The Actuarial Profession
making financial sense of the future

GIRO XXX
2003 Convention

14-17 October 2003
City Hall, Cardiff

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FSA Capital Self-Assessment
Julian Leigh

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FSA Capital Self-Assessment

1. Two pillars in CP190
   a. What are the implications of the ECR?
   b. How well-placed are insurers?
   c. Where does the ECR fall down?
   d. How should companies assess themselves?
   e. Urgent action
ECR Sample Results

- Returns came from database
- Largest 109 companies: discarded three
- Some anomalies

ECR as Proportion of SMSM

- Enhanced Capital Requirement as % of SMSM as at 31 December 2002
- Proportion of Companies:
  - Under 80%
  - 80% to 100%
  - 100% to 120%
  - 120 to 140%
  - 140 to 160%
  - 160 to 180%
  - 180 to 200%
  - 200 to 225%
  - 225 to 250%
  - 250 to 300%
  - 300 to 350%
  - Above 350%

ECR as Proportion of SMSM

- SMSM and ECR (Values in £M)
ECR as Proportion of Premium

Do companies meet the ECR?

Are there patterns?
Are there patterns?

U.K. Insurance Companies ECR coverage and Premiums

0%
50%
100%
150%
200%
250%
300%
350%
400%
450%
500%

1 10 100 1,000 10,000

Company Net Premium (£ million) (log scale)

Available Assets as a Percentage of ECR

Are there patterns?

U.K. Insurance Companies Available Assets and ECR (Values in £M)

1 10 100 1,000 10,000

Enhanced Capital Requirement

Available Assets

Where does the ECR come from?

31
30
39

Premiums
Reserves
Assets

Where does the ECR come from?
Where does the ECR come from?

Composition of Enhanced Capital Requirement

<table>
<thead>
<tr>
<th>%</th>
<th>Companies</th>
<th>Assets</th>
<th>Premiums</th>
<th>Reserves</th>
</tr>
</thead>
<tbody>
<tr>
<td>0%</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>20%</td>
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<tr>
<td>40%</td>
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<tr>
<td>60%</td>
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<td>80%</td>
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<tr>
<td>100%</td>
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</table>
Suppose you don’t make it

- Get some more capital
- Reduce the ECR
  - Premiums
  - Reserves
  - Assets

How to raise capital

- Rights issue

How to raise capital

- Rights issue
- Qualifying borrowing
How to raise capital

- Rights issue
- Qualifying borrowing
- Cut reserves
  - Double whammy: capital up, ECR down
  - Average capital loading on reserves 11.4%

Typical company with 90% ECR cover

Reserves 100  
Assets  126.1  
Available assets 26.1  

ECR  29  
Made up from  
<table>
<thead>
<tr>
<th>Reserves</th>
<th>Assets</th>
<th>Premium</th>
</tr>
</thead>
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<tr>
<td>11½</td>
<td>9</td>
<td>8½</td>
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Perhaps we've over-eggled the reserves!
### Typical company with 90% ECR cover

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<td>ECR</td>
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<table>
<thead>
<tr>
<th></th>
<th>Reserves 97.4</th>
<th>Assets 126.1</th>
<th>Available assets 28.7</th>
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*Don’t try this at home!!*

### How Much Do Reserves Move?

<table>
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<tr>
<th>One Year Development vs. Original Reserve</th>
<th>Percent of ERS Rating Groups</th>
</tr>
</thead>
<tbody>
<tr>
<td>GT 25% Favorable</td>
<td>10%</td>
</tr>
<tr>
<td>15% to 25% Favorable</td>
<td>15%</td>
</tr>
<tr>
<td>5% to 15% Favorable</td>
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</tr>
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<td>0% to 5% Favorable</td>
<td>15%</td>
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<tr>
<td>5% to 5% Favorable</td>
<td>15%</td>
</tr>
<tr>
<td>0% to 5% Adverse</td>
<td>10%</td>
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<td>GT 25% Adverse</td>
<td>0%</td>
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</table>

Acknowledgements to Matthew Mosher of A.M. Best
How to Carry Out the Self Assessment?

- Stress and scenario testing is not an easy option
- Stochastic modelling may not be possible
  - As basis for compliance
  - In the medium term
- Not mutually exclusive

S&S Testing: Items to include

- Credit risk: 12
- Market risk: 12
- Liquidity risk: 7
- Operational risk: 26
- Insurance risk: 23
- Total: 80

S&S Testing: The conclusions

- The firm considers that capital of between £X and £Y would be required to cover risks of ...
- The firm decides that the worst realistic combination of circumstances that might arise would absorb capital of between £A and £B
Urgent !!!

1. Work out the ECR
2. Do you cover it?
   - If not, what next?
3. Work on the S&S tests