

Biennial Convention 2007

Adventures in Risk

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Institute of Actuaries of Australia



Wealth Management or Risk Management – the Future of Retirement Security

Wade Matterson



Background

- Wealth Managers are faced with a significant shift in consumer needs as Baby Boomers enter the Retirement “Risk Zone”
- There are opportunities for product innovation
 - Asset restructuring & protection
 - Transition management
 - Income generation
- What are the products, tools and processes necessary?

Billions lost as markets tumble
August 2, 2007

Retirees' living standards slipping

WallStreet Journal
As Boomers Retire, Insurers Aim to Cash In
Friday June 15, 2:34 am ET
By Ian McDonald

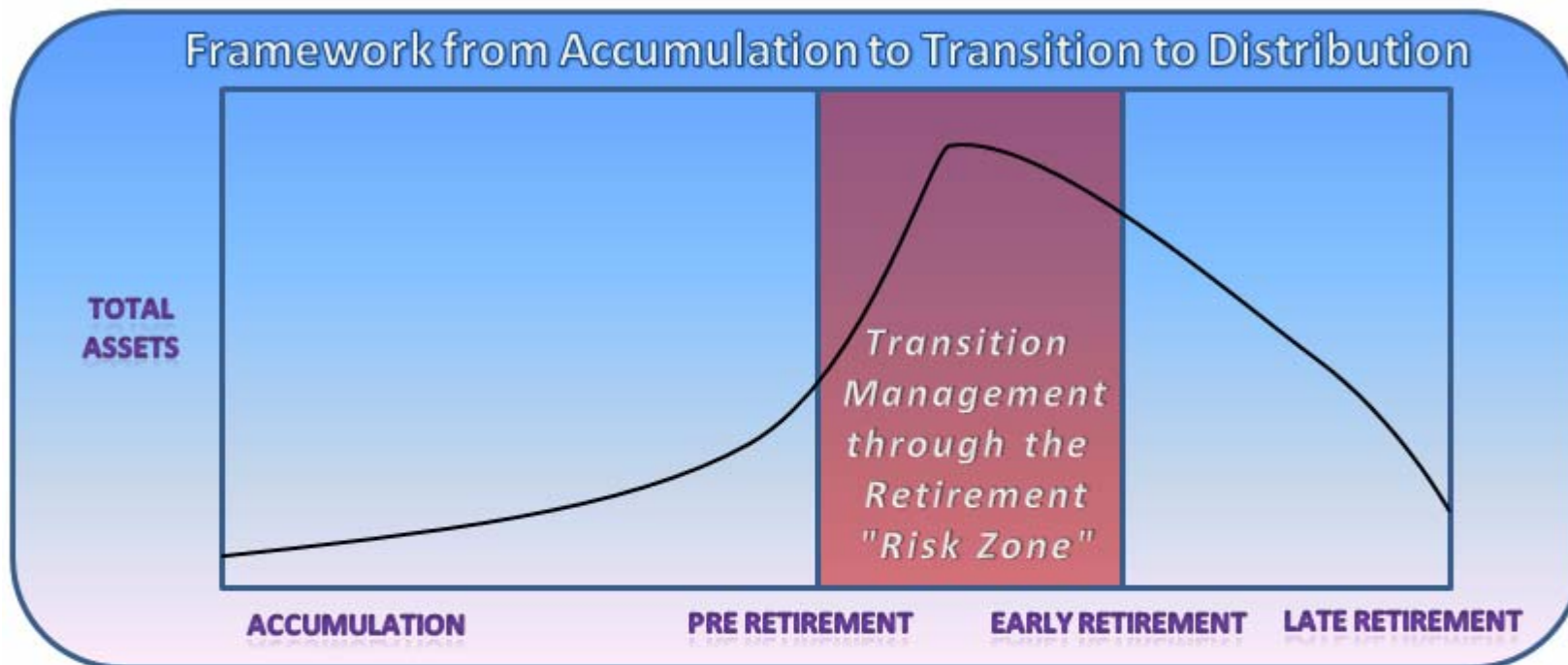
The Security of a Guarantee
by Dan Campbell and Ken Mungan

Shake-up of super sparks new products
Review | 12:03PM | The Australian Financial
The major industry super funds are launching their own, branded retirement income products to take advantage of the renewed interest in pensions.

2007: Structured products set to sizzle
Vince Scully



The Retirement Risk Zone



Accumulation

Dollar Cost-Averaging
Asset Allocation
Seeking Alpha

Transition

Downside Protection
Delta Hedging

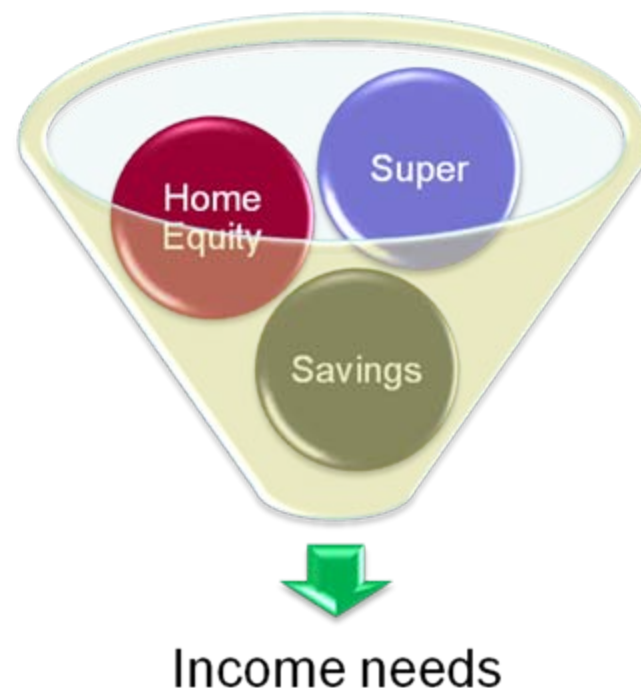
Distribution

Income Guarantees
Mortality Credit



Issues in the Risk Zone

- Weight of accumulation occurs in the years immediately prior to retirement
 - Half of the typical dollar accumulation in the last 8-10 years
- Changing consumer psychology
 - Shift in focus from accumulation of a “mountain of cash” to income generation
- The result?
 - Low equity allocation to protect existing assets
 - High equity allocation in an attempt to play “catch-up” prior to retirement
- Both options are sub-optimal
 - Few recovery options in the event of significant setbacks
 - Asset growth is necessary to fund increasing cost and length of retirement





Are Current Products Adequate?

- Many near-retirees face a serious dilemma
 - Their current superannuation assets are not enough for retirement
 - Investment mix is sub-optimal
 - When they do retire, they face longevity risk
- Shortcomings of current product designs
 - Not designed to be retirement security plans
 - Policyholders retain responsibility for market and longevity risk
 - Exposure to severe, sustained declines in equity markets and interest rates

- Guaranteed Income
- Risk with provider
- Capital intensive
- Fixed interest returns

Lifetime Annuities



- Policyholder bears investment & mortality risk
- Maintain control and liquidity of assets
- Low capital requirements

Allocated Pensions



- Risk sharing – mortality, market, etc.
- Participation in market upside
- Retain control of assets
- Capital efficient

Next Generation Products





Some Likely Candidates

- Opportunities for downside protection
 - Growth in CPPI products
 - Are there better alternatives?
- Guarantees combining capital protection, upside participation and income generation
 - Minimum withdrawal benefits
- Investment guarantees will assist in facilitating a shift into more aggressive asset allocations
- Adoption of guarantees within existing product offerings
 - Allocated pensions

GMIB (Income)

- Annuity income guarantee
- Guaranteed annuitisation factors or minimum income levels

GMAB (Accumulation)

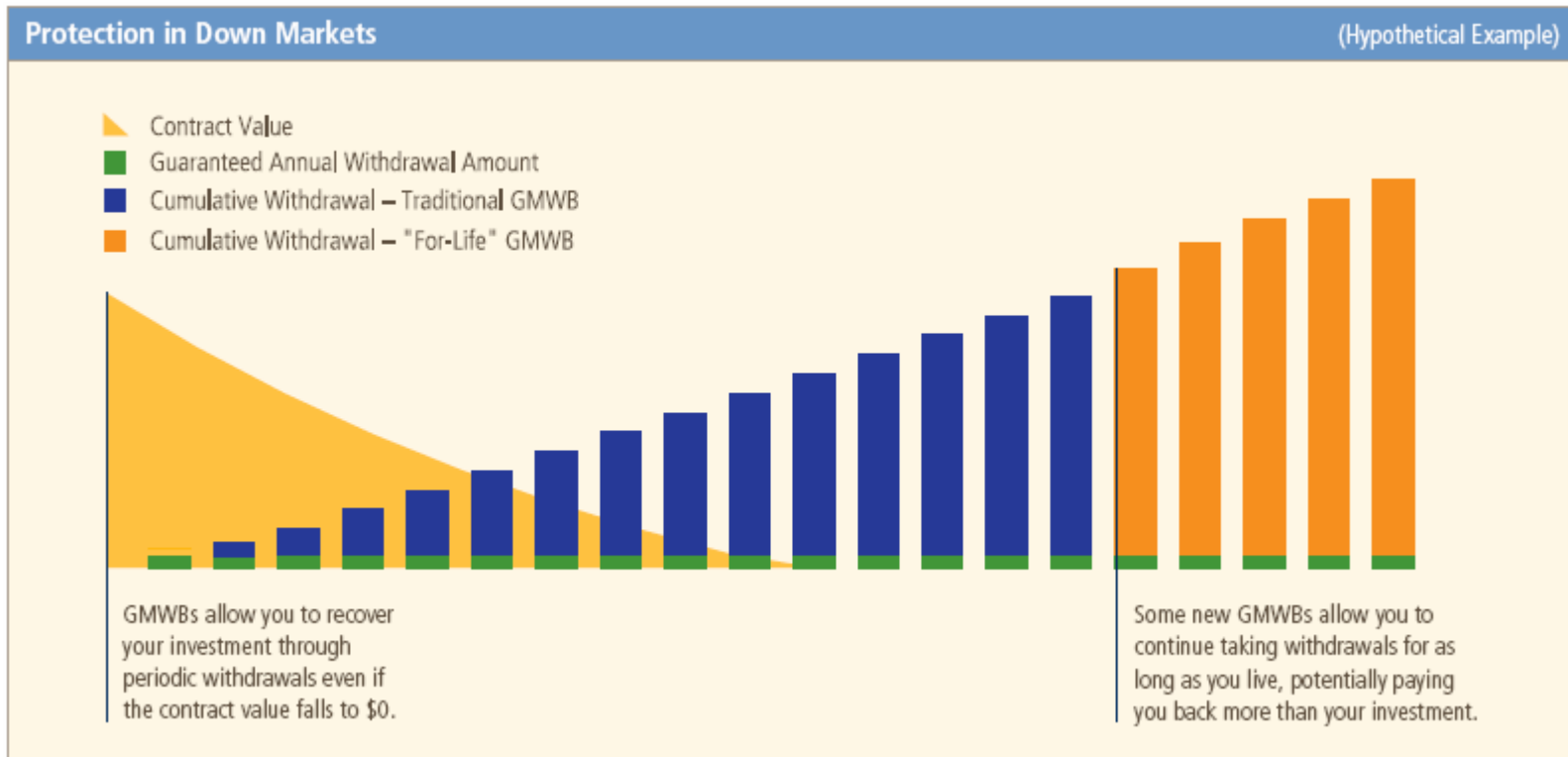
- Wealth protection, accumulation target
- Guaranteed investment return at a future point in time
- Various time periods and renewal options available to lock in performance

GMWB (Withdrawal)

- Drawdown guarantee with continuing equity exposure
- Guaranteed regular withdrawal amounts
- Fixed term (e.g. 7% for 15 years) or Lifetime (e.g. 5% for life) options
- Rates linked to inflation / interest rates?

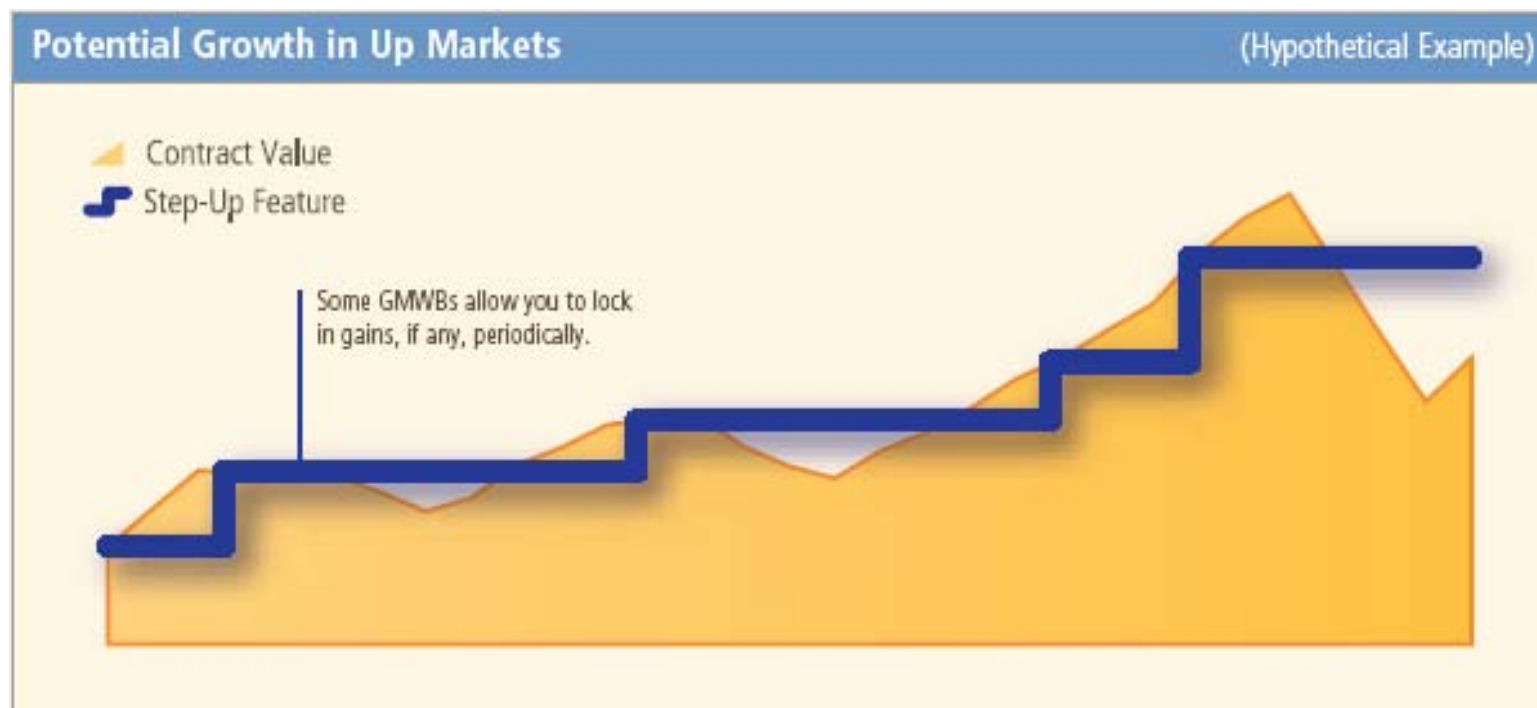


GMWB Illustration – Bear Market





GMWB Illustration – Bull Market





The Value Proposition

- For the Customer
 - Benefit from the economies of scale of guarantee manufacturers
 - Maintain liquidity and control of assets - no need to annuitise
 - Obtain a guarantee on largest source of retirement savings
 - Ratchet features that lock in market earnings
 - Flexibility to choose their own investments
 - Meet income restructuring needs
- For the Manufacturer
 - Improve their product offering and provide a differentiating feature
 - Likely shift of assets from bonds to equities – increasing overall asset management fees
 - Improve client retention, particularly during bear markets
 - Opportunities to expand distribution channels to incorporate superannuation funds



How does the Guarantee Work?

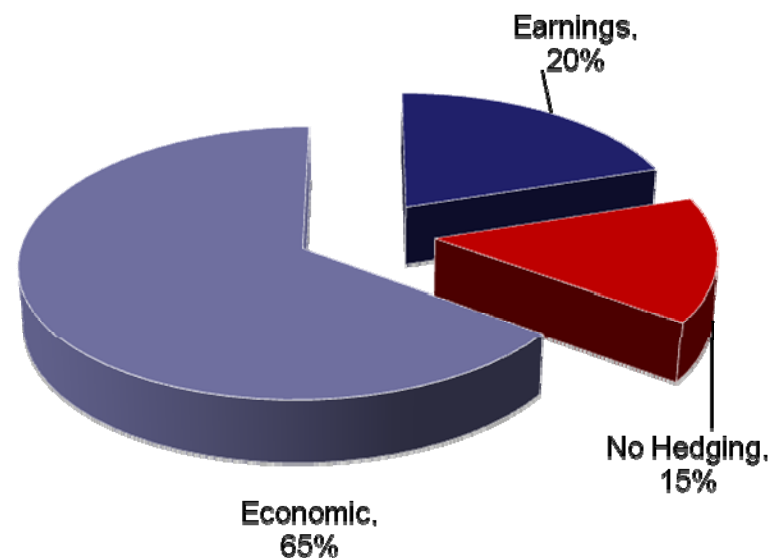
- Investment Guarantees are embedded options and require sophisticated financial risk management
- Risk analyses match up the policyholder's investment with liquid market indices
- The hedge position is purchased with the fees the participant pays for the guarantee
- If the value of the participants account falls due to a market decline, the value of the hedge position increases significantly
- The guarantee provider or third party manages a hedge portfolio in aggregate, benefitting from economies of scale



Risk Management Objectives

- **Appropriate Charges**
 - Product transparency & attractiveness
 - Finance the hedging program
 - Risk management is an integral part of product design
- **Manage Risk through Hedging**
 - Reduce P&L volatility
 - Reduce the level of required capital (and the volatility of the capital requirement)
 - Economically hedge the liability
- **Consider full or partial hedge, based on risk preferences**

Primary Objective of the Hedging Program



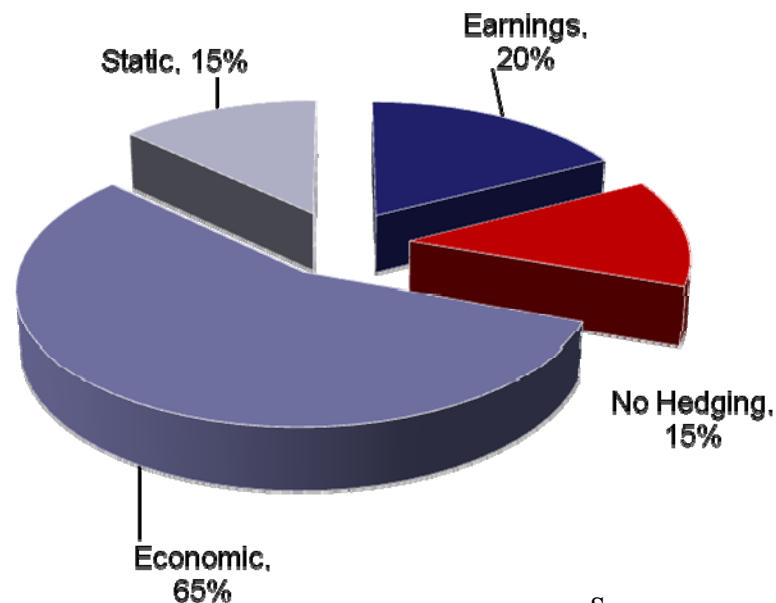
Source:
Moody's



Risk Management Strategies

- Stay Naked
 - Not recommended / sustainable
- Static
 - Involve a bank, but at what cost?
- Semi-Static
 - Buy and hold using a portfolio of options
- Dynamic
 - Need to manufacture the risk management internally

GMWB Hedge Strategy by Type



Source:
Moody's



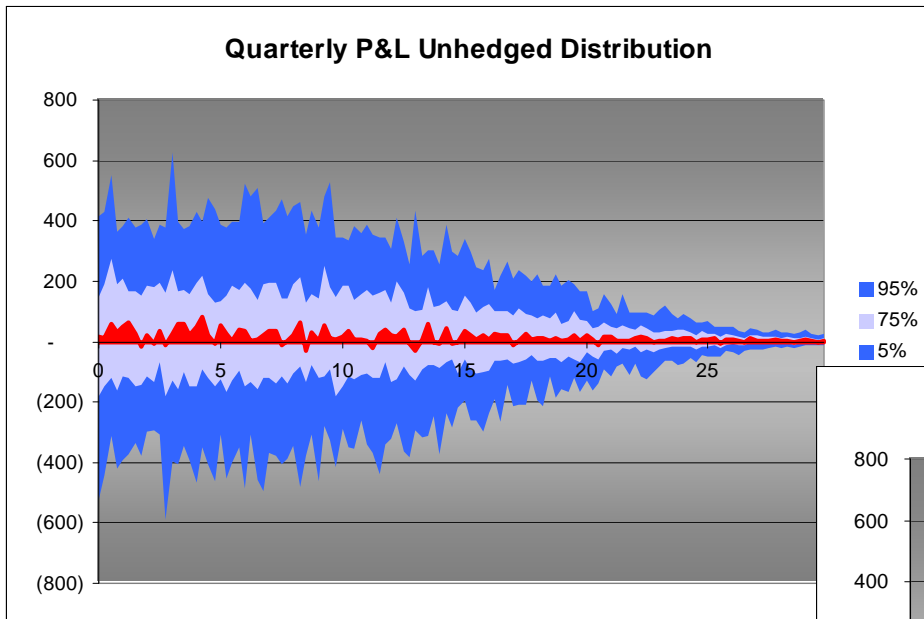
Protection against adverse scenarios

Income Statement Projection					
	Projection Year				
	1	2	3	4	5
Total Income	12,274	46,955	98,129	124,681	7,797
Charge Income	668	1,728	3,461	2,902	2,609
Investment Income	11,606	45,227	94,668	121,780	5,188
- Fixed Income Portfolio	244	1,470	4,729	10,155	13,587
- Futures	1,865	6,156	8,421	6,261	334
- Options & Swaps	9,497	37,601	81,517	105,364	-8,732
Total Expenses	9,827	39,441	91,189	125,981	11,271
Increase in Fair Value Liability	9,758	39,292	91,067	125,977	11,271
Interest on Debt	69	150	122	4	0
Pre-Tax Income (Hedged)	2,447	7,514	6,940	-1,300	-3,474
Pre-Tax Income (Unhedged)	-9,158	-37,713	-87,728	-123,080	-8,662
Equity Market Return	-25%	-25%	-25%	-25%	15%
10 Year Interest Rate	5.0%	5.0%	4.0%	4.0%	3.0%

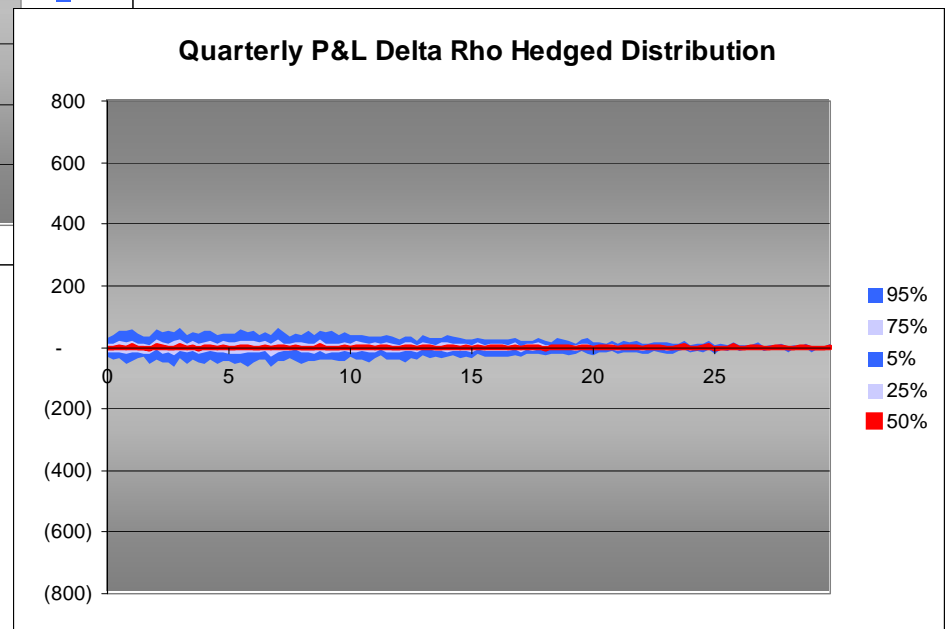
Source: Milliman Analysis



Reduction in P&L Volatility

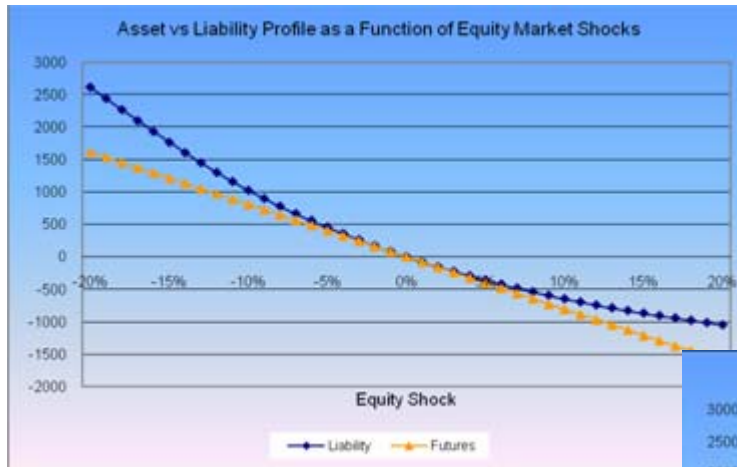


Source: Milliman Analysis





Management of Capital Requirements



Source: Milliman Analysis





Issues

- Product Development
 - Identify needs
 - Devil in the detail
 - Holistic risk management
- Risk management
 - What risks to hedge
 - Pricing and monitoring of un-hedgeable risks
 - Systems, expertise, and links between front & back office
- Systems & Education
 - Sales force training
 - Speed to market
 - Require solutions across a range of practice areas
- Local regulation & compliance
 - Tax
 - PVFs
 - Capital requirements
- Implementation issues
 - Local liquidity & structural market issues
 - Capital hedges
 - Third party risk & service providers
- Education of the distribution network and clear illustration of guarantee benefits is essential



Service providers are assisting market development

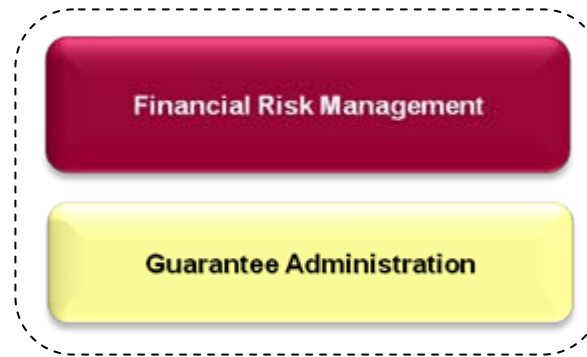
Capital Providers

A pool of capital providers responsible for assuming risks created by the guarantees, whether demographic or market based. May be direct insurers, reinsurers etc.



Financial Risk Management

Underwriting and risk management of the guarantees through the hedging platform. Provides economies of scale to all parties.

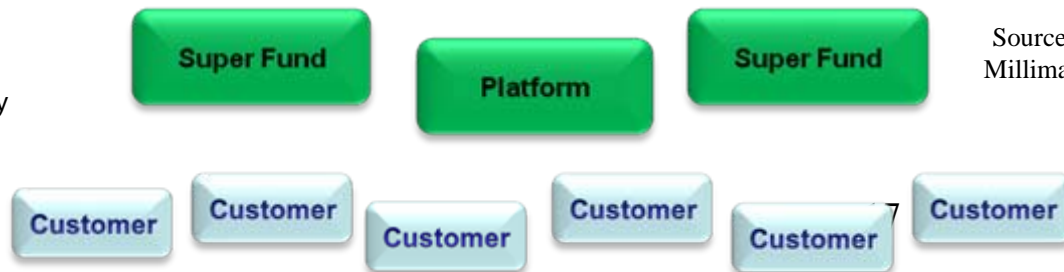


Administration

Single point of contact for funds providing innovative retirement products to members. Responsible for regulatory compliance, data collection, guarantee statements, administration, etc.

Platform / Superannuation Funds

Customer relationship manager, provides access to investment and guarantee platforms. May be banks, industry funds, insurance companies or government funds



Source: Milliman



Conclusion

- Superannuation growth will continue to dominate new product focus
- There will be “money in motion” as retirees look to restructure their assets
 - Increased focus on longevity, wealth protection and risk sharing
- Competition will continue to put pressure on fees
- 1st Generation products are entering the market
 - Insurance products
 - Do not address investment risks
 - Large multinational players are leveraging scale to introduce guarantees using the latest techniques in financial risk management
- Balance sheet and / or risk management service providers facilitating product development for others
- Investment Guarantees
 - Provide clear benefits to customers considering their retirement
 - Create an opportunity for differentiation and increased distribution for product manufacturers



Discussion

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