Additional transparency may earn the industry higher average P/E

Financials will become significantly more transparent
Example: Market risk benefits

Quarterly disclosures

- Disaggregated DAC roll-forward including capitalization, amortization, and termination
- Disaggregated account balance roll-forwards along with average credit rates, cash values, buckets by guarantee and amounts in excess of guarantee
- Disaggregated market risk benefit roll-forward similar to fair value requirements including variances in: interest, equity, market volatility, actual behavior, and projected behavior. Asset and liability positions reported separately and guarantees in excess of account value shown

Additional annual disclosures

- Nature of deferred costs and information about inputs, assumptions, judgement, and method of amortization
- Information about inputs, assumptions, judgement, and methods used to measure liabilities market risk benefits and the effect of changes on measurement

Other reporting considerations

- Market risk benefits presented separately on the balance sheet and income statement with instrument specific credit risk below the line
- Disclosures must be in a manner that allows users to understand the amount, timing and uncertainty of future cash flows arising from the liabilities
- Groupings consider how information has been presented for other purposes, do not aggregate amounts from different reportable segments, and do not make disclosures for insignificant categories except in the reconciliation

Expanded and auditable actuarial inputs to financials require stronger infrastructure
Additional transparency may earn the industry higher average P/E

Modeling Challenges Due to FASB Targeted Improvements

Life and Health Insurance

Steve Malerich

Life & Annuity Symposium

May 20, 2019

pwc

Modeling Challenges Due to FASB Targeted Improvements: Life and Health Insurance

Amortization of DAC and Similar Balances

- Turning principles into formulas

Traditional Nonparticipating Reserves

- What is “actual experience”?
- Discount rates
- Credibility procedures

Other Liability Issues

- Loss recognition
- Transition

Live Content Slide

When playing as a slideshow, this slide will display live content

Poll: Which of these GAAP effects is most important to your company or clients?

Amortization of Deferred Acquisition Costs – Turning principles into formulas

Deferral

- No change in what's deferrable
- Do not amortize before deferral

Assumptions

- Current
- No provision for adverse deviation
- Consistent with reserve assumptions
- Change when appropriate
- No discount or interest accretion

Basis

- Individual "straight-line"
- Grouped "constant level"

Method

- Expected term
- Prospective assumption changes
- Excess terminations
- No impairment

Liability for Future Policy Benefits – What is "Actual Experience"?

Long-Tail Claims

- Cash flow or incurred?
- One time charge or subject to revision?
- Discount rate?

Nonforfeiture Benefits

- Continuation or new contract?
- Assumptions?

Liability for Future Policy Benefits – Discount Rates

Balance Sheet

- Observable
- Current

Income Statement

- Observable
- Fixed at issue

Live Content Slide

When playing as a slideshow, this slide will display live content

Poll: What do you recommend for prices on new sales?

Live Content Slide

When playing as a slideshow, this slide will display live content

Poll: What reserve change do you recommend?

Liability for Future Policy Benefits – Credibility Procedures

Objections to Retrospective Updates

- Complex and costly
- Reserve decreases when experience is bad
- Reserve increases when experience is good
- Results are volatile
- Offsets to claim variances vary widely

Objectives of Retrospective Updates

- Reserve increases when experience is bad
- Reserve decreases when experience is good
- Profit margin adjusts for changes in expected lifetime cost

Actuarial Standards and Procedures

- ASOP 25 (Credibility Procedures) "*consider … whether the procedure is expected to produce reasonable results…*"

  'No assumption change' behaves differently here than in other applications

- ASOP 25, "*The procedure … may be different for different … applications.*"

  A different procedure could mitigate four of the objections and still satisfy the objectives

Other Liability Issues – Loss Recognition

Technique

- History
- Changes
- Added disclosures
- Decisions

Profits Followed by Losses

- Traditional nonparticipating contracts
- Universal and participating contracts

Other Liability Issues – Transition

Implicit Deferred Profit Liability

- Calibrated discount rate

Prior Loss Recognition

- Aggregate reserve adjustment
- Aggregating profitable with unprofitable

Thank you