AG projection table 2010 -2060

Modelling longevity

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Agenda

• Some history
• New model
• Differences with the old model
• Results and conclusion
• Next steps
Dutch Actuarial Association

- Provider of mortality tables
  - initially 5 yearly period tables until 2005
  - from 2005 publication of AG projection table

- First AG projection table for period 2005-2050
Characteristics
projection table 2005-2050

• Projection based on the 5 year tables of 2000-2005 until 2050-2055

• Model is only focussed on the real long term mortality trend

• Continuation of the last significant change in trend (1988)
2010: New projection table
Why new projection and new model?

- Strong decrease of mortality since 2001 a.o. because of:
  - lifestyle (less smoking)
  - medical developments (cardiovascular diseases)
- Strong decrease disrupts linear models
- Deviation in projected and real mortality trends
Difference old and new projection model

- Update data
- 2 year tables instead of 5 year
- Scope until 2060 instead of 2050
- Not only long term trend, but also short term trend
Short term and long term trend

Short term:
• To reflect strong decrease in mortality in projection table

Long term (goal table):
• Not likely that strong decrease will continue during a (very) long period of time
Old vs new projection (1)
Old vs new projection (2)

Old projection (2005-2050)
Life expectancy 0-year olds: in 2050
- 82.5 for male
- 84.3 for female

New projection (2010-2060): in 2050
- 85.5 for male
- 87.3 for female
Conclusion

• Continuing decrease of mortality probability (significant decrease from 2001)

• Continuing increase in life expectancy
## Results foreign countries

Projection comparing foreign countries in 2050  
(mostly based on observation in 2006)

<table>
<thead>
<tr>
<th>Country</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Netherlands</td>
<td>85.5</td>
<td>87.3</td>
</tr>
<tr>
<td>Austria</td>
<td>84.2</td>
<td>88.1</td>
</tr>
<tr>
<td>UK</td>
<td>84.5</td>
<td>88.1</td>
</tr>
<tr>
<td>Sweden</td>
<td>83.8</td>
<td>86.3</td>
</tr>
<tr>
<td>Ireland</td>
<td>86.5</td>
<td>88.2</td>
</tr>
<tr>
<td>Japan</td>
<td>83.4</td>
<td>90.1</td>
</tr>
</tbody>
</table>
Consequences pension funds

• Increase of technical provision for pension liability

• AG projection (2010): approx. 8% for an average pension fund compared to old projection table
So: hot item and exposure

Dutch Actuarial Association and its president in the centre of media attention

Opening item in prime time broadcast of national news

Future steps AG

- Develop stochastic model
- Develop model for mortality probability for specific parts of the pension fund population
- Monitor development life expectancy
And finally ....

Thank you for your attention