Prudent Risk Management of Variable Annuities in the US

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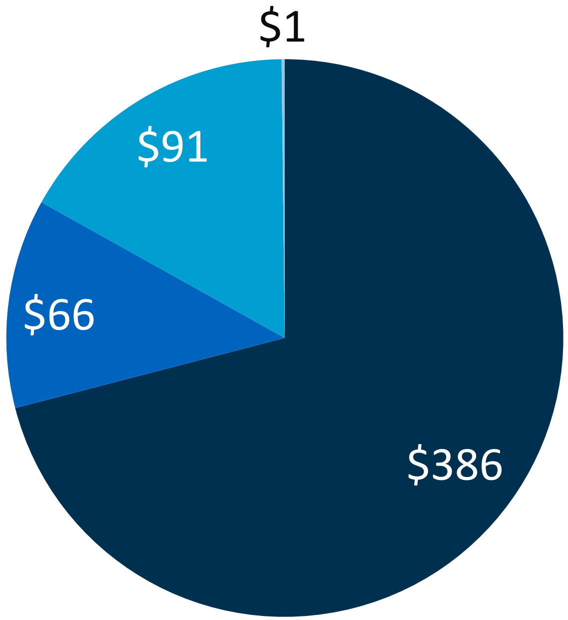
Agenda

1. US VA market overview
2. Risks associated with living benefits
3. How these risks are managed
4. Future of the US VA market

US Variable Annuity Market

Annuities account for 83% of $544 Billion of retirement income product assets



Year End 2009 – Dollars in Billions

- Variable Annuity Guaranteed Living Benefits* = 71%
- Single Premium Fixed and Variable Immediate Annuities/Annuitization of Deferred Fixed and Variable Annuities = 12%
- Reverse Mortgages = 17%
- Managed Payout Funds and Mutual Funds with Guarantees = 0%

*** Includes GLWB, GMIB, GMWB designs**

US Variable Annuity Market

Variable Annuity sales are generally driven by the need for guaranteed retirement income

- **85%** of Variable Annuity contracts sold in 2010 elected an optional living benefit

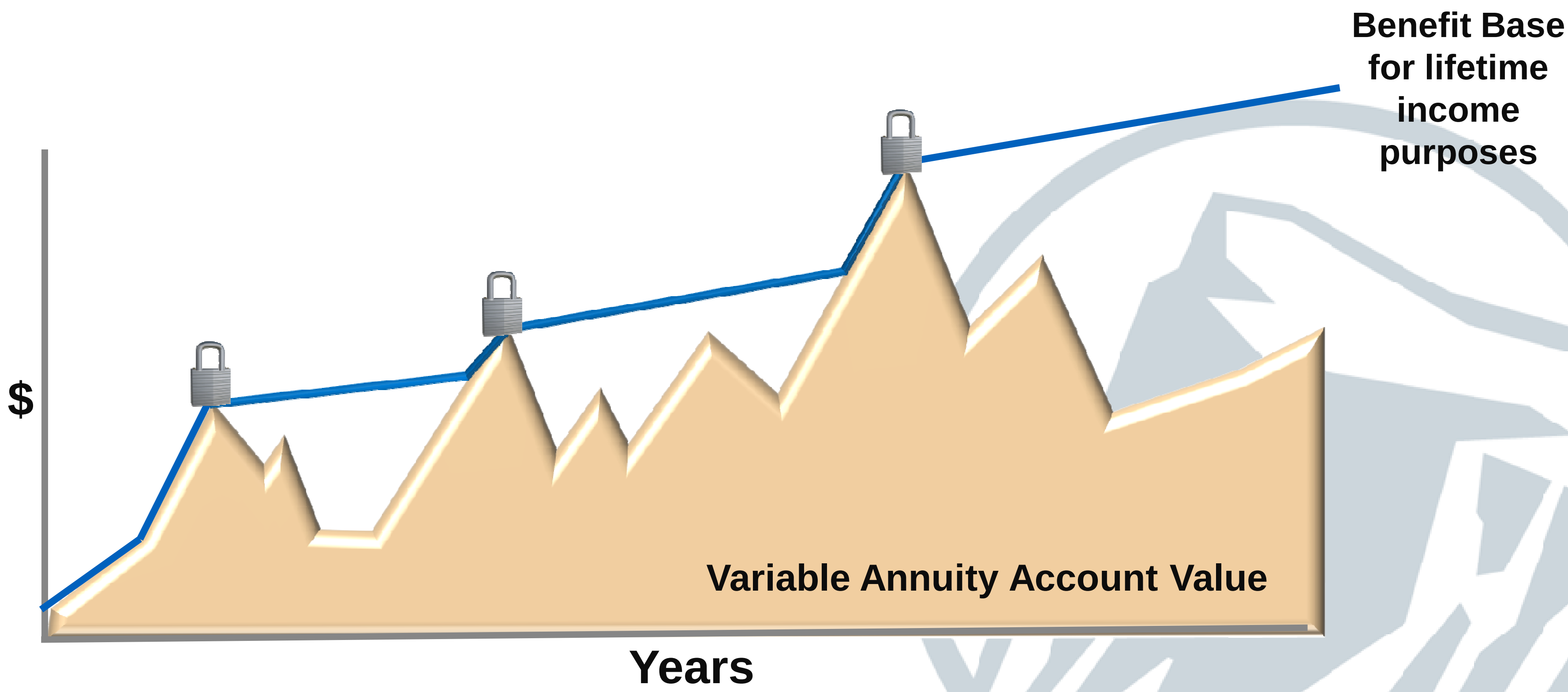
Most popular living benefits are:

- Guaranteed Lifetime Withdrawal Benefit (GLWB) **65%** of sales
- Guarantee Minimum Income Benefits (GMIB) **17%** of sales

Clients and advisors prefer living benefits because of:

- Liquidity
- Flexibility
- Transparency

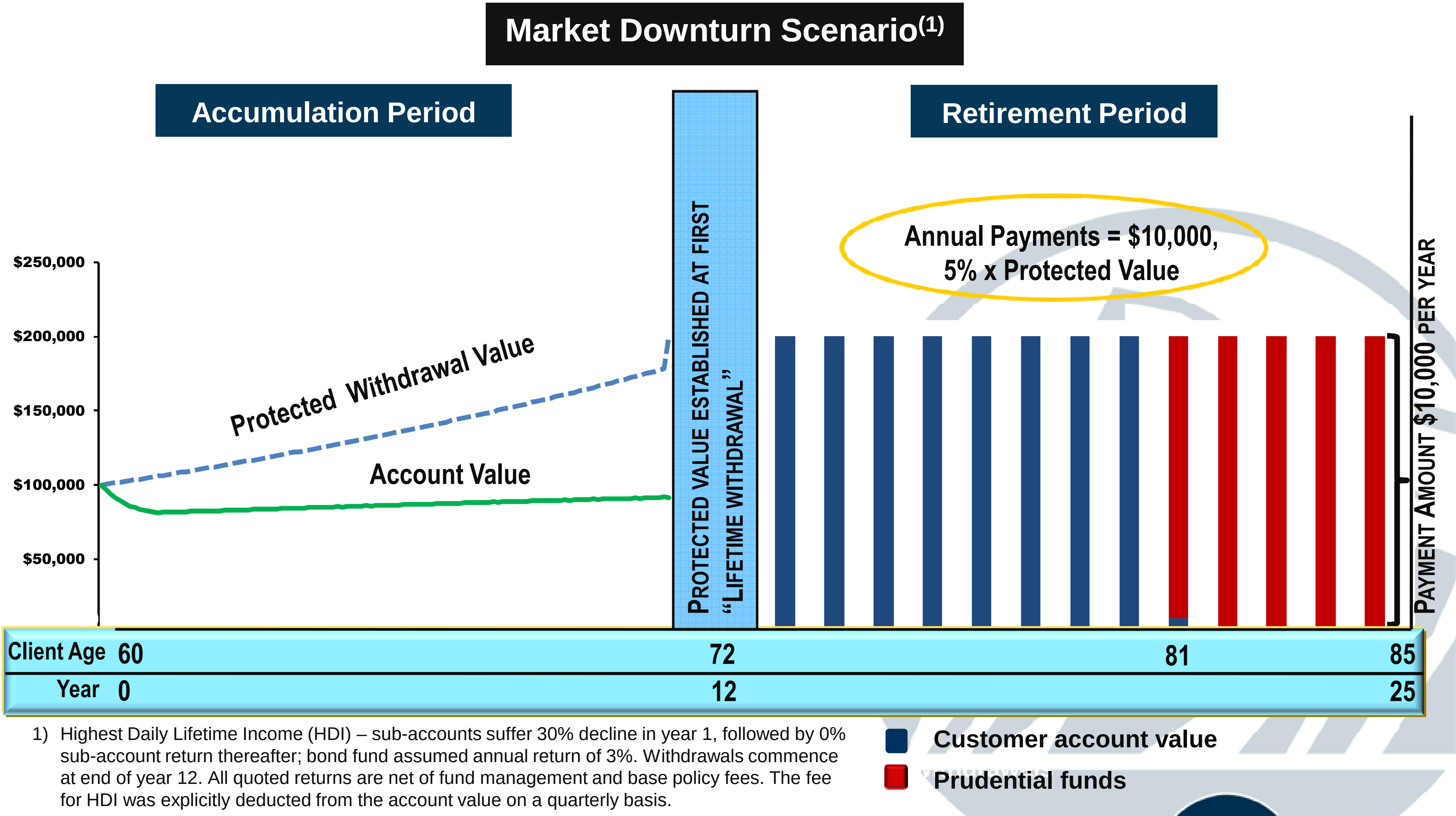
Living Benefits Guaranteed Income



This is a hypothetical example for illustrative purposes only. It does not reflect a specific annuity or the performance of any investment.

Guaranteed Lifetime Withdrawals — Client's Account Value Pays First

Hypothetical example with Prudential's VA offering



1) Highest Daily Lifetime Income (HDI) – sub-accounts suffer 30% decline in year 1, followed by 0% sub-account return thereafter; bond fund assumed annual return of 3%. Withdrawals commence at end of year 12. All quoted returns are net of fund management and base policy fees. The fee for HDI was explicitly deducted from the account value on a quarterly basis.

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Key Risks Assumed By VA Manufacturers

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Longevity Risk

- **A core strength of insurers is the effective management of longevity risk**
  - Actuarial studies across long periods of time and millions of lives provide strong confidence in people's life expectancy
- **There is still risk associated with longevity risk**
  - Medical enhancements can allow for longer life expectancy
  - Pandemics or catastrophic events can cause shorter life expectancies
- **An insurance company can help hedge longevity risk with the mortality risk of life insurance if they offer products in both markets (diversified portfolio of businesses)**

Market Risk

- **Consists of equity, credit and interest rate risk**
  - Equity and credit risk can cause a client's account value to be insufficient to fund guaranteed income for life resulting in claims for the insurance company
  - Lower interest rates increase the cost of long-term guarantees to the insurance company

Client Behavior Risk

- **Client behavior risk includes:**
  - When clients will begin guaranteed lifetime income
  - How much will the client take and how frequently will they take it
  - Investment decisions
- **VA provider can attempt to drive client behavior through product design levers and investment allocation restrictions**

Responsible Risk Management

1 **Innovative Prudent Product Designs**

2 **Diverse Balance Sheet**

3 **Effective Hedging Program**

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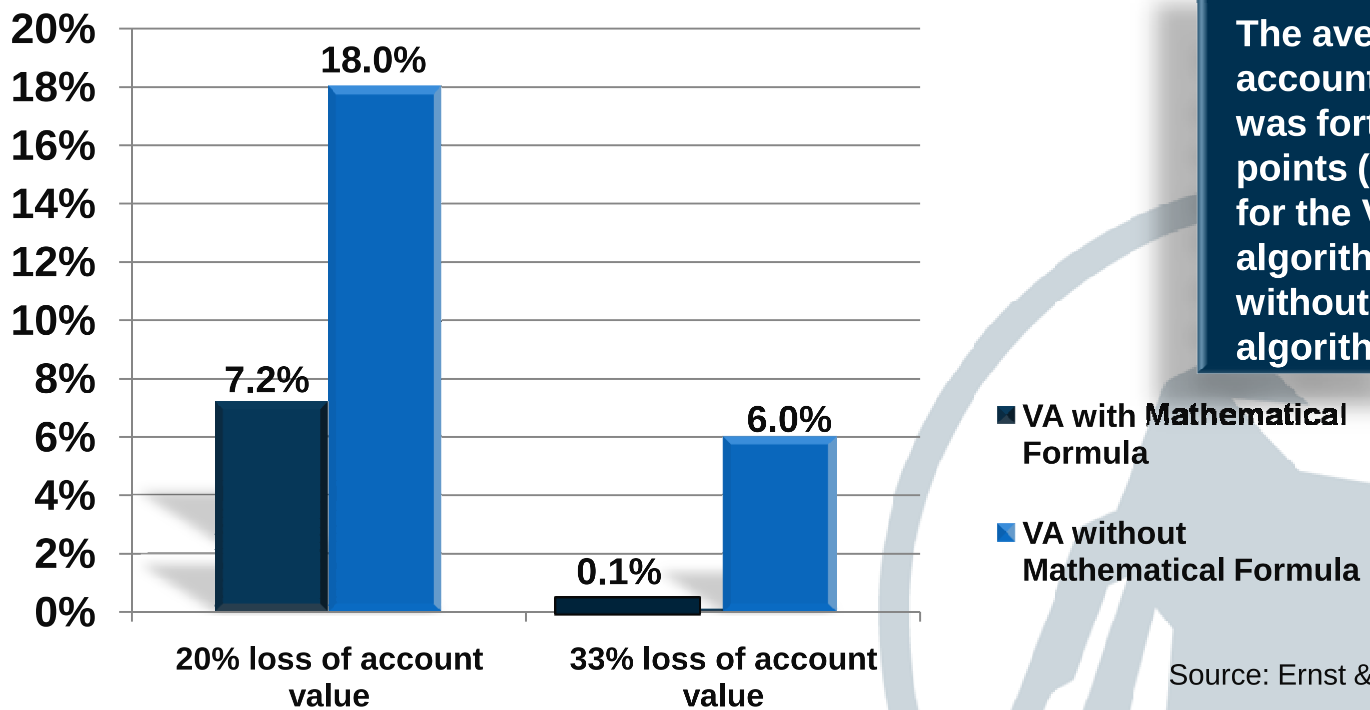
Examples of Product Design Levers

Design Lever	Example	Risks Addressed: Market	Longevity	Behavior
Level of guarantees	• Guaranteed Roll-ups	●	●	●
	• Limiting step-ups	●		
Investment Platform	• Limited investment menu	●		●
	• Asset allocation restrictions	●		●
	• Volatility Controlled Funds	●		●
Restrictions on Client Behavior	• Waiting periods to draw income		●	●
	• Minimum age requirements		●	●
	• Age-based guaranteed withdrawal amounts		●	●
Pricing	• Higher guarantee fees	●	●	●
Product Based Risk Management	• Roll-up rates tied to Treasury Rates	●	●	●
	• Use of a pre-determined mathematical formula to transfer assets in fluctuating markets	●		●

Example of Product Based Risk Management

Probability a client's account value suffers a 20% or 33% loss over a hypothetical ten-year period



The average annual account value return was forty basis points (0.4%) lower for the VA with the algorithm than the VA without the algorithm.

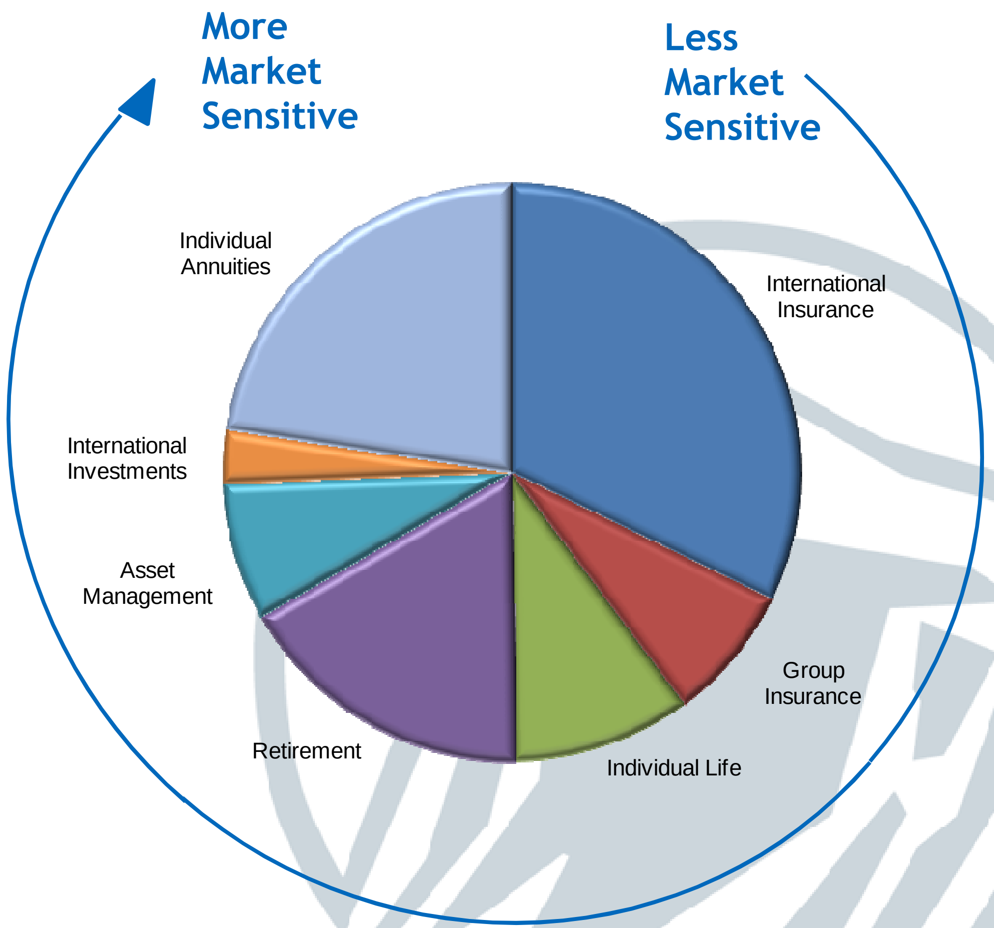
Source: Ernst & Young[1]

Key assumptions used in analysis: Fees (same for both VAs): Mortality and Expense charge of 1.35%, Asset Management fees of .95%, and lifetime withdrawal benefit fee of 1%. Asset allocation: 55-year-old client's original asset allocation assumed to be 70% equities and 30% fixed-income. Asset transfer algorithm: The algorithm used in this analysis is the same algorithm employed in Prudential's Highest Daily Income Benefit and Premier variable annuities issued by Prudential Financial companies, and it was chosen as this algorithm since it s the most common in this space. This analysis is by no means intended to be reflective of Prudential's or any other provider's variable annuity. While the algorithm is intended to reduce account value volatility, it is not a tool to optimize investment results..

1 The projections generated by the Ernst & Young Monte Carlo simulation regarding the likelihood of various investment outcomes are hypothetical in nature, do not reflect actual investment results, and are not guarantees of future results. The analysis presents a range of possible outcomes; the calculated results will vary with each use and over time.

Diverse Business Mix

- **Diversified mix of high quality businesses**
- **Balanced Portfolio of selected risks**



VA Hedging

Hedging is the purchase of assets which have offsetting financial characteristics to the liabilities that the VA manufacturer has assumed.

Hedging is utilized for risk mitigation

- **NOT for speculation or for leverage**

VA manufacturers have been utilizing hedging programs for years to manage their capital market risk for years with great levels of success

VA Hedging – A Core Strength

"Effective hedge programs have enabled life insurance companies to develop new VA products and protected the solvency of VA writers through turbulent times. Hedging has become a new core competency of life insurance companies, just like mortality risk management had in the past. A hedging best practice of simplicity, transparency and reliability has emerged over the past decade. Regulators can further facilitate the evolution of life insurance companies' hedging practices with sensible, well thought out regulatory initiatives."

Key findings/ reasons for success:

- **Management Commitment**
- **Transparency of hedge program**
- **Simplicity of hedge instruments**
- **Effective operational control**

Source: Milliman White Paper

Mitigating Systemic Risk

- **Hedging program**
  - **Asset purchases are diversified among multiple counterparties**
  - **Collateralized assets**
- **Product design**
  - **Asset allocation requirements**
  - **Embedded formula**
- **Separate accounts**
  - **Segregated assets minimize the impact of a "Run on the Bank"**
  - **Valuable guarantees make a "Run on the Bank" less likely**
- **Effective Regulation**
  - **Capital and Reserve Requirements**
  - **State and Federal Oversight**

VA industry – prepared for the future

Since the financial crisis VA manufacturers have continued to:

1. **Invest in and enhance their hedging programs**
2. **De-risk their product offerings (simplified design)**
3. **Further create product based risk management solutions including:**
   - Tying roll-up rates to Treasury rates
   - Linking the fees to the VIX
   - Using an asset transfer formula
   - Volatility controlled investment requirements

Thank You

Q&A