What we discussed in 2006

- What is price optimisation and why do it?
- What is “mathematical” optimisation?
- Implementation approaches and practical issues
- Case study – mathematical optimisation implementation at AA Insurance

Why we talked about this in 2006

- Too much DFA/ICA at GIRO!
- Market circumstances
- Maturity of technical costing techniques
- Period of rapid development of tools and techniques
- Encroachment of non-actuarial suppliers with multi-sector offerings
So why are we back again….?

- **Good** optimisation is extremely valuable in current market circumstances

<table>
<thead>
<tr>
<th>UK Commercial Reality</th>
<th>Optimisation Benefit</th>
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<tbody>
<tr>
<td></td>
<td>Improvements to both profitability and margins</td>
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<td></td>
<td>Maximise value from new business, business renewal, and current portfolio</td>
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<td>Optimise effectiveness of marketing messages and channels</td>
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<td>Align and optimise strategy across multiple new business distribution channels</td>
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<td>Deploy scarce resource towards greatest underwriting activities</td>
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<td>Optimally moderate renewal increases</td>
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<td>Counter potential loss of competitiveness</td>
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- Good optimisation is extremely valuable in current market circumstances

….and what’s changed since 2006?

- “Early adopters” of optimisation have completed implementation:
  - now focused on refining key inputs and the implementation approach
  - deploying initial learnings to tune and direct pricing strategies
  - developing approaches for the aggregator environment

- For the majority of mainstream insurers and intermediaries, internal “dabbling” has been superseded by formal development projects:
  - Procurement process triggered as a “big ticket” purchase:
    - phased ITT/RFP response and “beauty parade” selection process
    - different balances of IT vs. technical vs. business involvement shape this process
    - can significantly delay realisation of benefits

- Potential benefits and practicability of optimisation are now widely recognised?
  - reduced desire for “pilot” implementations to develop internal business case

- Offerings of the main providers have “crystallised”:
  - propositions and positioning understood, as are key differentiators
  - growth in “bureau optimisation” propositions

….and what are the big issues now?

- How best to model price elasticity:
  - requirements around random price tests
  - whether to include the price test factor directly within model
  - non-linear vs. GLM approaches, pros and cons

- How to optimise a ratebook directly:
  - technically challenging
  - how best to approximate with a table structure
….and what are the big issues now?

- The relative advantages of offline and online approaches:
  - online = "IT heavy", "headcount lite", "control lite"?
  - offline = greater uplift, better risk control, more able to deal with practical complexities?

- Gender Equality Directive:
  - potential impact on individual risk renewals optimisation?

….and what are the big issues now?

- Aggregators!
  - additional new business channel to optimise within a multi-channel strategy
  - are responsible for changing the elasticities observed within other new business channels
  - further degrade competitor price measures such as What-If?
  - low conversion rate requires high data volumes for price-elasticity modelling
  - data not always good, and often pollutes own-brand web data
  - retention levels uncertain for multi-year projections

AA Insurance – Price Optimisation

Presentation Summary

- Brief Overview of P.O. Development and Aims
- Achievements To Date – Portfolio and Income Growth
- Impact of Aggregators & Changing Mix of Business By Channel
- Multivariate Analysis - Motor New Business
- Examples of Interactions Between Variables
- Price – Elasticity v Market competitiveness
- Why 1 – Way Analysis Can Be Misleading