How are insurers getting most value from their capital modelling?

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Four areas of focus

1. Eight qualities
2. Value and model use
3. Business planning
4. Your team
1. Eight qualities of effective capital modelling

- Answers key business questions
- Clear communication
- Well-managed model change
- Firm-wide view of risk
- Responsive
- Resilience
- Clear vision and ownership
- Anticipating future change
How do you rate your firm against the eight qualities?

Source: LCP poll of Heads of Capital, November 2017

Board or committee workshop

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Board or committee workshop

2. Value and model use
Model uses (in addition to capital setting)

<table>
<thead>
<tr>
<th>Model use</th>
<th>Proportion of firms</th>
</tr>
</thead>
<tbody>
<tr>
<td>Reinsurance</td>
<td>100%</td>
</tr>
<tr>
<td>Business planning and optimisation</td>
<td>78%</td>
</tr>
<tr>
<td>Risk analysis, appetite and monitoring</td>
<td>62%</td>
</tr>
<tr>
<td>Performance management</td>
<td>53%</td>
</tr>
<tr>
<td>Investment</td>
<td>44%</td>
</tr>
<tr>
<td>Pricing</td>
<td>32%</td>
</tr>
</tbody>
</table>

Source: LCP market review – capital modelling 2017 – “How are insurers getting most value from their capital modelling?”

Conflicting (and often strongly held) views

“Modelling is a critical part of business planning”

“It’s useful for supporting pricing and/or investment decisions”

“It provides a helpful input to remuneration”

“It’s too circular to be useful”

“This is better left to more specialised models”

“That’s not appropriate... and can be dangerous!”
**Virtuous engagement cycle**

“*There was a little bit of interest … then lots of interest … then there was a steady pull on the model by the business as they realised the model CAN do something and they wanted it*”

**Business understanding of model limitations**

- **Confirmation bias**
  - “The business understands it’s ‘just a model’, but this is mentioned most when the model disagrees with preconceptions”

- **Link to model uses**

- **Results used out of context**
3. Business planning

What are the most challenging aspects of supporting business planning?

<table>
<thead>
<tr>
<th>Business challenges</th>
<th>Operational challenges</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aligning conflicting views</td>
<td>Modelling changes to risk profile 4%</td>
</tr>
<tr>
<td>Agreement risk measures 4%</td>
<td>Poor quality data 26%</td>
</tr>
<tr>
<td>Explaining counterintuitive results 35%</td>
<td>Long model run times 22%</td>
</tr>
<tr>
<td></td>
<td>Managing version control 4%</td>
</tr>
<tr>
<td></td>
<td>Co-ordinating with other departments 22%</td>
</tr>
<tr>
<td>Late changes 52%</td>
<td>Tight timelines 70%</td>
</tr>
<tr>
<td>Communicating uncertainty 26%</td>
<td></td>
</tr>
<tr>
<td>Business not engaged 22%</td>
<td></td>
</tr>
<tr>
<td>Poor quality data 26%</td>
<td></td>
</tr>
</tbody>
</table>

Source: LCP poll of Heads of Capital, June 2017

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A framework for business planning

Reassessing the environment

Rate changes

Renewals

New plans

Iterative analysis

Volumes

Risk metrics

Reinsurance

Final review

- Strategy to achieve plan
- Risk profile
- Profitability
- Communicating options

May | Jun | Jul | Aug | Sept | Oct
---|---|---|---|---|---

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Helping everyone stay on track

<table>
<thead>
<tr>
<th>Risk Measures</th>
<th>Reported</th>
<th>Premium £m</th>
<th>Profit £m</th>
<th>Capital £m</th>
<th>1 in 10 loss £m</th>
<th>Probability of loss (%)</th>
<th>Top Cat Scenarios £m</th>
<th>Model run</th>
</tr>
</thead>
<tbody>
<tr>
<td>Risk appetite</td>
<td></td>
<td></td>
<td></td>
<td>750</td>
<td>50</td>
<td>20%</td>
<td>310</td>
<td></td>
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<tr>
<td>Baseline results</td>
<td>Board 22 May</td>
<td>987</td>
<td>55</td>
<td>690</td>
<td>25</td>
<td>18.0%</td>
<td>253</td>
<td>v17.3</td>
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<tr>
<td>Updated PPO risk parameters</td>
<td>Risk committee 26 May</td>
<td>-</td>
<td>+2</td>
<td>+25</td>
<td>+5</td>
<td>+1.2%</td>
<td>+23</td>
<td>v17.3.1</td>
</tr>
<tr>
<td>Increased motor volumes</td>
<td>UW committee 27 May</td>
<td>+30</td>
<td>+5</td>
<td>+5</td>
<td>-2</td>
<td>-0.8%</td>
<td>-</td>
<td>v17.3.2</td>
</tr>
<tr>
<td>Latest results</td>
<td>Rerun 28 May</td>
<td>1017</td>
<td>62</td>
<td>720</td>
<td>28</td>
<td>18.4%</td>
<td>276</td>
<td>v17.4</td>
</tr>
<tr>
<td>Risk headroom</td>
<td></td>
<td></td>
<td></td>
<td>30</td>
<td>22</td>
<td>1.6%</td>
<td>34</td>
<td></td>
</tr>
<tr>
<td>Option 1 - Reduce reinsurance</td>
<td>+101</td>
<td>+5</td>
<td>+25</td>
<td>+5</td>
<td>-0.3%</td>
<td>+20</td>
<td>v17.4.0.1</td>
<td></td>
</tr>
<tr>
<td>Option 2 - New product launch</td>
<td>+50</td>
<td>+4</td>
<td>+5</td>
<td>+8</td>
<td>+1.0%</td>
<td>+30</td>
<td>v17.4.0.2</td>
<td></td>
</tr>
<tr>
<td>Option 3 - Both</td>
<td>+151</td>
<td>+9</td>
<td>+26</td>
<td>+11</td>
<td>+0.8%</td>
<td>+50</td>
<td>v17.4.0.3</td>
<td></td>
</tr>
</tbody>
</table>

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4. Your team
Capital modelling team sizes

Source: LCP survey and discussions with 50 insurers, 2017 and 2018

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Model run times

Source: LCP survey of 35 insurers, 2016/17

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What aspect of capital modelling would you research if you had a university team?

Alternative approach to dependencies
Multi-year view of capital
Optimisation techniques
Parameterising extreme events
Granular risk modelling (eg contract level)
Scenario based approaches
Casualty cat modelling

Source: LCP poll of Heads of Capital, June 2017

Where next?

1. Eight qualities
2. Value and model use
3. Business planning
4. Your team
More views from the market

“Yes the model adds value. However, once the catastrophe and reinsurance calculations have been done, there is a lot of regulatory baggage”

“Common structures provide a framework, like knowing where to look in a newspaper for the crossword and editorial”

Questions

Comments

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