2019 LIFE & ANNUITY SYMPOSIUM

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SOCIETY OF ACTUARIES

Session 31: Impact of FASB Targeted Improvements (ASU 2018-12) on VA/FIA Product Development and In-force Management

2019 LIFE & ANNUITY SYMPOSIUM

Impact of FASB Targeted Improvements on VA/FIA Product Development

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Global Atlantic Financial Group

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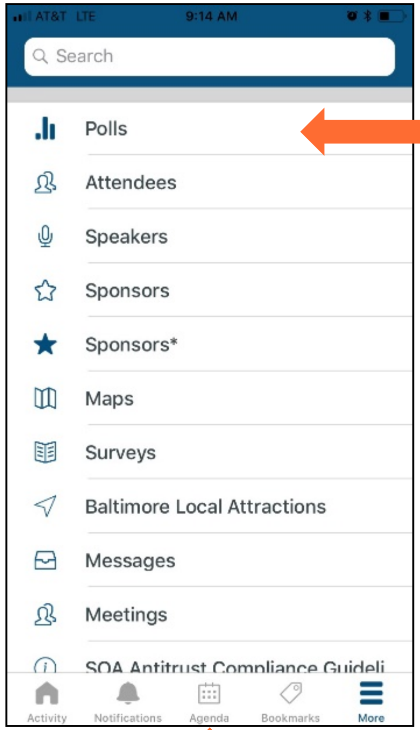

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Poll: How would you best describe your role in your organization?

Agenda

- FASB Long Duration Targeted Improvement Changes & Implications
- Market Risk Benefit (MRB) Definition, Scope & Measurement
- VA/FIA Pricing & Product Development Considerations

FASB Long Duration Targeted Improvement Changes & Implications

FASB 'Long Duration Targeted Improvements' Accounting Update

What Will Change?

AREA OF FOCUS	TARGET	IMPROVEMENT	SCOPE
Liability for future policy benefits	Original assumptions remain "locked"	Assumptions periodically reviewed or updated, increasing relevance	SPIA/DIA, TERM, WL, LTC
	Discount rate is the insurer's expected investment yield	Discount rate is upper-medium grade (low-credit-risk) fixed-income instrument yield	
Market risk benefits	Two measurement models Insurance Accrual Fair Value	One measurement model, improving uniformity Fair Value (increased exposure to market risk)	FIA GMxB, VA GMxB
Deferred acquisition costs	Complex amortization	Simplified amortization, increasing understandability No DAC offset to market risk	ALL LONG DURATION CONTRACTS (including VA/FIA)
Disclosures	Limited disclosures	Enhanced disclosures	ALL LONG DURATION CONTRACTS (including VA/FIA)

Potential for More Volatility for some products

Effective 1/1/2021 for Public Companies
Effective 1/1/2022 for Other Entities

Source: FASB

General Annuity Summary of Accounting Impacts

For VA GMDB/GMIB & FIA GMxB, the key issue is potentially lower earnings, with more balance sheet and earnings volatility.

Area	Opening Equity	Profit Emergence	Earnings Volatility	OCI/Equity Volatility
FIA without GMxB	Increase Due to *removal of DAC shadow adjustment*	Decelerated DAC *no longer accretes with interest*	Slightly decreased DAC *no longer subject to retrospective unlocking* and volatility of assumption updates	Increase Shadow DAC *no longer offsets movement in associated AFS assets*
VA & FIA with Guaranteed Minimum Benefits (GMxBs)	Decrease Current SOP 03-1 treatment will move to fair value, *increasing the liability*	Slower Fair value approach will *build-up liabilities earlier* than the SOP 03-1 approach	Increase Fair value liabilities tend to be *more volatile* than SOP 03-1 calculations	Increase Fair value liabilities tend to be *more volatile* than SOP 03-1 calculations

Change	FIA with GMxB; VA with GMDB/GMIB
Current	Lower, Stable liability - Discount Rates **NOT marked-to-market** (liability crediting rate) - AV growth includes risk premiums such as equity & credit
Future	Increased, Volatile liability - Discount Rates **marked-to-market** (risk free rate) - AV growth based on forward swaps

Source: PwC

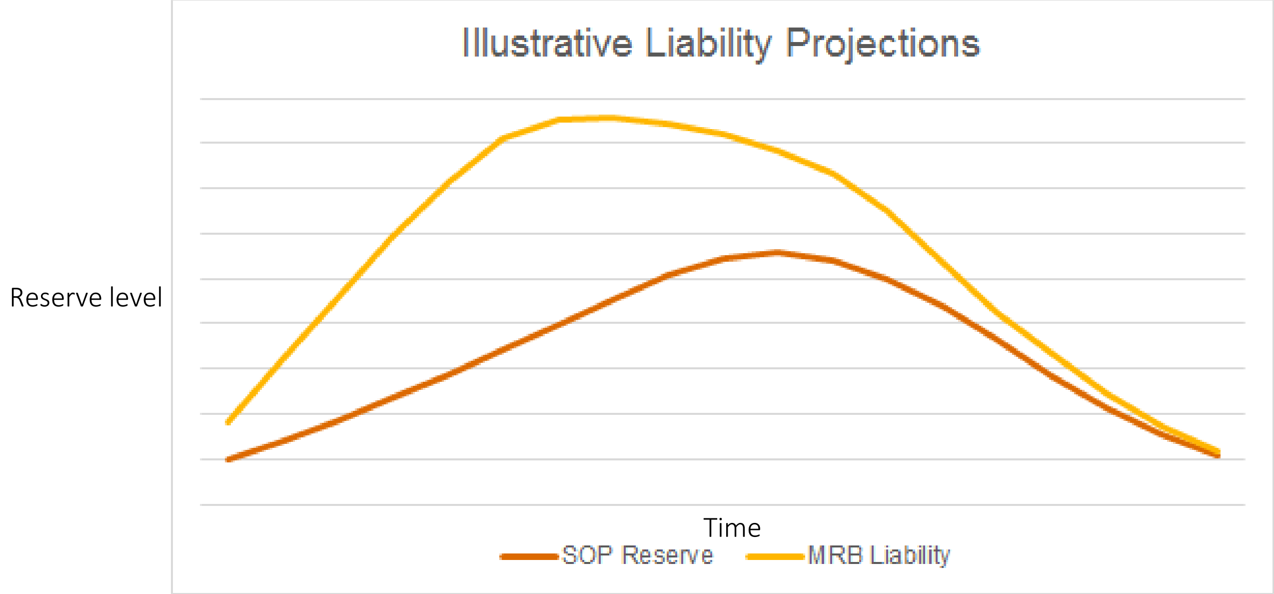
Summary of GMxB Changes

- GMxB treatment under SOP 03-1 & FAS 157 is being replaced with a new concept called Market Risk Benefits
- Lifetime profits will be the same, but the emergence of profits will be slower and more volatile

GMxB	Current GAAP	New GAAP

VA GMWB/GLWB	• Typically FAS 157 for non-lifetime GMWBs
	• Diversity in practice exists for lifetime GMWBs
	   • Full FAS 157
	   • Hybrid FAS 157/SOP 03-1
		Market Risk Benefit (MRB)
		• To be measured at Fair Value
		• Changes in fair value flow through P/L, except changes in instrument specific credit risk recognized in Other Comprehensive Income
		• If a contract contains multiple MRB, those MRBs shall be bundled together as a single compound market risk benefit

VA GMAB	FAS 157	
VA GMIB	• Typically SOP 03-1 • FAS 157 if benefit is not settled	
VA GMDB	SOP 03-1 • Payment is a result of an identifiable insurable event	
FIA GMxB	Typically SOP 03-1	



Source: PwC

MRB Definition, Scope & Measurement

Market Risk Benefit – Definition & Scope

Market Risk Benefit definition (ASC 944-40-25-25C): 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*.

ASC 944-40-25-25C:

- **Protection** refers to the transfer of a loss in, or shortfall (that is, the difference between the account value and the benefit amount) 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, but would apply to death benefit coverage on an investment or annuity contract.
- **Nominal risk** is a risk of insignificant amount or remote probability of occurring. Presumed other-than-nominal if benefit would vary more than an insignificant amount in response to capital market volatility.

Is the company providing the policyholder with market risk protection?

1. Long-duration insurance contract? → 2. Benefit paid from account value? → 3. Benefit payment can exceed account value? → 4. Account value shortfall affected by market? → 5. Potential MRB

Is the protection other-than-nominal?

Considerations: Shortfall & Quantification of Shortfall

Market Risk Benefits - Scope

Benefit Feature	Long Duration Contract?	Benefit Paid from Account Value?	Benefit Payment Can Exceed Account Value?	Account Value Shortfall Affected by the Market	MRB?
VA GMxB	Yes	Yes	Yes	Yes	MRB
FIA Index Crediting	Yes	Yes	No	N/A	Not MRB
FIA GMxB	Yes	Yes	Yes	Yes	MRB
Minimum general account interest rate guarantee	Yes	Yes	No	N/A	Not MRB
VUL DB	Yes	No	N/A	N/A	Not MRB
UL NLG	Yes	No	N/A	N/A	Not MRB
Annuity Purchase Guarantees	Yes	Yes	Yes	Yes	MRB

Market Risk Benefits - Measurement

Ascribed fee (or Attributed Fee) method for valuing GMxBs in variable annuity:

- Common approach used in practice

At inception:

- Estimate fair value of expected claims consistent with capital market valuations (e.g. stochastic risk neutral scenarios)
- Assume that total dollars of GMxB fees equal the fair value of expected claims at inception
- As Ascribed Fee is set and locked at "inception" equal to the PV of claims over the PV of fee base
- MRB Fair Value = PV Claims – Ascribed Fee * PV Fee Base
- MRB fair value = Fair value expected future claims - Fair value ascribed (or attributed) fees
- MRB fair value = 0 at inception
- Fair Value of ascribed (or attributed) fees – Fair Value of claims = 0
- Fair Value of ascribed (or attributed) fees = Fair Value of claims

Subsequent accounting:

- Apply 'locked in' GMxB ascribed (or attributed) fee to each period's PV total expected fee base to determine the PV of ascribed (or attributed) fees
- Ascribed (or attributed) fee may differ from contractual fee for GMxB benefit, but cannot exceed total contract fees collectible or be less than zero

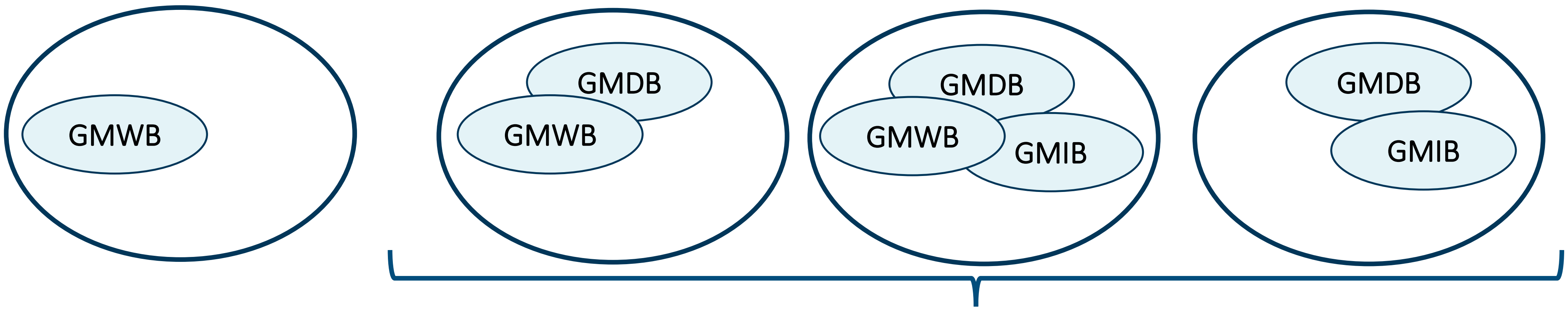
Derecognition:

- Compare MRB to the liability
- If gain, deferred profit liability posted
- If loss, recognize immediately
- Other comprehensive income is released

Market Risk Benefits - Measurement

- Ascribed (or Attributed) fee method is currently most commonly used among VA carriers with GMxB embedded derivatives
- Possibility of no fees for the FIA or not enough for ascribed (or attributed fee) method
    - Potential of positive MRB at issue

Combined MRB Valuation Required



How do you account for multiple market risk benefits within one contract?

- Analyze each MRB separately against scope criteria
- Separate compound MRB features from host
- Compound MRB = 1 unit of account
    - Policyholder behavior assumptions need to be relevant to the combined contract
    - Market consistent assumptions such as economic volatility need to be consistent with expectations for the combined contract

Pricing & Product Development Considerations

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

Poll: Do you have GAAP pricing targets when developing VA/FIA?

Market Risk Benefits - Pricing Considerations

Scenarios

- Do you have desired risk neutral **scenario generators** and **system modeling capabilities**?
- **How many scenarios** are adequate for pricing? (system constraints or first principles)

Calculations

How will **caps and fees be projected** in the risk neutral environment?

Unit of Account

- At **what level of granularity** is the calculation done for pricing (vs. valuation)?

Hedging

- Is the **cost of hedging** accounted for in the pricing process and is it modeled explicitly?
- Is there a **change in hedging strategy**? (Possible increased cost of hedging and increased breakage possible due to more benefits being hedged)
- How does a potential change in hedging strategy impact your **GAAP pricing**? **Statutory pricing**?

Market Risk Benefits - Pricing Considerations

Modeling Considerations and Simplifications

- What **modifications** will be necessary for the current models?
- How is pricing different from valuation?
  - How precise does the reserve component need to be to reasonably capture profitability?
  - What nuances can be simplified for the pricing model? What is the **impact of the simplifications**?
- **How frequently** should you run stochastic models? Can you live with **approximations** for some iterative steps?

Assumptions

- Do you need to develop **new assumption sets** for market risk benefits? (e.g. Combined MRBs)
  - Identify risk factors needed to be **stochastically modeled** (dynamic lapses, dynamic withdrawals, caps, allocation transfers)
  - Sensitivity testing (the **sensitivity to policyholder assumptions could be increased**)
  - Regular review of adequateness

Targets

- Do **pricing targets** need to be updated?
- Do **downside targets** need to be updated?
- What **risk limits/tolerances** should your pricing consider?
- How does this fit into the **capital optimization** framework?

Live Content Slide

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Poll: Do you expect the MRB classification to drive any changes to your pricing targets?

Market Risk Benefits - Product Strategy/Development Considerations

Product Mix	• Appetite for market risk exposure • Proportion of business permitted to exposure
Product Design	• Extent of guaranteed benefits • Adjustments based on utilization
Product Actions	• Reevaluate product & features • Reprice products • Account for cost of hedging / model it explicitly • Continue without changes; economics of business does not change
Risk Considerations	• Economic risk limits • Risk free rates and fund performance drive reserves • There is NO perfect hedge

Live Content Slide

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Poll: Do you expect the MRB classification to drive any changes to your products?

Concluding Thoughts

Key Potential Changes:

- Income statement and reserve balances may become more volatile
- Increased sensitivity to equity and rates for GMxB’s

Key Considerations:

- Pricing/Product engagement with Valuation and Risk on accounting policy decisions, hedging strategy, scenarios, and calculation decisions
- Pricing considerations include modeling updates/simplifications, assumptions, inclusion of hedging and review of pricing targets
- Product development considerations include establishing clear risk tolerances, product mix considerations, product feature sensitivity, hedge costs and iteration toward risk appropriate offerings

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Session 31 – Impact of FASB Long Duration Targeted Improvements on VA/FIA Inforce Management

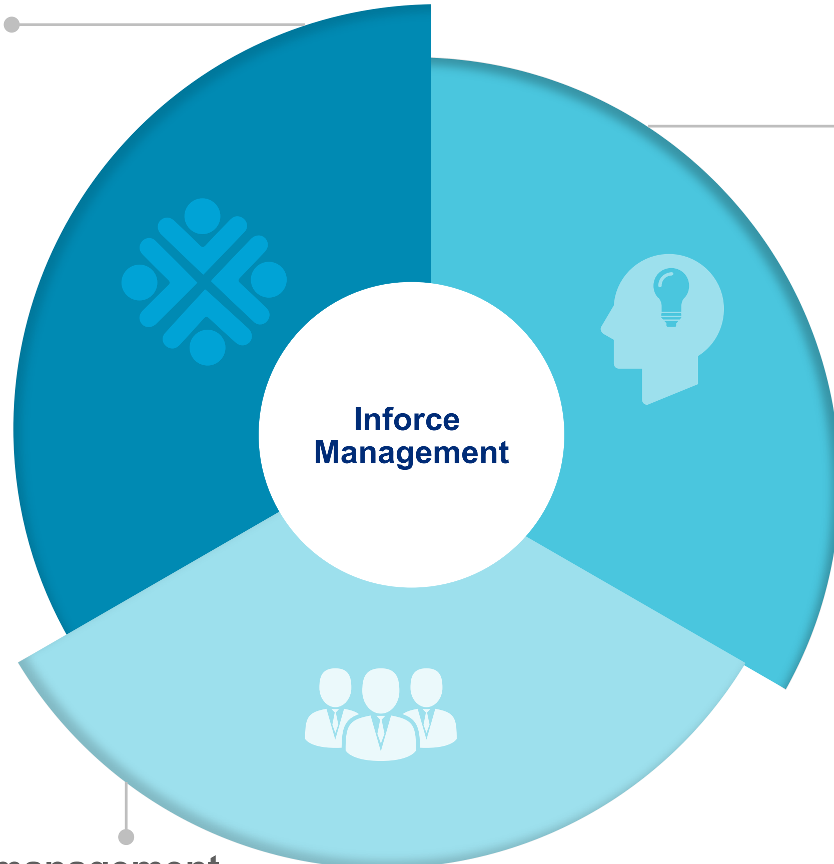
2019 SOA Life and Annuity Symposium
Tampa, May 20, 2019

Yuan Tao FSA, MAAA, CFA

FASB Long Duration Targeted Improvements (LDTI)
What are the key considerations for inforce management?

Infrastructure

- Data
- Actuarial models
- Reporting tools
- ALM/Hedging



Hedging

- VA hedging strategy
- FIA hedging strategy

Balance sheet management

- Reinsurance
- M&A

1 Infrastructure

What will be the infrastructure development needs for a typical VA line?

	LDTI Readiness	Comments
Data	Develop (High)	• Retrospective determination of attributable fees poses data challenges for MRB
Actuarial models	Modify (High)	• Existing projection model will continue to be used with easy modification
Reporting tools	Ready (Low)	• Reporting generally in place
ALM / Hedging infrastructure	Modify (High)	• Companies that consider GAAP in their hedge objectives will need updates

Significance: High, Low

Preparedness: Ready, Modify, Develop

VA GAAP valuation process changes relatively easy; potential changes to hedging will be considered by all market participants

What will be the infrastructure development needs for a typical FIA line?

	LDTI Readiness	Comments
Data		• Retrospective determination of attributable fees poses data challenges for MRB
Actuarial models		• More significant model development need due to MRB
Reporting tools		• Reporting generally in place, just require modification for the shifts to MRB's
ALM / Hedging infrastructure		• Dynamic hedging currently not typical for FIA's and this may need to change for MRB

Significance

High Low

Preparedness

Ready Modify Develop

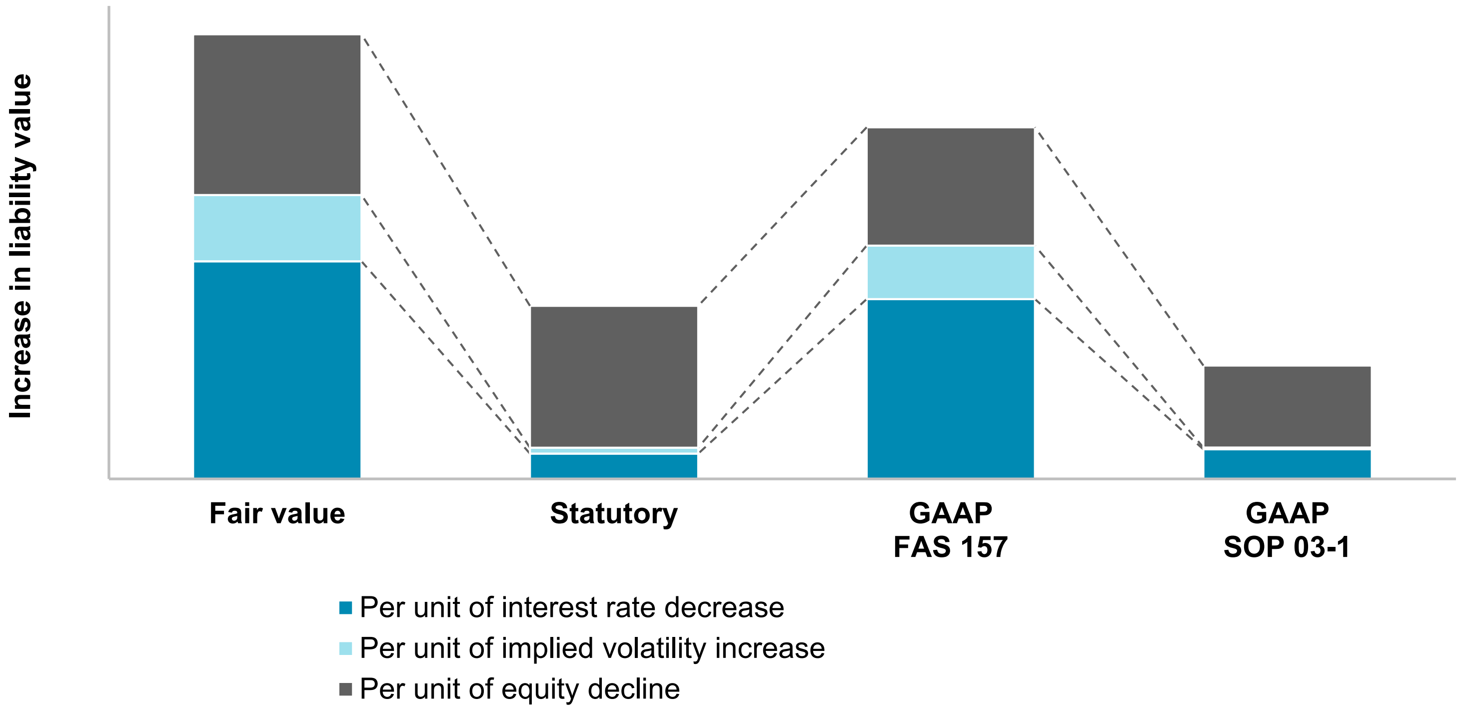
Typical FIA lines need to make large scale changes to seriatim valuation systems, as well as other infrastructure due to changes in DAC and living benefits

2 Hedging

VA hedging – current state

Existing accounting frameworks are mismatched and discourage comprehensive, fair value-based hedging

Typical VA market sensitivity, by valuation lens
Increase in liability value for different market shocks

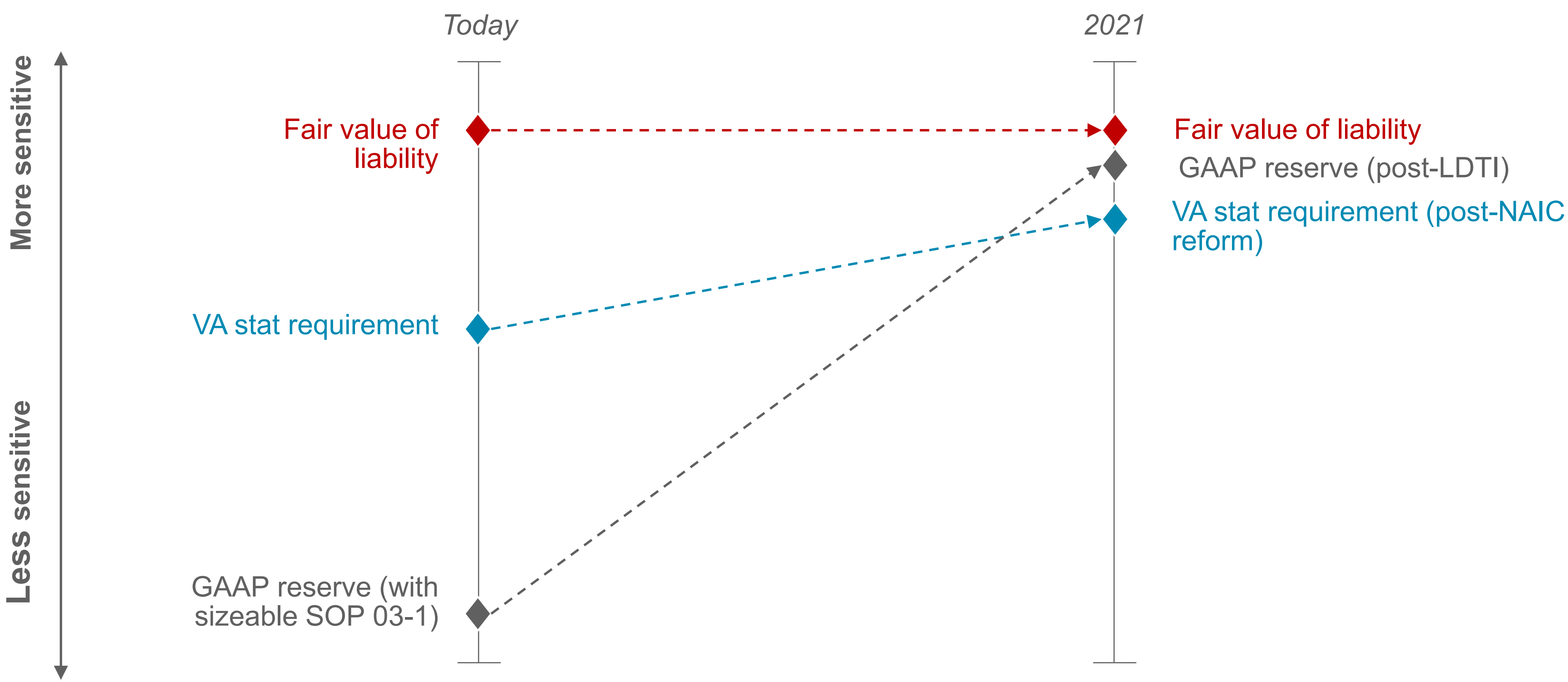


Under the current GAAP and statutory frameworks, insurers cannot hedge all valuation lenses effectively at the same time given their vastly different risk characteristics

VA hedging – post-reform

LDTI, along with NAIC reform, will help align VA valuation lenses and encourages more fair value-based hedging

Market sensitivity of liability valuation
Across different valuation frameworks

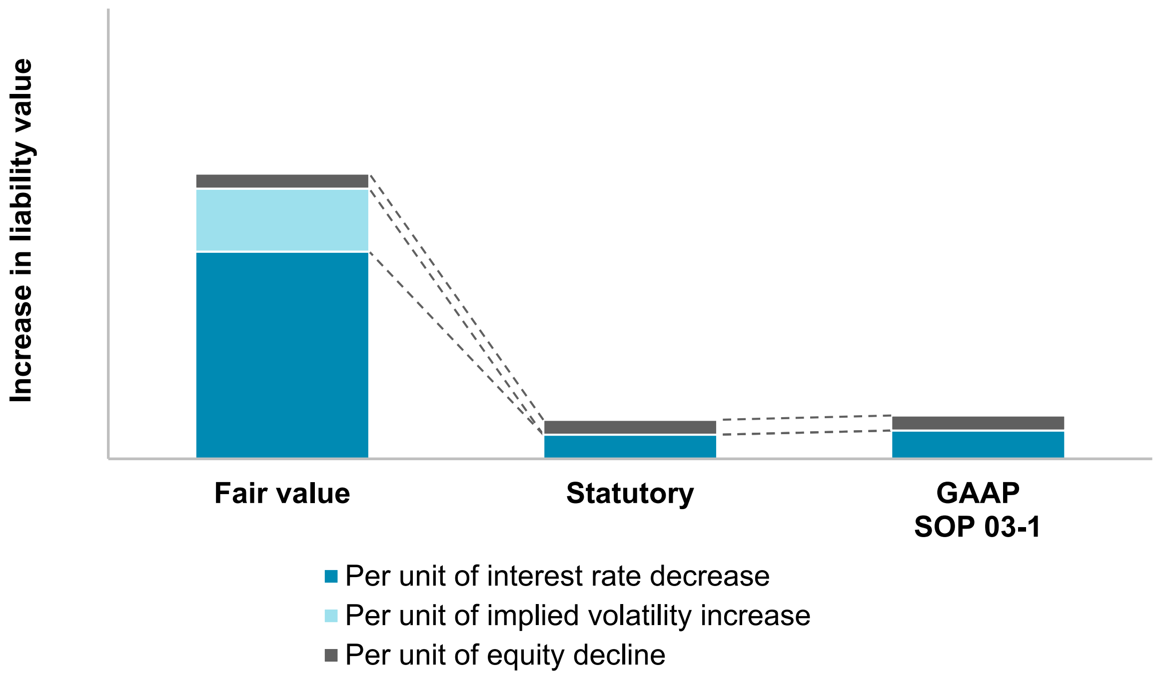


Many VA writers will expand hedging because GAAP and SAP are both closer to "true" fair value.

FIA hedging – current state

Existing accounting frameworks lack market sensitivity for FIA GLWB and therefore discourage comprehensive, fair value-based hedging

Typical FIA GLWB market sensitivity, by valuation lens
Increase in liability value for different market shocks

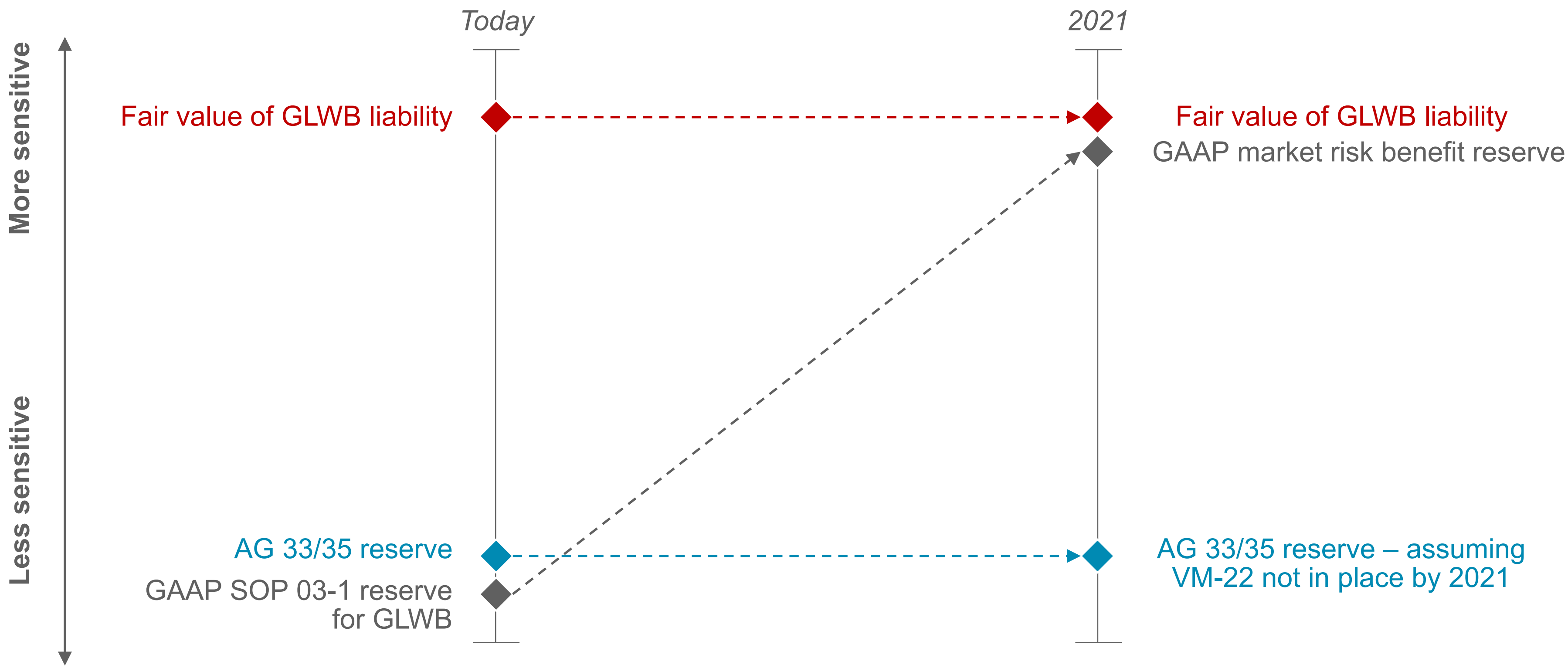


FIA GLWB has typically not been hedged by the industry due to lack of market sensitivity in valuations

FIA hedging – post-reform

LDTI creates divergence in the market-sensitivity between the GAAP market risk benefit reserve and the statutory liability

Market sensitivity of liability valuation
Across different valuation frameworks

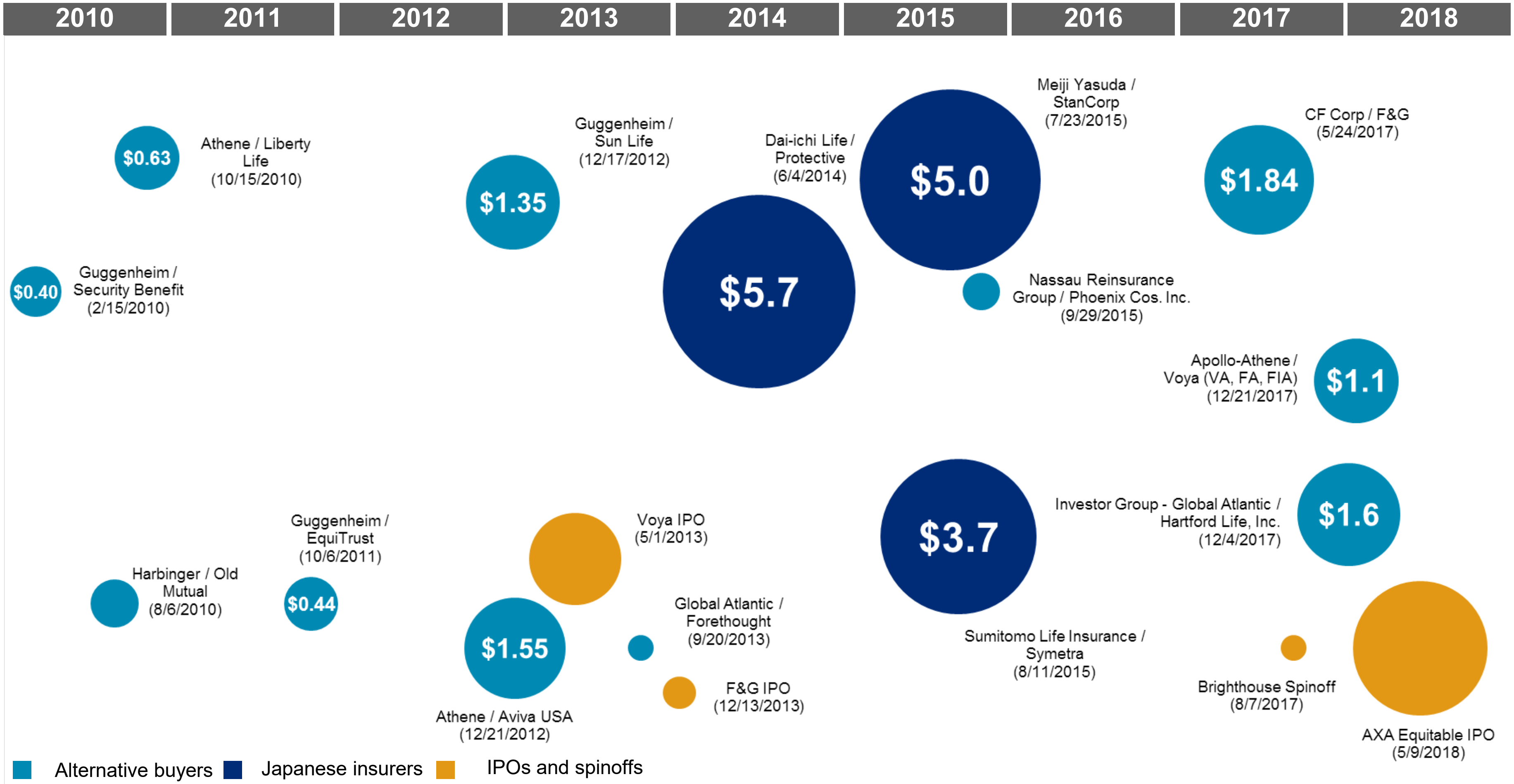


FIA GLWB will become more expensive for carriers to manage if carriers decide to hedge their GAAP earnings

3 Balance sheet management

Potential M&A and reinsurance

Private non-GAAP entities may gain a significant advantage over GAAP filers in taking on VA and FIA blocks with guarantees



Questions