Abu Addae – Old Mutual
Lessons Learnt from the US VA Market
Risk Management Lessons from the US VA Industry - Overview

• Background on US VA industry
• The Crisis and the Losses
• A Case Study – Old Mutual Bermuda
• Lessons to be learnt
US Variable Annuity Market

• Variable Annuities – Unit-linked products with guarantees
  – Choice of large number of mutual funds (unit trusts)
  – Guarantees sold as separate riders to the policy
  – Wide range of guarantees on death, maturity, etc.
  – Similar in some respects to some older generation guaranteed investment products sold in Life industry in South Africa

• Very large market in US, Canada, Australia and other parts of Japan

• Risk Management relies heavily on dynamic hedging programs – rebalancing assets to keep in line with liability exposures
Variable Annuity Market Overview

Variable annuities sales
$ Billions

<table>
<thead>
<tr>
<th>Year</th>
<th>1998</th>
<th>1999</th>
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<th>2005</th>
<th>2006</th>
<th>2007</th>
<th>2008</th>
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<tbody>
<tr>
<td>Sales ($ Billion)</td>
<td>100</td>
<td>122</td>
<td>137</td>
<td>111</td>
<td>117</td>
<td>129</td>
<td>133</td>
<td>137</td>
<td>160</td>
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<td>152</td>
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+9%

Variable annuities assets
$ Billions

<table>
<thead>
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<th>Year</th>
<th>1998</th>
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<th>2006</th>
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<th>2008</th>
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</thead>
<tbody>
<tr>
<td>Assets ($ Billion)</td>
<td>769</td>
<td>949</td>
<td>972</td>
<td>904</td>
<td>815</td>
<td>1,004</td>
<td>1,123</td>
<td>1,217</td>
<td>1,379</td>
<td>1,491</td>
<td>1,127</td>
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+10%

Source: McKinsey
The failures: tallying the tab…

• Approx total VA losses in the Industry during the crisis > $4bn
  – Manulife: $1.5bn
  – The Hartford: $834m
  – ING: $700m
  – Axa: $520m
  – Old Mutual (Bermuda): $500m
  – Philadelphia Lincoln Financial: $145m

• There were a few others, but losses not well disclosed
• Total losses difficult to estimate
  – Different reporting bases: accounting vs. economic vs. statutory
  – Not all companies gave sufficient disclosure
Some reasons underlying the failures

- Products used optimistic pricing assumptions
- Large number of products built in copy-cat fashion: simply did what competitors were doing and tried to ‘one-up’ them on pricing / features
- ‘Arms race’ in product design lead to very rich, complex guarantees who’s risks weren’t properly understood
- Risk management was an afterthought, rather than part of the design process
- Poor risk management and governance widespread
- 2001-2002 recession was first wake-up call
  - Leading industry players invested in hedging programs
  - Those who came to the market later hadn’t learnt these lessons
The impact and the fall-out..

- Hartford reports massive loss, pulls out of VA’s in the UK, and abandons plans to launch VA’s in Europe; shares plunge, debt downgraded to BBB
- Old Mutual shares down to record lows, injected significant capital, closed VA book
- Market cap of top 10 insurers in US falls by 53% in 2008 during crisis
- Axa announces significant product changes in its VA range
- Most players introduce significant changes in pricing and design of their VA products..
Investor reaction: Jim Cramer on the Hartford

“I want you to sell this thing right now!! I don’t like the annuity business. I think they are all in over their heads”

Down 50% in 1 day
Case Study: OM Bermuda

• OMB sold Universal Investment Plan (UIP) with both accumulation and death benefit guarantee
  – Policyholders guaranteed 105% of premium after 5 years, and 120% of premium after 10 years
  – Also offered highest anniversary value guarantee applicable across all years, for an additional charge
• Guarantees were significantly underpriced and also offered on a large number of funds including hedge funds in Asia
• Product design made hedging very difficult.. and significant weakness in hedging program exacerbated risks from poor product design
• Substantial hedging losses incurred in the crisis
• OM US onshore also offered fixed rate guarantee products in a highly competitive market
• Took on very aggressive exposure to credit risk and passed the spread onto clients to be more competitive => incurred significant losses in wake of credit crisis (including exposure to Fannie Mae and Freddie Mac)
• Forced to set inject $500m in capital to cover losses and maintain capital adequacy; Share price falls to R4.50; Jim Sutcliffe resigns as CEO
OM Bermuda – What went wrong?

- **Product Design** too aggressive – not enough thought given to **risk management** in the design phase
- Products significantly **mispriced** in relation to the risks
- **Governance failures:**
  - Issues picked up in sign-off process were not followed through
  - Products made more and more aggressive without proper understanding and communication of the risks;
- **No feedback loop** in risk management phase
  - Not enough questions asked about unexpected success of product
  - Early warning signs ignored
  - Poor hedge effectiveness could have been picked up earlier
Lesson 1: Don’t lie to yourself

“Marketing the product is the part when you lie to your customers; Pricing the product is the part when you lie to yourself”

• Product design is the most important aspect of risk management
• There are some risks that even the best hedging strategy cannot eliminate –
  – Aggressive underlying funds
  – Policyholder behaviour
  – Extremely rich / exotic guarantees
• Design the product with risk management in mind – price for what you can manage, design for what you can’t manage
• …Clear upfront analysis & communication of the risk management strategy & expected product economics before launch
Lesson 1: Don’t lie to yourself

• You have to be able to demonstrate that the price you charge for the product, and the risk management strategy you plan to use can deliver the risk-adjusted profitability you expect

• Test that the risk management strategy will actually work in a range of scenarios before you commit to pricing at that level
  – Always better to lose money in a spreadsheet than in real life

• Just because it appears to deliver an acceptable ROC (or similar metric) does not mean it’s a product you should sell
  – You could still be selling at a loss
  – …or not being compensated for the risk
Lesson 2: Ask the Tough Questions

- Product Launch Fever is contagious…
- Having someone who is independent enough and empowered enough to play the role of Devil’s Advocate is important
- The role of the Chief Actuary / Chief Risk Officer
- The ability to make a difference to the process comes down to the ability to ask the tough questions.
Lesson 2: Ask the Tough Questions

- What are some of the realistic, but really bad scenarios that can happen? How much money do we lose in this scenario? What is our appetite for loss?
  - If you’re honestly not able to stomach those kind of losses, then do not proceed
- How much of the business are you willing to sell and what will you do if you sell *too much too quickly*?
- At what price are you no longer willing to sell the business?
- What assumptions has the product been built on and what happens if these no longer hold?
- Where else has this been done and what has been the experience? What can we learn?
Lesson 3: Keep checking that the story makes sense..

- You think you’re shooting the lights out?
  - That’s probably because you were already in the dark to begin with…
- Set clear expectations upfront and interrogate the unexpected success or failure
- …If you find yourself top 5 in the global Equity Indexed Annuity market, and you’re not a particularly big player anywhere else, ask yourself: why?
- Check that the risk management strategy is delivering on what you expected
- ..Be able to explain any P&L clearly. Smaller than expected? Larger than expected?
  - The P&L you should pay most attention to is not the large losses, it’s the unexplained P&L. That’s where you find early warning signs
Lesson 4: Don’t start dancing just because you hear the music

“As long as the music is playing, you’ve got to get up and dance. We’re still dancing”

Chuck Prince – ex-CEO of Citigroup in an interview with the FT in June 2007
Lesson 4: Don’t start dancing just because you hear the music

- Prudent practice in the industry is a common good.
- The US VA industry became over-exposed because of an aggressive ‘arms race’ with guarantee benefits and pricing
- When a crisis hits, even a few examples of poor practices casts a cloud over an entire industry
  - E.g. banking industry in 2007/8
- Role of regulatory oversight