GIRO conference and exhibition 2010
James Tanser and John Lewandowski

Ratemaking Survey Working Party
Initial results

12-15 October 2010
Agenda

• Purpose
• Survey
• Response rate
• Selected results
Purpose

• Proposed in GRIP paper
• Understand what current practice is
• Cover all aspects of pricing
• Cover as much of the world as possible
• Compare responses by region
• Report back to the professions
Agenda

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Survey
Starting point

- UK, US and Australian working parties
- Starting with Reserving questions
- Three separate sets of questions
- Three alternate interpretations of scope
- Three very different time zones
Survey Process

- Each group came up with questions, and reviewed other teams' questions
- Chairs had discussions to agree:
  - Common global questions
  - Region specific questions
- Due to other commitments, final survey was US/UK
  - Separate Australian survey was also ran but not included here
Survey
Final version

- Bigger than expected
  - 34 Common Questions
  - 11 US questions
  - 14 UK questions
- Went live early July until mid-August
Agenda

- Purpose
- Survey
- Response rate
- Selected results
Response rate

- Invitations sent out to:
  - CAS mailing list
  - GIRO mailing list
  - LMAG
  - CAE
  - ...
Response rate

1295 responses to first question
- 1002 from the US
- 135 from the UK
- 46 from Europe
- 112 from Rest of the World

566 (44%) finished the survey
- 416 (42%) US
- 64 (47%) UK
- 34 (74%) EU
- 52 (46%) ROW
Agenda

- Purpose
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## Mainly primary insurers

<table>
<thead>
<tr>
<th>Category</th>
<th>EU</th>
<th>ROW</th>
<th>UK</th>
<th>US</th>
<th>Total</th>
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</thead>
<tbody>
<tr>
<td>Broker/Intermediary</td>
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<td>1%</td>
<td>2%</td>
<td>3%</td>
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<tr>
<td>Small consulting</td>
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<td>0%</td>
<td>0%</td>
<td>4%</td>
<td>4%</td>
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<tr>
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<td>6%</td>
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<tr>
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<tr>
<td>Primary Insurer (Multi-National Multiline)</td>
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<td>2%</td>
<td>4%</td>
<td>12%</td>
<td>18%</td>
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<tr>
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<td>2%</td>
<td>32%</td>
<td>36%</td>
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<tr>
<td>Primary Insurer (Regional or Monoline)</td>
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<td>1%</td>
<td>0%</td>
<td>14%</td>
<td>16%</td>
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<tr>
<td>Regulatory Body</td>
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<td>0%</td>
<td>0%</td>
<td>2%</td>
<td>2%</td>
</tr>
<tr>
<td>Reinsurer</td>
<td>1%</td>
<td>2%</td>
<td>1%</td>
<td>5%</td>
<td>9%</td>
</tr>
</tbody>
</table>
Reasonable cross section by experience
Seniority higher from US

[Bar chart showing experience distribution across EU, ROW, UK, and US]
Well targeted at senior individuals…
... who work in pricing!
Reasonable mix of lines
- slightly more personal lines
Personal Lines Methods
Europe uses more sophisticated models

PL methods

Loss ratio
Market conversion
One/Two way
Curve fit
Clustering
Credibility
PCA
Spatial smoothing
Flood/Cat
GLM Discrete
GLM Cts
GAM
GNLM
Behaviour GLM
Behaviour GAM
Stochastic

EU
ROW
UK
US
World
CL methods
Simpler and stochastic methods
US Data sources
Wide use of public and industry data

US Data source: Freq/Sev trend

- Internal
- Account specific
- Public
- Demographic
- Credit
- Competitor
- Vehicle
- Natural peril
- Industry Organisation
- Non-insurance
- Consultant
- Cat Model
- Judgement
- Econometric
UK data source
More self reliant?

UK Data source: Freq/Sev trend

- Internal
- Account specific
- Public
- Demographic
- Credit
- Competitor
- Vehicle
- Natural peril
- Industry Organisation
- Non-insurance
- Consultant
- Cat Model
- Judgement
- Econometric

Legend:
- PL
- CL
- Liab
- RI

Personal lines

Commercial lines

Liability

Reinsurance
Cross subsidies: Across channels, Across lines, Policy and add-ons, Customers, Expense, Social pricing
Integration with reserving and capital
More with reserving, it seems

Cat loads  Investment  Claim trends  IBNR  Expected LR  Business plan  RI recovery  Capital loading  Market Cycle

EU  ROW  UK  US
Technical to street price: Technical price, Underwriters, Explicit adjustment, maximum deviation, optimised

Personal lines

Commercial lines

Liability

Reinsurance
How often do you price, and how long to go live

**Frequency of rerate**
- Less than annually
- Weekly
- Monthly
- Quarterly
- Annually
- Less than annually

**Time to go live**
- Less than a day
- Less than 2 weeks
- Less than 1 month
- Less than 3 months
- Less than 6 months
- More than 6 months
How often do you price, and how long to go live
RI annual but quick, PL regular but slow

Frequency of rerate
RI, Liability, CL, PL
- < Weekly
- Weekly
- Monthly
- Quarterly
- Annually
- Less than annually

Time to go live
RI, Liability, CL, PL
- Less than a day
- Less than 2 weeks
- Less than 1 month
- Less than 3 months
- Less than 6 months
- More than 6 months
UK Gender and Age regulation

![Gender Pie Chart]

- No plan
- Own data
- Pooled data
- No gender

![Age Pie Chart]

- No plan
- Own data
- Pooled data
- No age
UK Gender and Age regulation
PL uses own data more
US seem to lead in education

Education support: US, UK, ROW, EU
1 = Bad, 5 = Good
How can the professional organizations improve educational opportunities for pricing actuaries?

- Seminars (preferably webinars) that cover a detailed technical example
- More hands on training (e.g., computer lab sessions)
- Downloadable spreadsheets that work through a particular method/approach
- Publication of a pricing handbook
- More information on methods that are being used overseas
- Sessions at (CAS) meetings tend not to be balanced (too focused or too general) and are too short.
What is the role of various members in producing the pricing deliverable?

- Underwriters - Leads Process (UK-26%, US-10%)
- Statisticians - Core Member or Leads Process (approximately 20% globally)
- Senior Mgmt - Core Members or Leads Process (UK-29%, US-45%)
- Brokers - No Involvement (UK-45%, US-58%)
- Actuarial Consultants - No Involvement (UK-79%, US-59%)
Do you believe that the price monitoring process at your company/client is sufficiently robust and reasonable enough for the intended purpose and the clients/senior management have sufficient understanding of the uncertainty inherent in the results?
Major challenges: 1 = most important

Global view

Data issues
Trends
Best practice implementation
Quantifying variability
Supporting recommendations
Best practice theory
Explaining variability

100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
Major challenges: 1 = most important
UK view

- Data issues
- Trends
- Best practice implementation
- Quantifying variability
- Supporting recommendations
- Best practice theory
- Explaining variability

Legend:
1
2
3
4
5
6
7
Next steps

- Full survey will be analysed, sliced, diced and write-in responses analysed
- Long report written up and published
- Further presentations booked
  - CAS Annual meeting
  - CAS RPM Seminar
- Further presentations considered:
  - Staple Inn
  - UK Pricing Seminar