International Market Trends

- Risk Management & Product Innovation

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The Seeds: Where it all started

1) Invest into stocks – beats inflation, greater potential for higher returns
2) Birth of mutual funds – why try and pick your own stocks, believe in the portfolio manager
3) Birth of Asset allocation of mutual funds – diversification works
4) Addition of Capital Guarantees (VA, CPPI) – need a promise from a “strong” counterparty in the event that all of the above fails
5) The Global Financial Crisis – impacts??

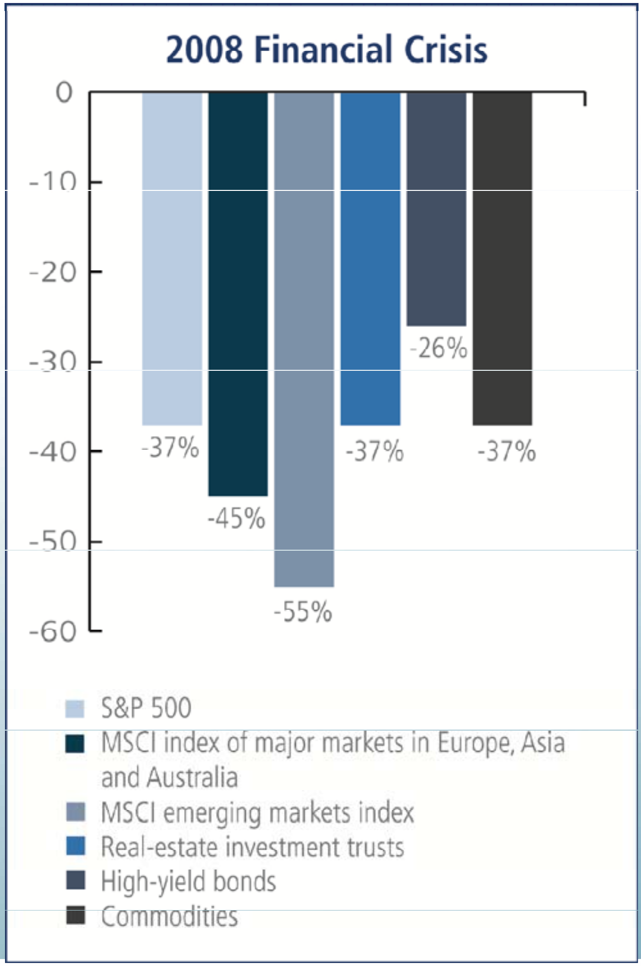
Implications of the global financial crisis

The crisis of 2008 came..

Traditional asset allocation failed to protect investors from adverse market movements.
Correlation risk manifests itself → diversification insufficient.

Credit worthiness of guarantor questioned

- Impact on the life insurance was substantial, driven by:
  - Write downs on asset portfolio
  - Variable Annuities
- Key drivers of losses related to VA's
  - DAC unlocking on base product
  - Basis risk on actively managed funds
  - Exposure from un-hedged guarantees
- Hedge programs were **mostly** effective in meeting objectives
- Cost of issuing **new** guarantees have increased substantially
  - Driven by lower interest rates and higher volatility



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Hedging Performance in 2008 and since

S&P Report – Jan 2009

STANDARD & POOR'S

"Variable Annuity Equity-Based Guarantees Are Weighing On North American Life Insurers' Financial Strength"… but… "Dynamic Hedging of Living Benefits is Proving its Worth"

- "We regularly review the quality of insurers' hedging programs as part of our ERM evaluation process ...
- "Hedge effectiveness, measured by how much the hedge asset increases in value compared with the increase in the liability, typically exceeds 9**0%-95%**."
- "Hedge effectiveness of some programs declined to 75%-80%. We generally expect companies to maintain hedge effectiveness at these levels or higher to protect VA balance sheets from severe deterioration, which is consistent with strong ratings"

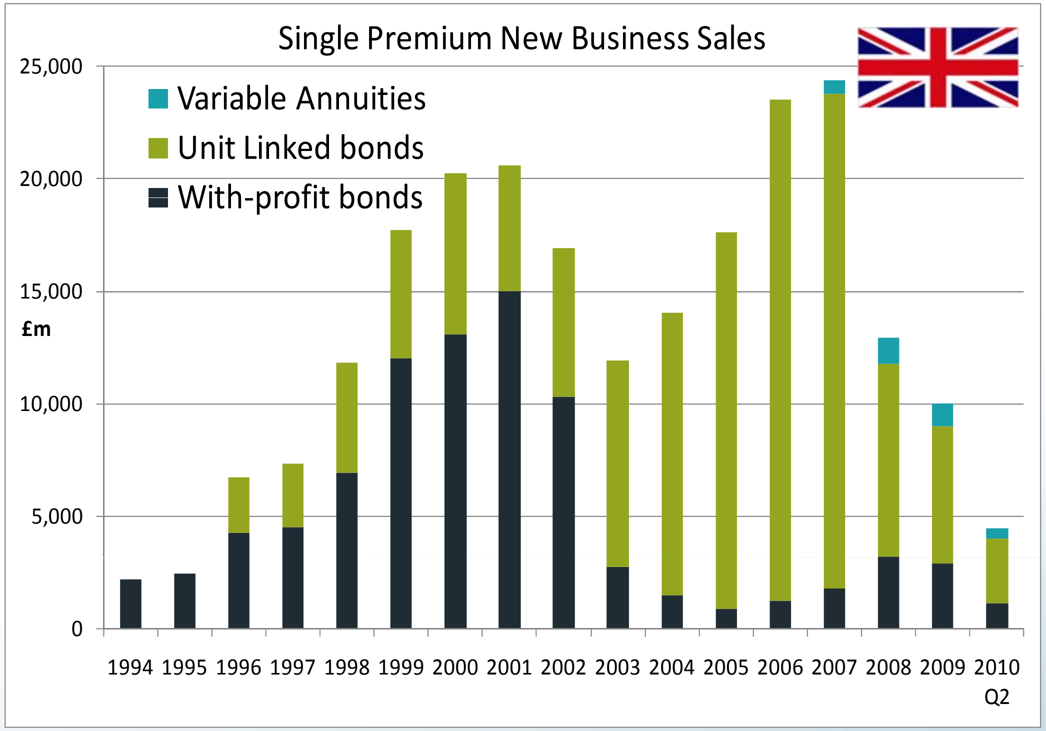
- May 2008 -- 88% of respondents experiencing gains or unanticipated losses of less than 10 basis points of account value.
- Nov 2008 -- US VA hedge programs have been 93% effective in achieving their goals, Saved the US VA insurance industry $40 Billion due to hedge gains
- July 2009 US & European VA programs have been 94% effective in achieving their goals

Use of Hedging has generally increased, and we expect this to continue

Recent Hedging Developments

- Macro Hedging: VA writers have deployed macro hedging strategies
  - Conflict between GAAP, Stat, and Economic measures
  - Typically:
    - Focused on tail risk
    - Calculated over the entire VA block
    - Implementations tend to make greater use of options vs. futures
  - Pros & Cons
    - Favorable reaction from analysts & rating agencies
      - Place a floor under the business against future, significant losses
    - Should not be used to “lock-in” losses from past market declines
- Interest rate hedging
  - Some VA writers have reduced interest rate hedge positions given the low rate environment
    - Legacy interest rate hedges generated substantial gains

Insurance Industry View on Guarantees



- Guarantees continue to be a vital part of the insurance industry
  - Guarantees differentiate life insurance companies from mutual fund companies and banks
  - Guarantees still provide customers with a good value proposition
- Creating a sustainable VA business model requires
  1. **Product Design innovation**
  2. **Re-evaluation of hedge objectives**
  3. **Improvements to hedge program and operations**

Ranking by Sales ($ in millions)							
2009	Q1 2010	Q2 2010	Company	2009	Q1 2010	Q2 2010	Q1 - Q2 '10
1	1	1	Prudential	$16,110	$4,866	$5,316	9%
2	2	2	MetLife	$15,856	$4,165	$4,604	11%
4	4	3	Jackson National	$10,002	$3,134	$3,687	18%
3	3	4	TIAA-CREF	$14,080	$3,449	$3,569	3%
5	5	5	Lincoln National	$7,991	$2,044	$2,359	15%
6	6	6	AXA	$7,455	$1,521	$1,725	13%
9	7	7	AIG	$4,736	$1,377	$1,566	14%
11	9	8	Nationwide	$4,225	$1,113	$1,342	21%
7	8	9	Ameriprise	$5,518	$1,192	$1,120	-6%
13	11	10	AEGON	$3,359	$816	$1,046	28%
14	10	11	Sunlife	$3,212	$840	$893	6%
16	15	12	Allianz	$2,476	$698	$789	13%
8	14	13	John Hancock	$5,298	$702	$744	6%
12	13	14	Pacific Life	$3,506	$747	$705	-6%
10	12	15	ING	$4,723	$786	$574	-27%
18	16	16	Thrivent	$1,414	$511	$537	5%
20	17	17	New York Life	$1,262	$492	$516	5%
17	19	18	Ohio National	$2,382	$410	$443	8%
24	21	19	Protective	$806	$353	$419	19%
19	20	20	Fidelity	$1,349	$377	$390	3%
			Other	$9,230	$2,031	$2,038	0%
				$124,991	**$31,621**	**$34,381**	9%

- 2009 Sales $125 billion
- 1st Half 2010 sales $66.0 billion
- 2nd Quarter 2010 sales $34.4 billion
- 87% GLB election rate

VA Launches in Europe (Q4 2010)

MetLife: Multiple UK launches in Dec 2006, May 2007, Jun 2008 & Jan 2009; Poland in 2008, Greece Feb 09, Spain & Belgium May 09

Bâloise Holding: Launched GMWB 'RentaSafe' in Switzerland in Oct-2008

R+V: Launched GMIB in Germany in Oct-2008

SwissLife: Launched in Germany in 2008 and 2009, and Switzerland in 2009

ERGO / Münchener Rück Munich Re Group: Launched in Germany (08 & 09) and Lux in 2008

Lincoln Financial Group / Sun Life Financial of Canada: Launched i2Live in May 2007 Acquired by Sun Life Financial

Allianz / AGF / RAS: Invest4Life launched July 2008 in Germany, France in October 2008. Italy in February 2008

AEGON: GMWB '5-for-life' pensions product in the UK and similar through La Mondiale in France, and the Netherlands in 2009

The Hartford: First mover in UK 'Gold' and 'Platinum' Closed to NB 2009

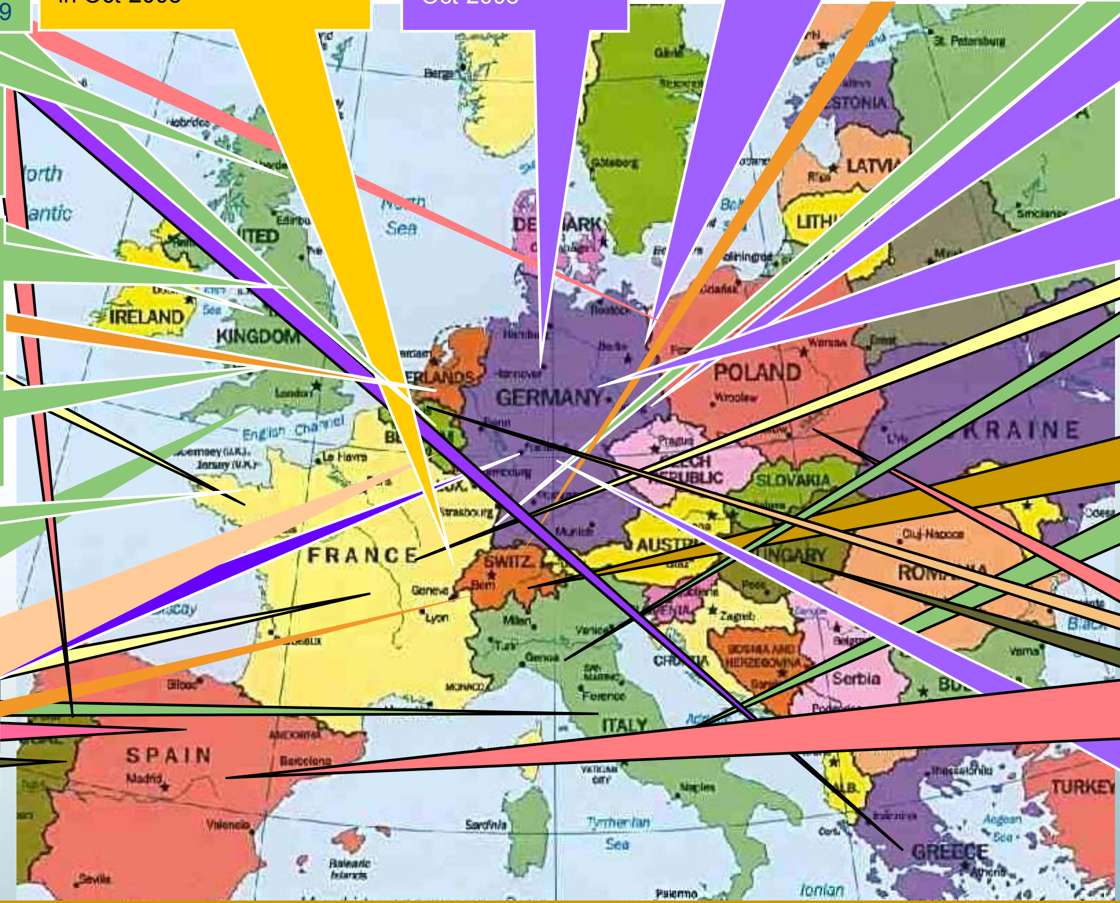
Generali Group: Switzerland for several years and launched in 2008 in Italy

LV=: Feb 2010 launch

AXA Financial Protection: European roll-out of 'Accelerator' plans in Germany ('Twinstar'), Belgium, France, Spain, Italy, UK, Isle of Man, Portugal, Switzerland

ING: GMAB products launched in Spain in 2007, Hungary in 2007, Poland and Netherlands in 2008, Belgium in 2009

Canada Life: Launched in Germany in March 2009



Milliman has worked with circa 75% of the above clients

There is significantly more non-public activity

European VA Product Launches

- New product launches continuing apace
- Table includes all historic VA product launches
- Re-launches due to repricing and/or redesign

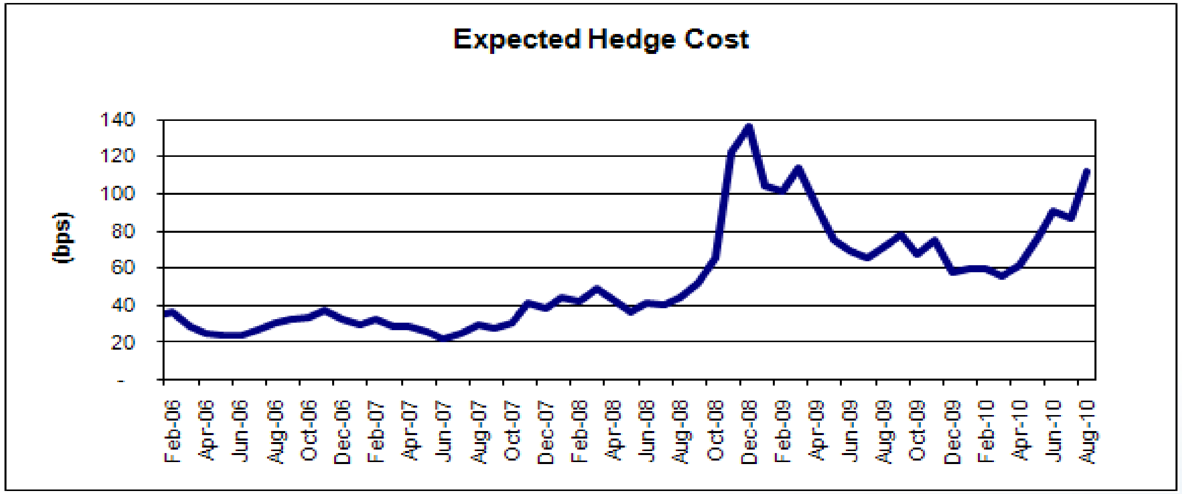
There is significantly more non-public activity

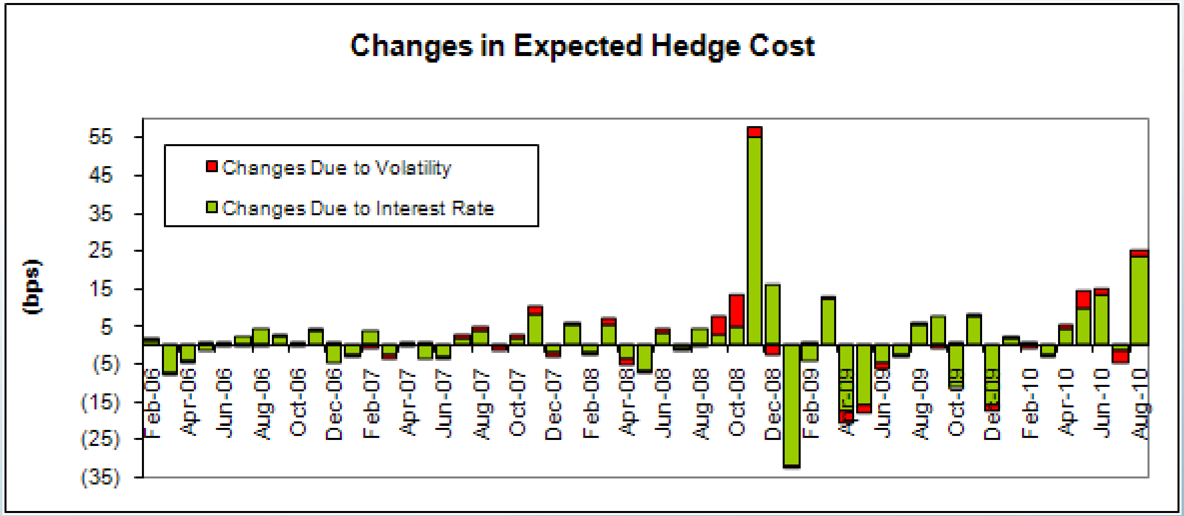
Company	Product	Type	Country	Date
Aegon / La Mondiale	Terre d'Avenir	WB / DB	France	Jan-09
ING	ClearFuture Harmony	AB / DB	Luxembourg	Jan-09
MetLife	Auvida	WB	Greece	Feb-09
Allianz	Invest4Life	WB / DB	Italy	Feb-09
ING	Lifelong Income	WB	Belgium	Feb-09
Canada Life	Garantie Investment Rente	WB	Germany	Mar-09
Swiss Life	Exclusive Invest DWS	AB / DB	Germany	Apr-09
MetLife	Auvida	WB / DB	Spain	May-09
MetLife	Citi VA	WB	Belgium	May-09
AXA	AXA pensiones privilege	AB / DB	Spain	Jun-09
ERGO	Vorsorge Invest Plus	AB	Germany	Jun-09
Aegon	Secure Lifetime Income	WB4L	UK	Jul-09
Aegon	Terre d'Avenir	WB4L	France	Feb-09
ING	ClearFuture	AB / DB	Italy	Oct-09
Generali	Active Risparmio (SP)	AB / DB	Italy	Nov-09
ING	Kairosz	AB / DB	Hungary	Nov-09
Aegon	Variabele Lijfrente	WB	Netherlands	Dec-09
Aegon	AEGON Variabele Lijfrente	WB / DB	Netherlands	Dec-09
Generali	Generali Rente Fonds safe	AB	Germany	Jan-10
Liverpool Victoria	Flexibly Guaranteed Bond	AB	UK	Feb-10
MetLife	Trustee Invt Plan	AB / DB	UK	Mar-10
Generali	Garantie-Investition	AB	Switzerland	Apr-10
AEGON	Secure Income Option	WB / DB	UK	Jul-10
AXA	Secure Advantage	AB / DB / WB / IB	UK	Oct-10
Sanlam / Glacier	Global Life Plan	AB - PSA	International	Oct-10

Company	Product	Type	Country	Date
Hartford	Gold / SafetyNet	WB	UK	Feb-05
AXA	Twinstar	IB	Germany	Mar-06
AXA	Estate Planning Bond	WB / DB	UK	Jun-06
Aegon	5 for Life / Income for Life	WB / IB	UK	Sep-06
MetLife	Trustee Invt Plan	AB / DB	UK	Dec-06
ING	Generacion F Unico	AB / DB	Spain	Mar-07
AXA	Accumulator Future	AB / WB / DB	Spain	Mar-07
Lincoln	i2Live Retirement Plan	WB / IB	UK	May-07
MetLife	Guaranteed Investment Bond	AB / WB / DB	UK	May-07
AXA	Accumulator Capital Resources	WB	France	May-07
AXA	Accumulator	WB	Italy	May-07
AXA	Crest	AB	Belgium	May-07
ING	Euro Perspektiva	AB / DB	Hungary	Jun-07
Hartford	Platinum	WB / IB / DB	UK	Aug-07
Generali	Active Risparmio	AB / DB	Italy	Dec-07
AXA	Twinstar Invest	AB	Switzerland	Jan-08
ERGO	Global Top Return	IB / AB	Germany	Feb-08
AXA	Accumulator	AB	Portugal	Apr-08
ING	RVS Guarantee Perspective	AB / DB	Netherlands	Mar-08
MetLife	Retirement Portfolio	WB / DB	UK	Jun-08
Allianz	Invest4Life	WB / DB	Germany	Jul-08
AXA	Accumulator Retirement	WB	France	Jul-08
R+V	PremiumGarantieRente	IB	Germany	Aug-08
MetLife	Orchidea	WB / DB	Poland	Sep-08
Swiss Life	Champion	IB	Germany	Oct-08
Baloise Life	RentaSafe	WB	Switzerland	Oct-08
Allianz	Invest4Life	WB / DB	France	Oct-08
AXA	Twinstar Income	WB	Switzerland	Nov-08
Swiss Life	Champion Duo	AB / DB	Switzerland	Nov-08
ING	Groei en Garant	AB / DB	Netherlands	Nov-08

Source: Milliman

Milliman Hedge Cost Index





Product De-risking

- Filing requirements provide some flexibility for quick product changes, major product changes require re-filing
- Short-term de-risking measures included:

Rider Fees	• New Business increased 15-30bps • Existing Business increases where possible
Withdrawal Rates	• Increased earliest withdrawal age • Adjusted age bands, still 5% at 65
Reduction in Step-ups	• Removal of “doubler” • Reduced bonus rates, typically 1-2% reduction • Reduced length of bonus period or age restrictions
Asset Allocation	• Removal of most aggressive asset allocation model • Use of index funds

Typical Pre-crisis Lifetime GMWB Rider

- Tiered withdrawal rates
  - 4% : age 60-64
  - 5% : age 65-69
  - 6% : age 70-74
  - 7% : age 75+
- Annual Ratchet
- 5-7% Bonus each year withdrawals not taken up to 10 years
- Guaranteed amount doubled if no withdrawals taken by year 10
- Asset allocation models ranging from 80% equity to 20% equity
  - Single rider charge for all asset allocation models
- Rider charge of 60-95 bps of benefit base

Impact of Product Changes

Product Change	Approximate Impact on Cost	Comments
Remove Doubler	-0bps	Only impacts policyholders waiting 10 years
Reduce Bonus ~ 2%	-10bps	Impacts everyone waiting to withdraw
Combine Age Bands*	-20bps	Impacts all policyholders
Remove most aggressive asset allocation	-5bps	Experience shows 5-15% of people elect the most aggressive allocation
Raise Rider Fees 20bps	+10bps	Increased fee drag
Total	**-25bps**	**25bps lower hedge cost and 20bps higher fees**

Baseline - 6/22/2009						
WB	**55**	**60**	**65**	**70**	**75**	**TOTALS**
Wait 0 Years	0.84%	0.68%	1.05%	1.38%	1.59%	1.11%
Wait 5 Years	0.98%	1.40%	1.73%	1.89%	1.32%	1.42%
Wait 10 Years	1.58%	1.83%	1.89%	1.35%	0.87%	1.74%
Never Withdraw	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
TOTALS	0.79%	1.01%	1.17%	1.21%	1.30%	1.04%

Baseline - Combined Changes						
WB	**55**	**60**	**65**	**70**	**75**	**TOTALS**
Wait 0 Years	0.92%	0.75%	1.14%	0.84%	1.05%	0.95%
Wait 5 Years	0.92%	1.29%	1.00%	1.17%	0.80%	1.12%
Wait 10 Years	1.27%	1.00%	1.10%	0.76%	0.47%	1.08%
Never Withdraw	0.00%	0.00%	0.00%	0.00%	0.00%	0.00%
TOTALS	0.69%	0.81%	0.86%	0.75%	0.86%	0.80%

Revised Age Bands

Age at 1st Withdrawal	Base Rate	Adjusted Age Bands
60-64	4%	4%
65-69	5%	5%
70-74	6%	5%
75+	7%	6%

Company Responses Across the Spectrum

Continue with existing design	• Results in increased market share • Typically companies with small in-force business
Continue with existing design, reduce sales	• Consolidate product offering • Focus on key distribution channels
Redesign guarantee	• Develop more sustainable guarantee • Embedded risk management
Stop selling equity guarantees	• Offer life annuity within VA chassis to address lifetime income

Examples of Guarantee Redesign

Guarantee Design	Customer Value Proposition	Risk Management Benefit	Other considerations
Variable Rider Charge	Potentially less conservative pricing	Revenue more aligned with cost of hedging through time	Less frequent re-pricing Product complexity
Interest-rate linked bonus	Benefit stays current in rising rate environment	Less interest rate risk Reduced disintermediation risk	
Floating Rate Withdrawals	Benefit stays current in rising rate environment	Substantially less interest rate volatility Small hedge positions, lower liquidity risk Reduced disintermediation risk Magnified benefit from recurring premium business	Product complexity
CPPI	Limits downside within fund Liquidity benefit	Substantially lower equity exposure Lower hedge cost	Product complexity Explaining cash-lock
Managed Volatility Funds	Mutual funds provide stable returns Liquidity benefit	Reduced vega and tail exposure Lower cost of hedging	May underperform market in up scenarios Enhancement to current product offerings
Capital Protection embedded in mutual funds	Reduced downside exposure Liquidity benefit Lower total cost	Substantially lower cost of hedging Lower basis risk	

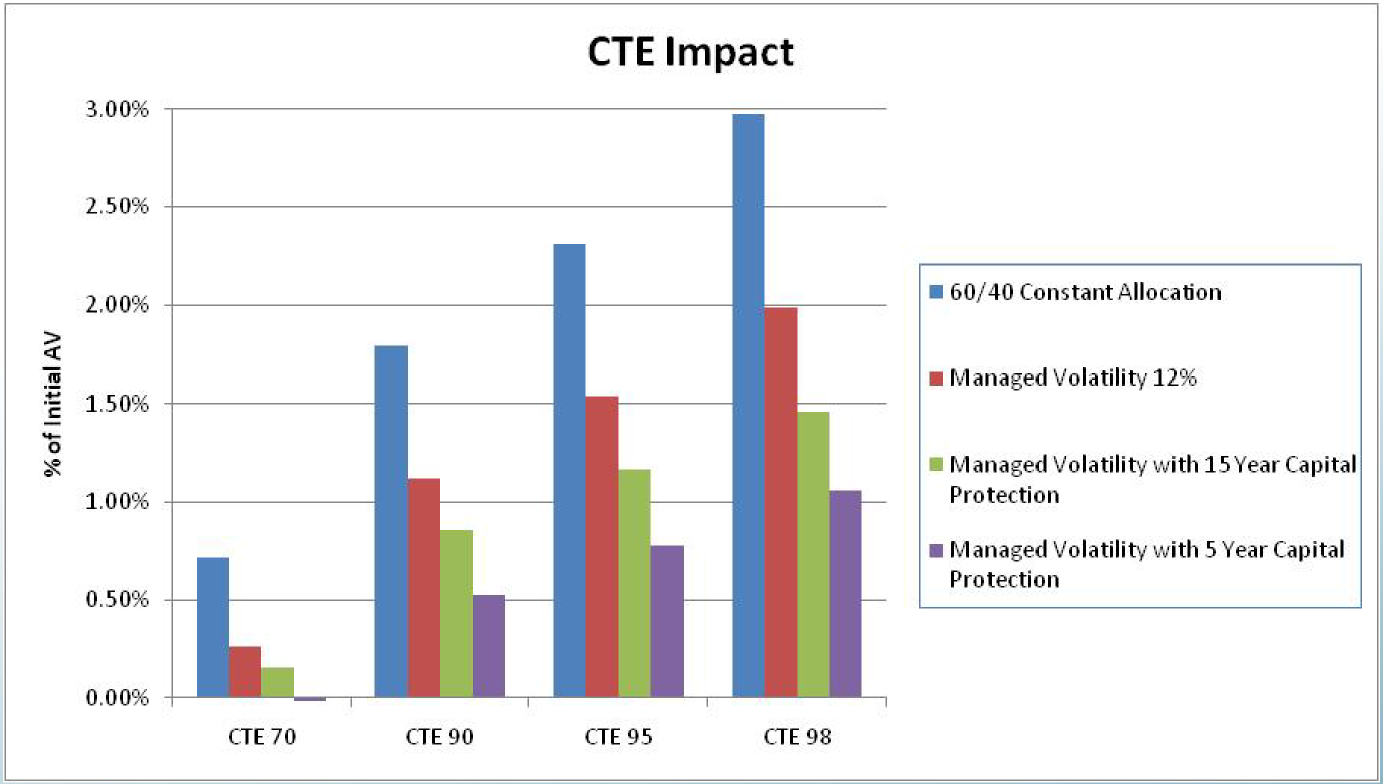
Innovations in VA Designs

- “In June there was evidence of a continuing trend towards variable funds being designed or reworked to add elements aimed at reducing market risks, especially volatility” – June, 2010 Soleares Report

VA Writer	Benefit Design	Risk Management Strategy
Prudential GLWB	6%, daily ratchet	Auto-rebalancing into bonds
AXA Retirement Cornerstone GLWB	4%-8%, linked to 10-year treasury rate, annual ratchet	Funds allocated into two accounts: Long-Term Accumulation Account and Guaranteed Benefit Account
Transamerica GLWB	5% rollup and ratchet	Volatility Mitigation Tool: Include derivatives within portfolios
Allianz Investment Protector GMAB	Annual ratchet only	Target Value Date (maturity date) determines initial investment allocation. Equity % is reduced as maturity nears. Equity % is also reduced as benefit becomes in-the-money.
SunAmerica GLWB	8% rollup and ratchet	Rider Fees are linked to VIX Index

Risk Management Benefit to the Insurer

- Including managed volatility and capital protection funds within VA Guarantees will can substantially reduce Insurer's exposure
- Provides a significant benefit to RBC/MCCSR
  - Additional diversification benefit since returns will vary from existing business



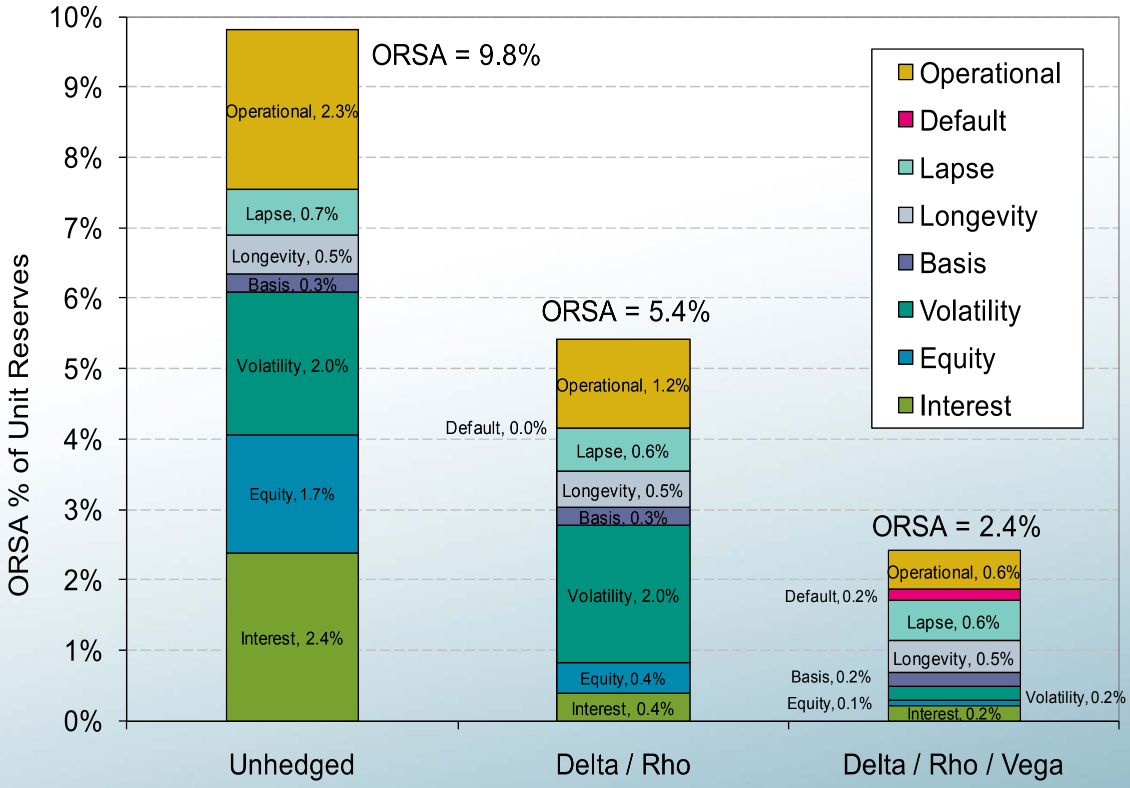
Comparative Capital Measures
- *ORSA by Hedge Strategy*

Capital Ratios

- Un-hedged 9.8%
- Delta / rho 5.4%
- Delta / rho / vega 2.4%

Additional Risk Factors

- Basis Risk
  - Un-hedged?
- Volatility Risk
  - Equity
  - Swaption / Interest Rates

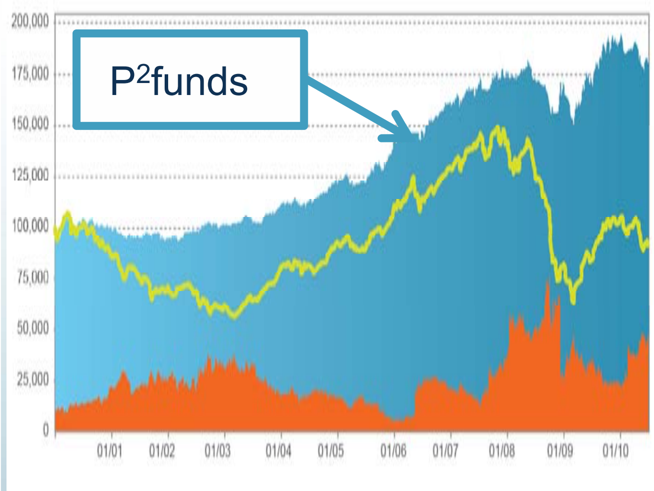


Next generation of Asset Allocation
- Protection Strategy Business

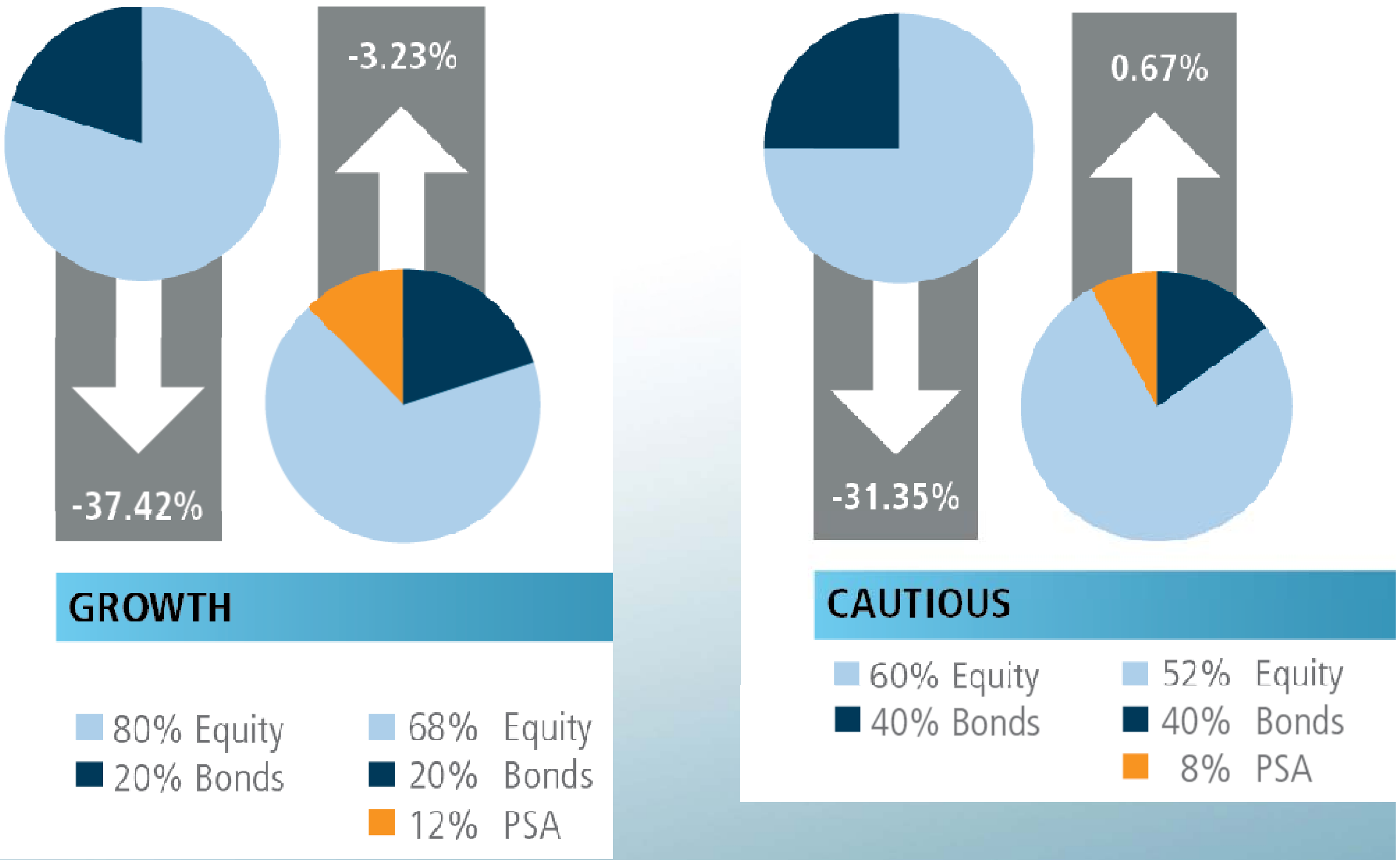
1) Investors select the funds or portfolios to invest in:

2) A Protection Strategy Account (PSA) is created to match funds or portfolios:

3) Clients own a combination of funds and PSA (called P^2funds):



Next generation of Asset Allocation
- **Protection Strategy Asset within the Fund**



Next generation of Asset Allocation
-Protection Strategy Assets in a Separate Account

Jan. 03, 2000 To Sep. 07, 2010

Funds

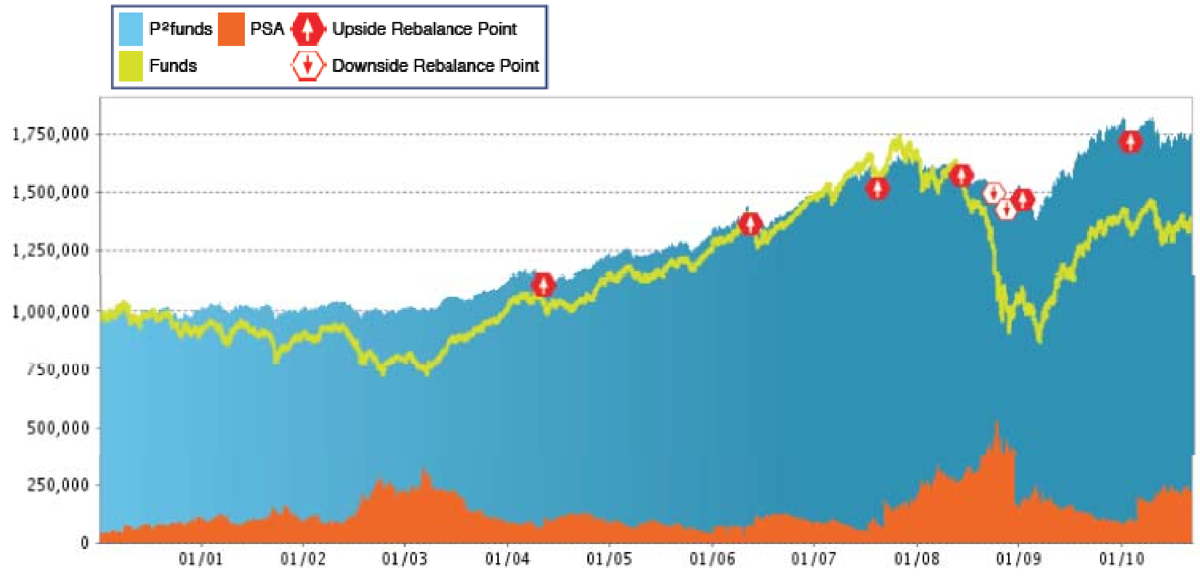
BlackRock - Asian Dragon
15%
Franklin Mutual Beacon Fund USD
15%
MFS Meridian Funds Global Equity Fund
USD 25%
BlackRock - Global Allocation
25%

PSA 20%

A tactical move with tranquility

	P²funds	Funds	Performance P²funds	Performance Funds	Volatility P²funds	Volatility Funds
2000	$1,003,281.09	$921,644.65	0.33%	-7.64%	8.42%	11.31%
2001	$1,009,269.85	$900,670.33	0.60%	-2.28%	6.10%	10.30%
2002	$1,012,598.66	$790,070.00	0.33%	-12.28%	6.47%	11.17%
2003	$1,123,246.41	$1,020,232.03	10.93%	29.13%	4.52%	7.97%
2004	$1,236,016.72	$1,155,394.26	10.04%	13.25%	4.82%	7.33%
2005	$1,311,357.33	$1,252,210.58	6.10%	8.38%	3.94%	5.55%
2006	$1,483,335.95	$1,483,873.68	10.11%	18.50%	5.62%	7.52%
2007	$1,644,764.10	$1,679,049.0	10.88%	13.15%	6.22%	9.80%
2008	$1,513,213.63	$1,065,320.85	-8.00%	-36.55%	6.94%	22.91%
2009	$1,788,133.93	$1,396,746.49	18.17%	31.11%	9.02%	15.74%
2010	$1,752,647.72	$1,386,355.82	-1.98%	-0.74%	7.51%	12.75%
			Cumulative		Average	
			75.26%	38.64%	6.50%	12.04%

The above information reflects past performance and volatility of the selected P²Strategies, assuming illustration charges, as well as actual historical data of the underlying funds for the illustration date range, or since the inception of the funds, if later. The information, supplied by Milliman, is not indicative of future results.



Mass Retail

- Three simple choices offered to investors:

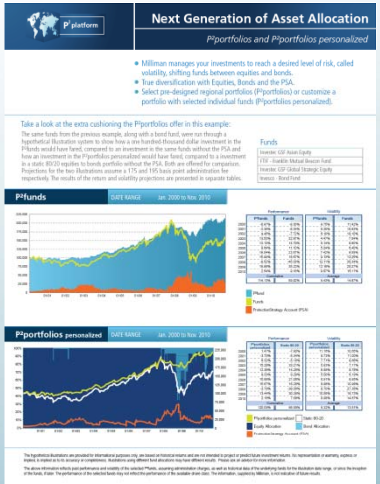
Pre-built regional-centric portfolios - aggressive, cautious and moderate with a built-in PSA.

Affluent

- Core and explore approach.
- Investors can invest 60%, 70% or 80% in a professionally managed portfolio and use the rest to make tactical moves in the markets they see as cutting edge, like India or China.

High Net Worth

- Investors can build their own portfolio from over 180 funds to chose from, in multiple currencies.



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Summary

- Existing hedging programs are being expanded & refined
- Creating sustainable products is essential to the VA business model
- Initial measures were effective in de-risking guarantees, but more needs to be done
- New designs effectively embed risk management within product
  - Market is in transition as the industry determines which product variations gain acceptance

The Ability to Manufacture is a Key Core Competency and Source of Competitive Advantage

APPENDIX

Next generation of Asset Allocation - **Protection Strategy Asset**

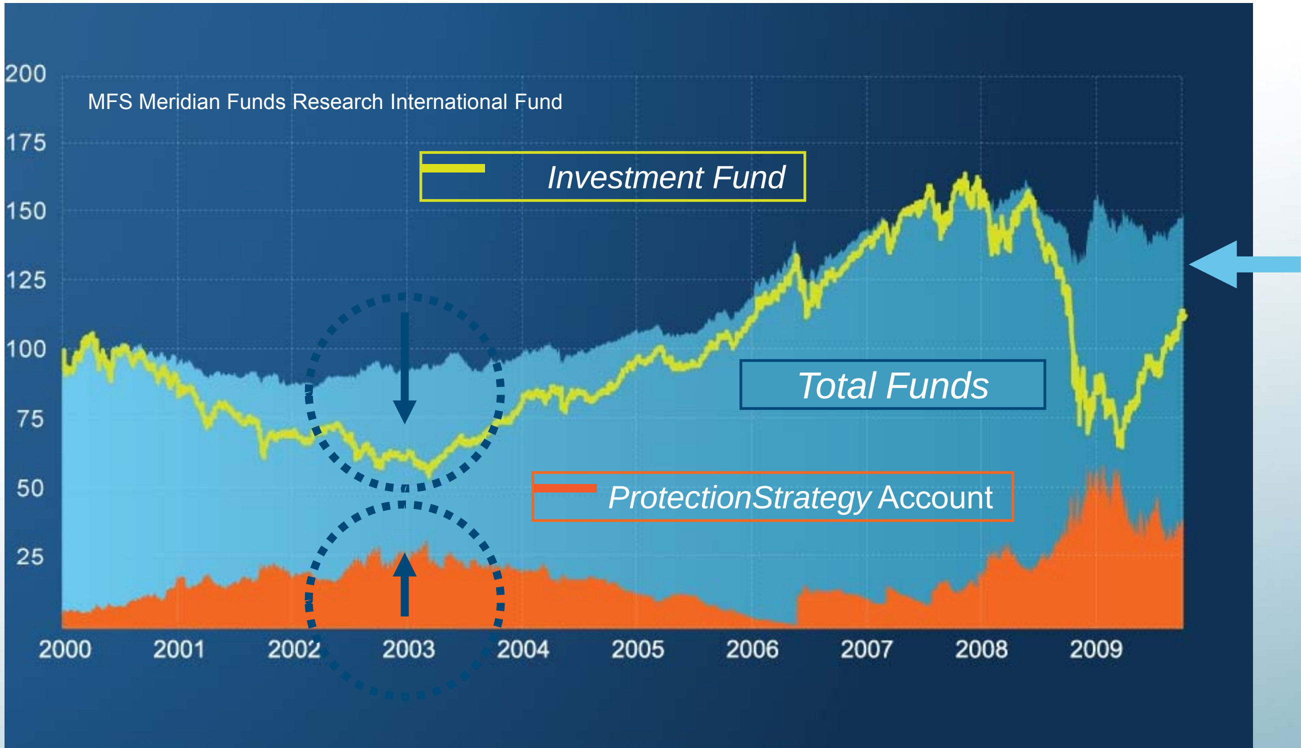
PSA

1. Made up of cash and short exchange traded futures
2. Personalized for each investor
3. Daily priced and cash settled every day
4. Cash earns fixed deposit rate
5. At least 95% correlation of Funds and short Futures
6. Tested through severe market crashes (exchanges liquid and open short futures pay out following black-out periods)
7. No counterparty risk of guarantees
8. No cash locking or constant trading of underlying investment (CPPI)
9. Milliman - 12 year tested systems infrastructure for managing this asset ($500B and 6 million accounts)

Protection Strategy Account Business

The futures in the *Protection*Strategy Account change in value inversely with equity market movements…

…cushioning investors' assets from adverse market conditions.



The total funds equal the investment fund (tracking yellow), plus the value of the futures in the PSA (orange)

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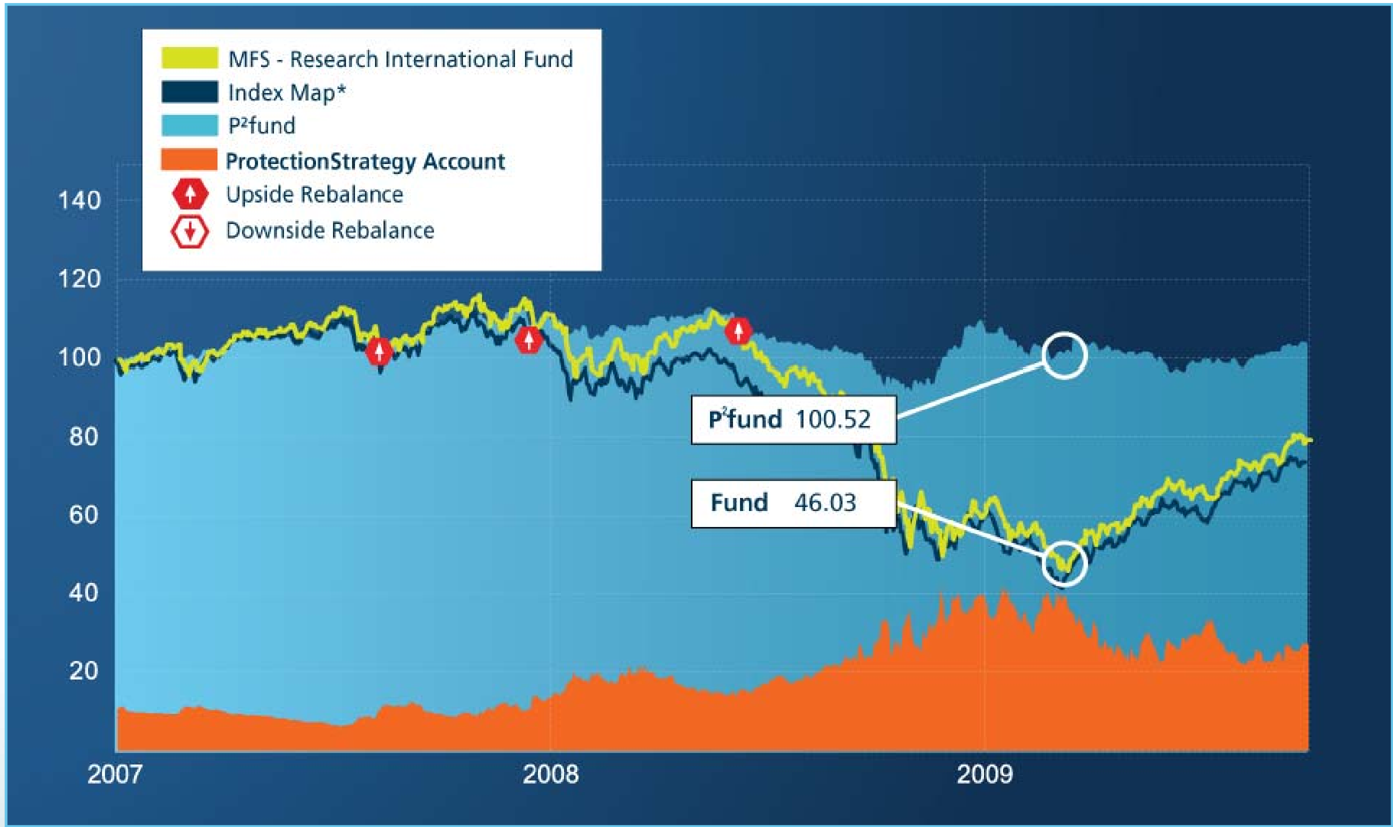
From 1/1/2007 to 9/30/2009



The Ratchets lock into the growth at 95% of the all time high since the last investment or reset.

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From 1/1/2000 to 9/30/2009

HSBC GIF- Indian Equity Fund

Profound Features

More Attractive Protection

95% Ratchets

Emerging Market Indices

Less Capital At Risk

Lower Charges

Daily Liquidity

Daily Transparency

Minimal Credit Risk

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Comparative Capital Measures

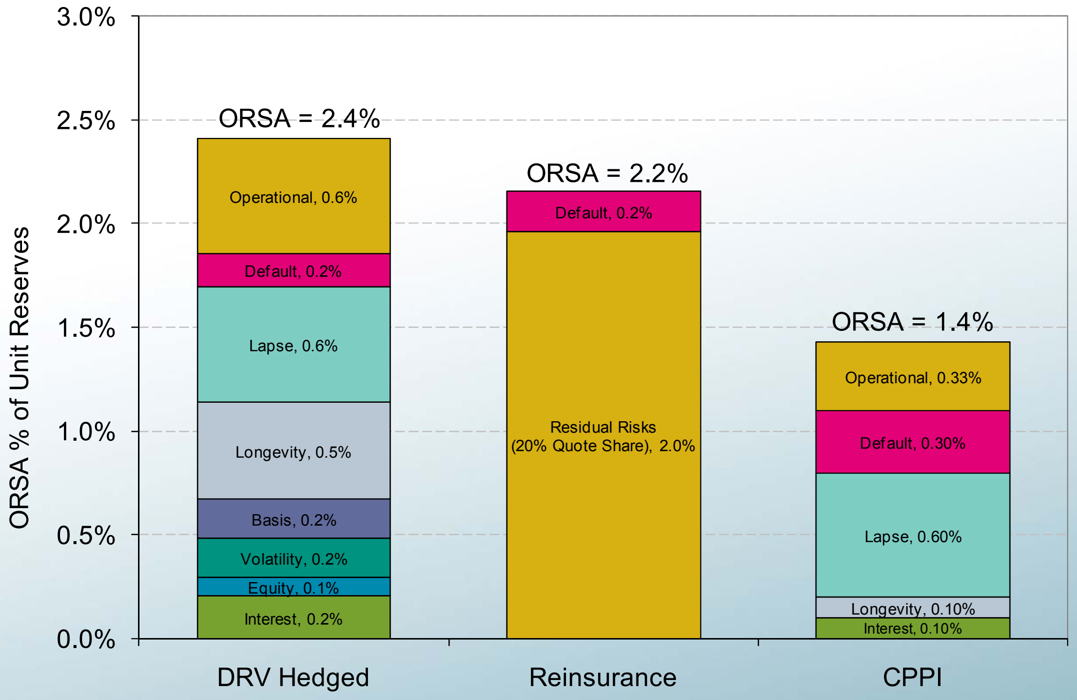
VA Guarantee Hedged vs Reinsurance vs CPPI

Capital Ratios

- VA (Delta/rho/vega): 2.4%
- VA Reinsurance: 2.2% or less
  - 80% Quote Share
  - Default risk similar between banks / reinsurers. Depends on collateralisation.
  - Concentration risk
- CPPI: circa 1.5%
  - Capital estimates are indicative and based on relative risk compared to VA Guarantees
  - Interest rate risk associated with rates falling lower than fees
  - Product designed to have negligible equity and volatility captial
- Relative Value:

a) Cost of Capital x Capital Saving

b) Reinsurance Premium



India Life Market: Background & Constraints

The Indian Life Insurance market is very dynamic given the increase in customer's awareness and increasing regulatory activism

State of Capital Markets

- Robust equity market. (2Q 2010, turnover at NSE was $1,279 Billion, up 26% from 1Q 2010. The number of contracts increased by 28% to 216 million. NSE ranks #3 in Single Stock Futures, #2 in Index Options and #3 in Index Futures in global derivatives markets in terms of volume as of June 2010.
- Exchange traded derivatives overseen by SEBI, and OTC derivatives regulated by RBI
- Derivatives that are permitted at the present time include Interest Rate Swaps, Forward Rate Agreement, Foreign Currency Forwards, Currency Swaps and Currency Options.
- The outstanding volume of interest rate swaps was about $700 billion, controlled by 20 major participants, and that of currency forwards was about $500 billion as of 2009, and expanding at about 35% annually according to CCIL estimates.
- The Clearing Corporation of India Limited(CCIL) was a pioneer in establishing a centralized counterparty that provides a clearing and settlement arrangement on a nonguaranteed basis for the OTC interest rate derivatives since November 2008.

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