



**The Actuarial Profession**

making financial sense of the future

Life conference and exhibition 2010

Michael Payne, Prudential; Joshua Corrigan, Milliman



# **Risk Management, Hedging and Product Design in a With-profits fund Session C10**

7-9 November 2010

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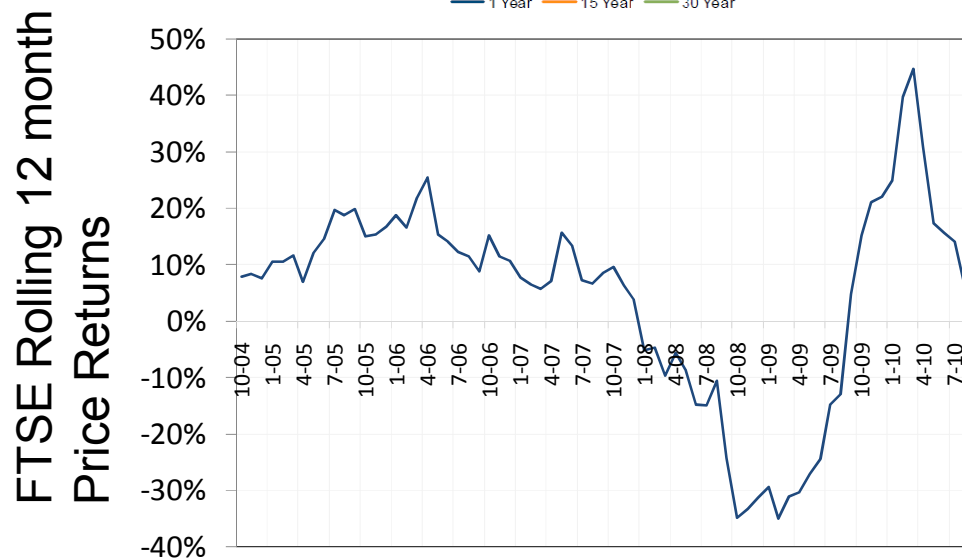
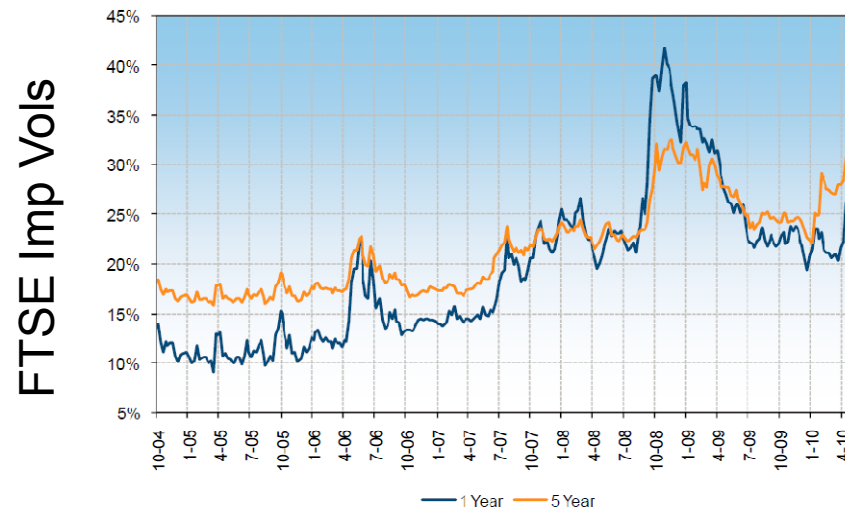
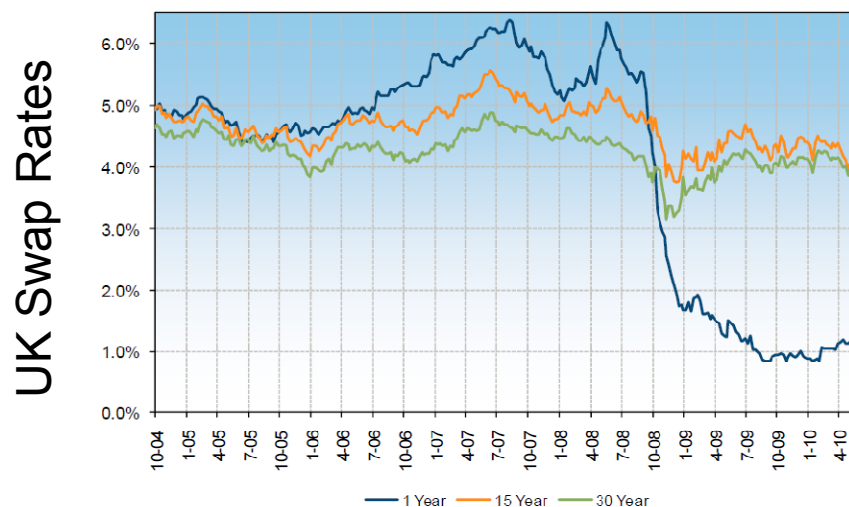
# Agenda

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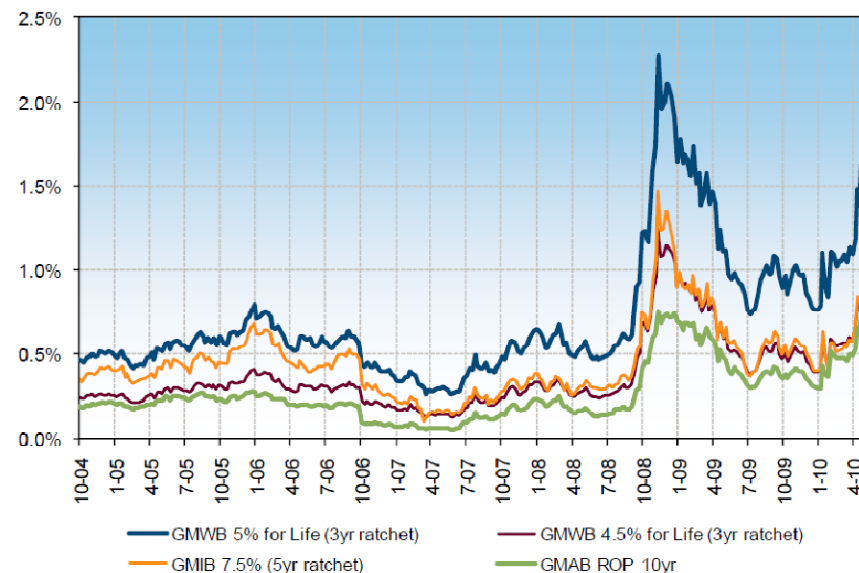
- Background
- Product and Risk Management Levers
- Practical Considerations
- The Future

# UK Capital Market Conditions

Source: Bloomberg and Milliman

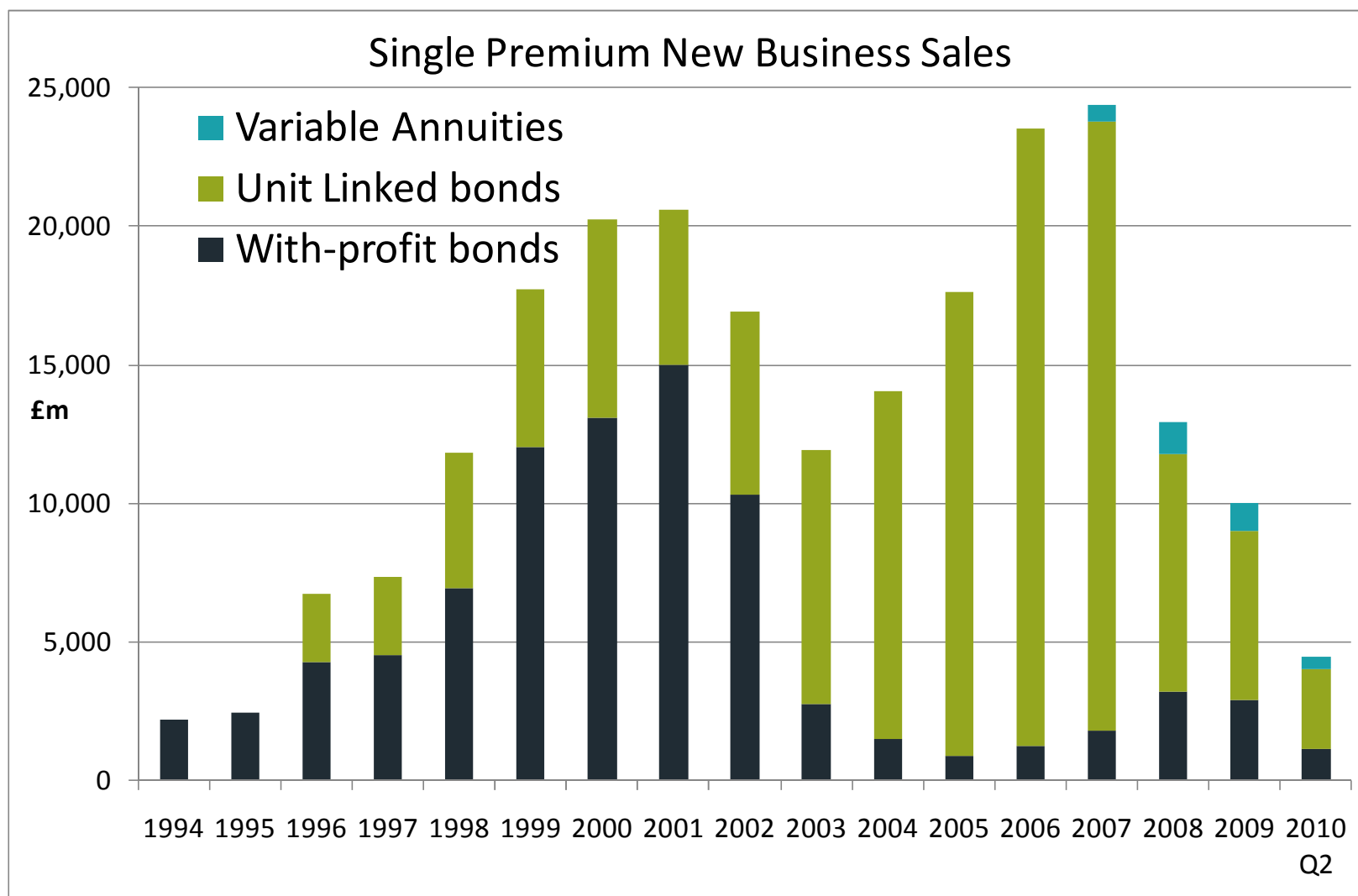


## Milliman Hedge Cost Index



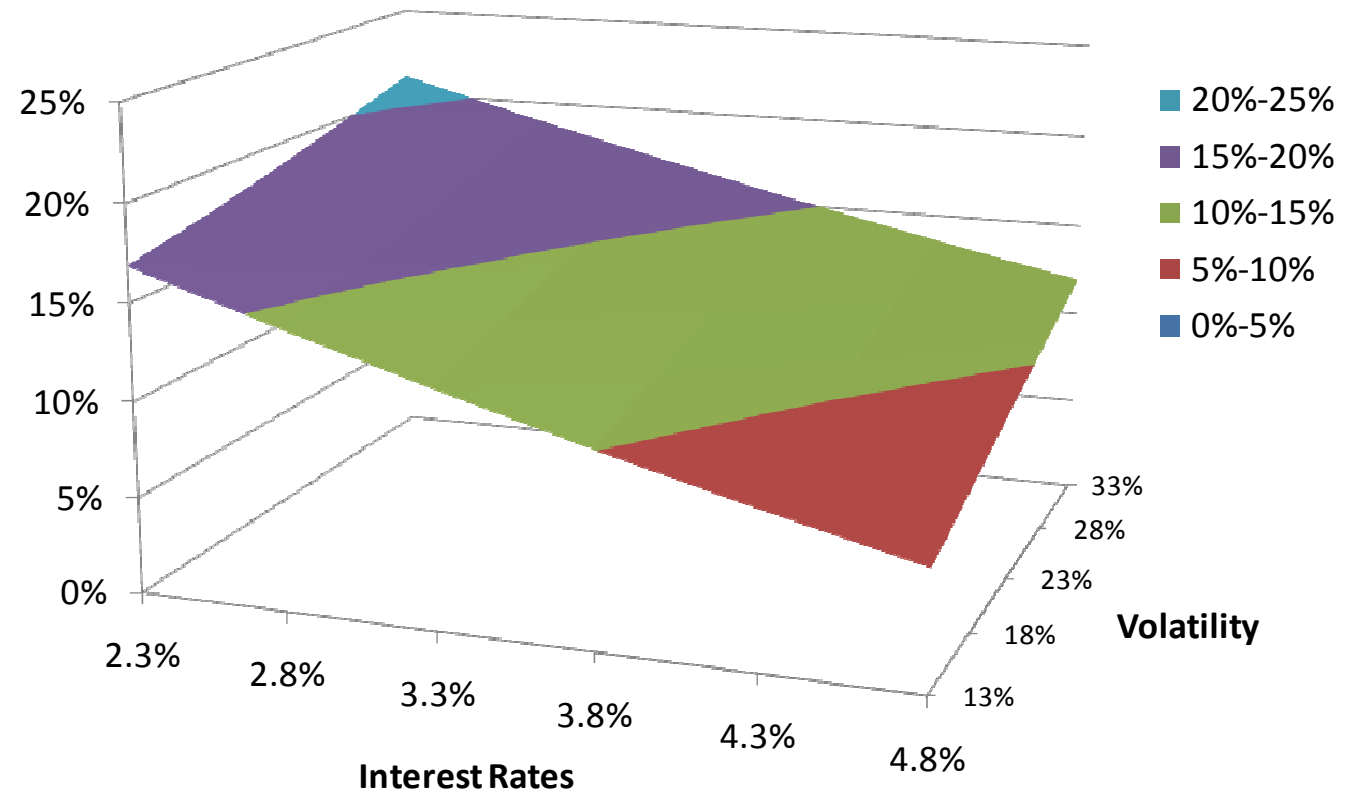
# Impact on New Business Sales

Source: ABI Statistics and Milliman



# Capital Requirements

- Guarantees are capital intensive on a market consistent basis
- Capital has increased as rates have fallen and volatilities increased



Indicative total capital for a 5 year return of premium guarantee

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# Is with-profits an attractive, viable, and sustainable proposition for consumers and providers?

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- Why do we care?
- Customer research is clear... people need and want guarantees
  - Universal response across multiple surveys undertaken by product providers and consulting companies\*
- Product innovation has occurred in response to this demand

\*Refer publications by Prudential, MetLife, AXA, ING, and Milliman

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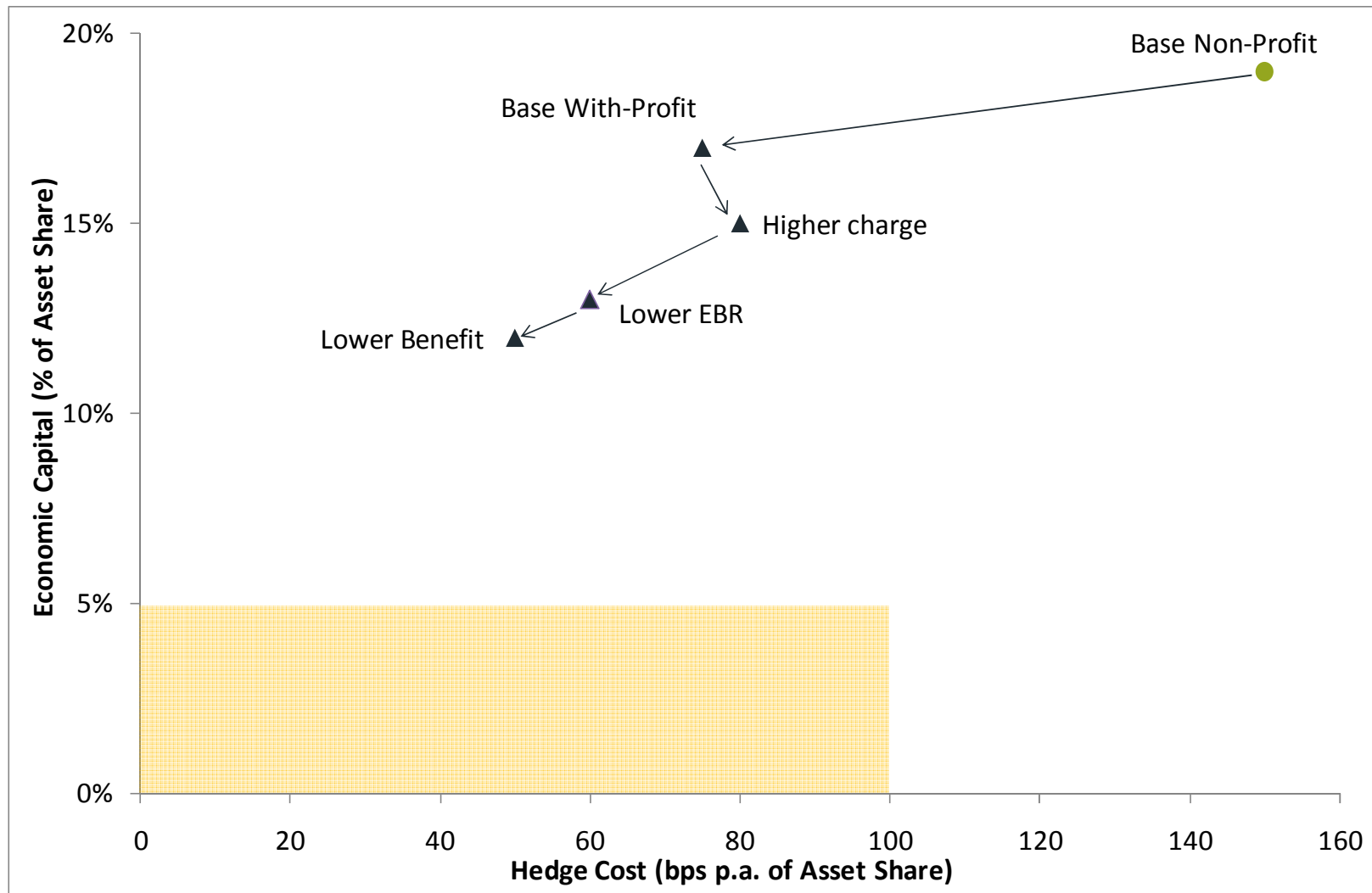
# Where are our choices?

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- Reduce or stop selling
  - Increase guarantee charges
  - Reduce guarantee benefit levels
  - Reduce Equity Backing Ratios
- } Product Management
- 
- Introduce hedging
  - Dynamic volatility management
- } Risk Management
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- Combination of all the above

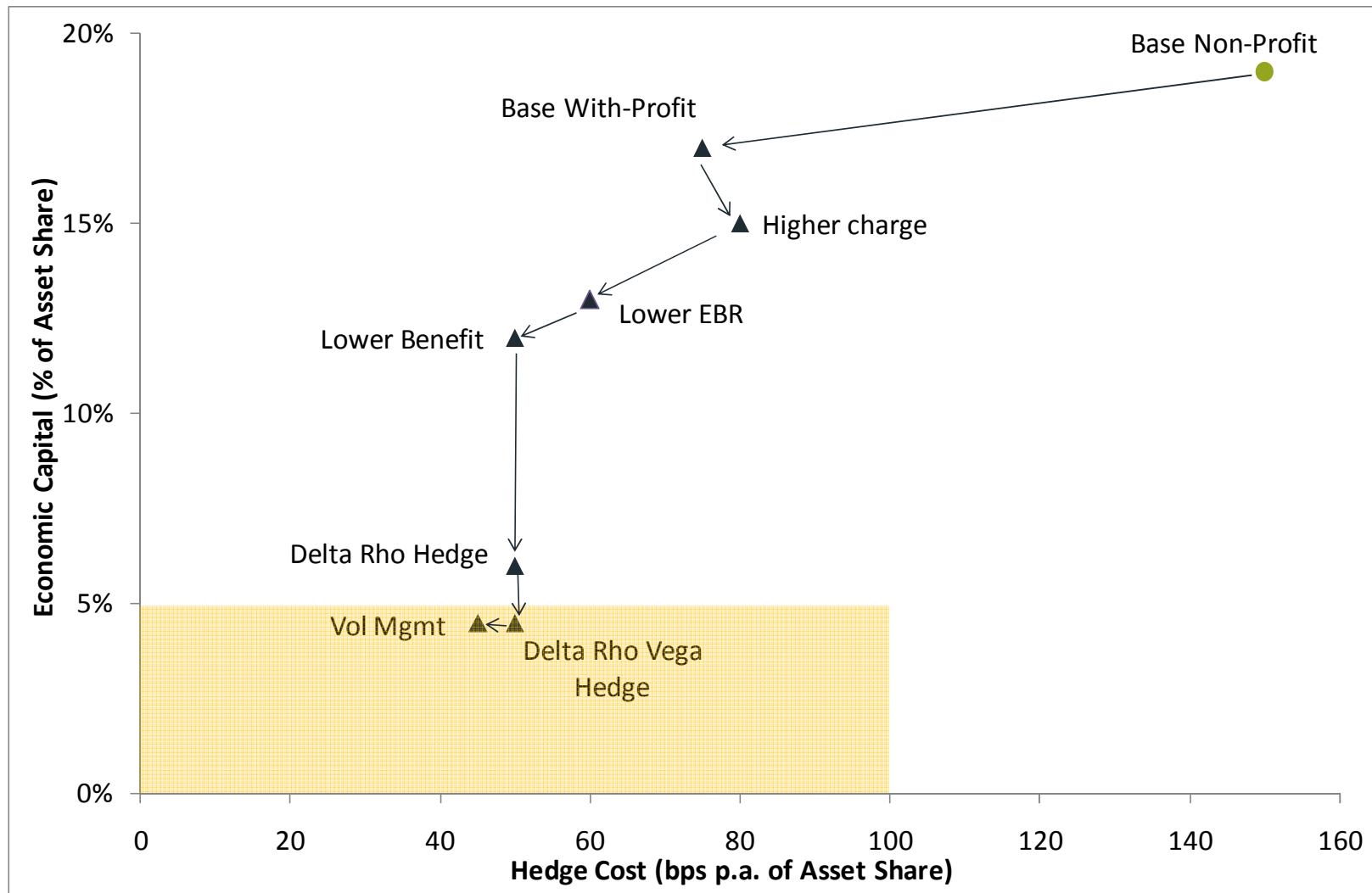
# Impact of Product Management

Indicative results only – actual results are product specific

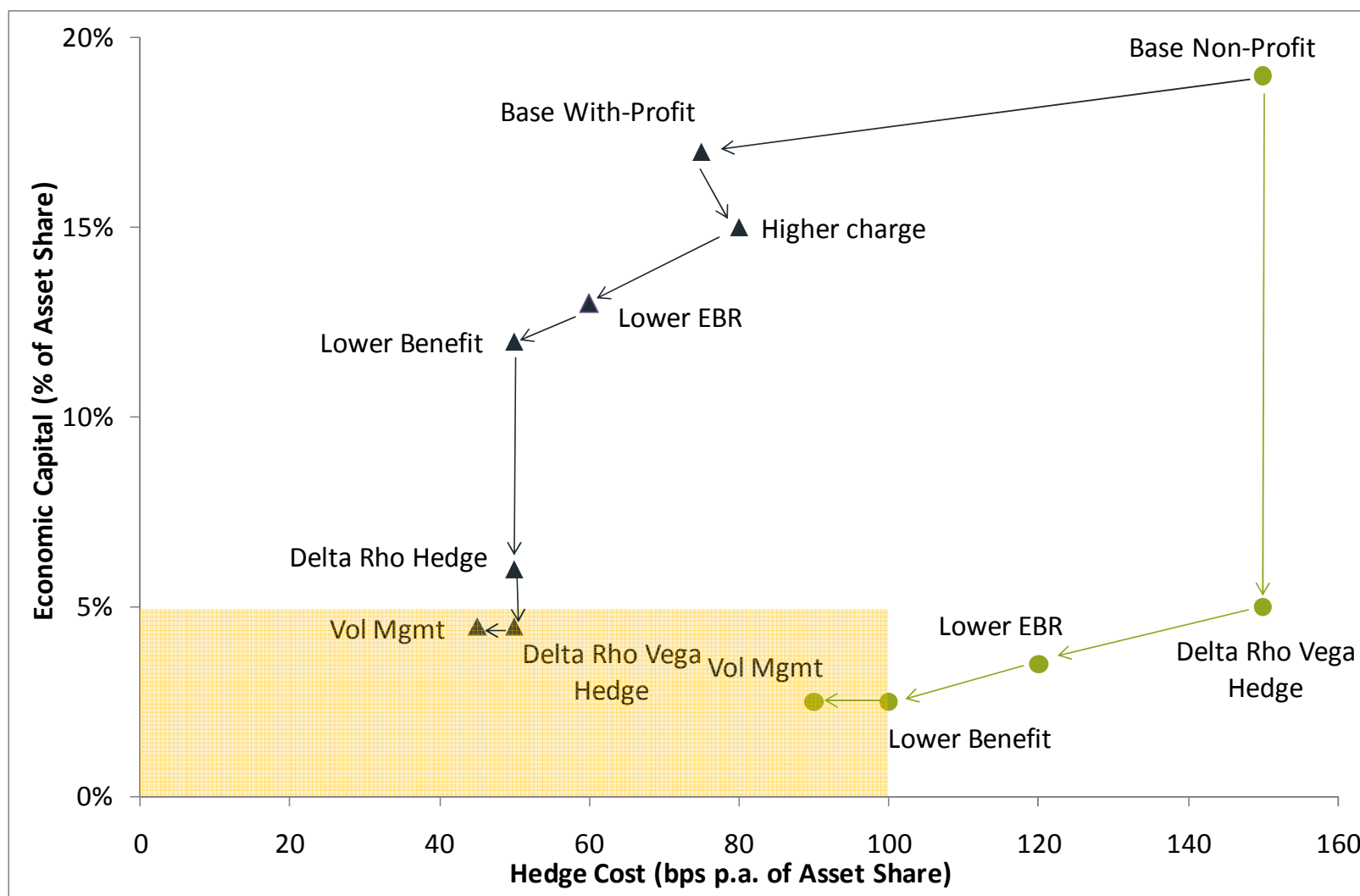




# Impact of Risk Management



# Equivalent Non-Profit Impact



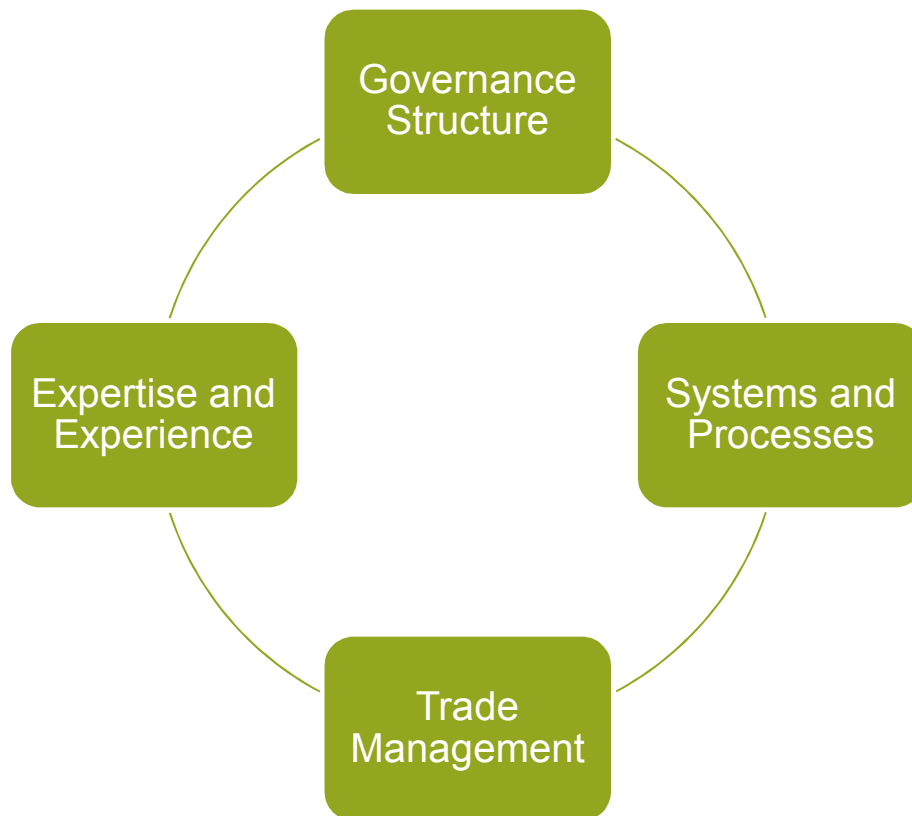
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# Core Value Proposition of With-Profits is a Relative One

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- The ability to smooth reduces the economic cost of hedging enabling a structural competitive advantage vs non-profit guarantee alternatives
- However there is no free lunch:
  - Comes at the cost of lower benefit transparency to the customer
  - Implied cost of capital provided by the Estate is lower than the equivalent cost of capital provided by shareholders for non-profit guarantee alternatives

# General Hedging Considerations



- Capital market constraints
  - Instrument liquidity & costs
  - Exchange vs OTC
  - Cash flow impact and uncertainty
- New business
  - Changing market conditions
  - Repricing thresholds
- Systems, processes and resources (expertise)
- Governance and controls

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# With-Profits Specific Hedging Considerations

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- TCF
- EBR considerations
- What to hedge:
  - Cost of Guarantees
  - Cost of Smoothing
- Management Actions
- Notional trading
- Guarantee margin requirements
  - Set to cover cost of capital
  - Leave to Estate to cover the actual cost of hedging

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# Product Design Considerations

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- Risk of Selection
  - Surrenders
  - Vesting
- Product Sustainability
- Product Features
  - Complexity
  - Distortion in the Greeks
  - Asymmetry in the liability option value
- Projected Capital and P&L distributions
- Other Risks
- Solvency II

# What will the future hold?

Market continues to be volatile

Customers continue to demand guarantees

Customers only pay for guarantees that are good value for money

Need to maximise benefits within customer budgets

Capital continues to be constrained

Hedging to become a core pillar of WP risk management

Increased competition from non-profit alternatives

Focus on core value proposition relative to non-profit alternatives

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# Questions or comments?

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- What do you think:
  - Is there a future for WP?
  - How do product features need to change?
  - How does risk management need to change?
  - How will SII impact WP?



**Michael Payne**  
Prudential

**Joshua Corrigan**  
Milliman