

Format for this Roundtable

Three Themes

- Modelling Inflation Chris
- Business Context James
- · Micro Level : Claims Drivers Keith

Roundtable Discussion

- Clustering delegates in six groups
 - two groups per theme; one facilitator per theme
 - one scenario per group; handouts provided
 - one rapporteur per group
 - success is a good discussion in the room and capturing "take away" points



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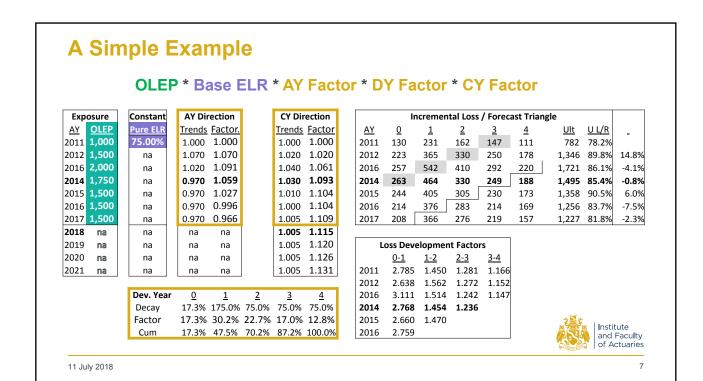
Modelling Inflation

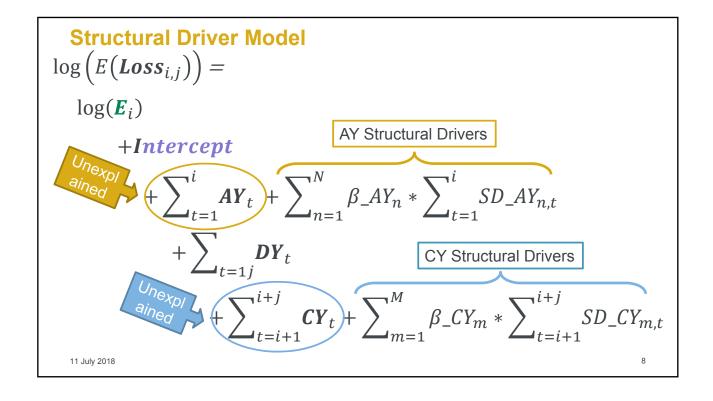




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A Modelling View of Inflation $E[Incremental \ Loss_{AY=i,DY=j}]$ $= Exposure_{AY=i}$ $* Pure \ Loss \ Rate \rightarrow Year \ 0$ $* \prod_{0}^{i} AY \ effect_{t}$ $* \prod_{0}^{j} DY \ decay_{t}$ $* \prod_{i}^{i+j} CY \ effect_{t}$ $\log \left(E(Loss_{i,j})\right) =$ $\log(E_{i}) + intercept + \sum_{0}^{i} AY_{t} + \sum_{0}^{j} DY_{t,k} + \sum_{i}^{i+j} CY_{t}$





1. GLM

- The reserving team implemented a GLM-based model for the current year.
- The chief actuary commended the team for their rigour and identifying the inflationary contributors and "common trends".
- They used on-level earned premium as their exposure base and found the ultimate net loss ratio trend to be -2% p.a. after adjusting for a fitted calendar year trend of +0.5% p.a.
- Note: The standard Link Ratio methods were less favourable.
- A. What unknowns would you be <u>more</u> worried about than for your standard link-ratio methods?
- B. How would you decide what <u>weight</u> to give the GLM results and would this be different if the relative method indications were reversed (e.g., standard methods more favourable, GLM less favourable)

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2. Past Trend Analysis

- The reserving team have refined their inflation analysis.
- They now re-segment their data to allow for business-mix effects, remove shock losses and other outliers, and obtain economic forecasts of their inflation drivers. Historically, the actual versus projected has been good.
- A. Is this a good approach?
- B. What factors make your models susceptible to modelling error that we need research for?



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3. Financial Plan Assumptions Mismatch Reserving Risk

- During the reserve-risk assessment, analysis of smart phone inflation found an inflation rate of 2% +/- 1% p.a. These figures were agreed as assumptions to the latest capital calculation.
- In a department not so far, far away, the financial planning team provided their estimate of gross written premium. They allowed for 7% rating increases, as a result of claims-cost inflation being expected to be the same figure.
- A. Who is right?
- B. Why could they be different?
- C. What happens if the reserving actuaries are wrong, should they revisit their analysis in the next reserve review?

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4. Underwriting Assumptions Mismatch Reserving

- The inflation committee at an insurer produced a joint inflation figure for household contents of 5% p.a. after pricing analysis showed flat inflation (0%) and reserving analysis gave 10.2% p.a.
- Underwriters suggested the agreed figure of 5% was very generous of them, reserving actuaries are after all known to be prudent!
- A. How could these estimates differ?
- B. Is a single rate sensible?
- C. How could we get a better estimate in reserving?



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5. Concordia Shipping Loss – a Step Change?

- The Costa Concordia, a multi-story liner carrying over 4,000 passengers and crew, ran aground in January 2012 and capsized off Italy's west coast, killing 32 people.
- Loss estimate may rise to \$2bn. The costs of removal were high, as it was
 decided for environmental reasons to remove the wreck piece-by-piece and
 re-float. LOF [Lloyd's Open Form], a salvage contract, was amended quite a
 few years ago to incorporate the ability to be paid for the prevention of
 pollution.
- A. Could this have been foreseen?
- B. How could links between Claims and the rest of the business save Institute and Faculty of Actuaries

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6. Escape of Water - a Creeping Trend?

- According to The Association of British Insurers, escape of water causes approximately £2million worth of damage every day. In the last three years, the average cost of these claims has risen by 31% to £2,638. ABI suggested this area may be a number-one priority in 2018.
- Factors such as more hidden or integrated pipework and less damage-resilient building materials may contribute towards higher claim costs.
- Also more plumbed-in domestic appliances; more central heating; an increase in en-suite bathrooms and downstairs toilets; more complex plumbing systems; hidden and integrated plumbing and the use of less damage-resilient materials such as chipboard could also be factors.
- A. Are the incidence of plumbed appliances/DIY linked to economy? Does this matter?
- B. Could joint analysis help reduce risk for customers, whilst minimising risk for the insurer too?

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Questions

Comments

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