Society of Actuaries in Ireland

Information and Assistance Note GI-1:

Data checks for the purposes of Non-Life (Re)Insurance Statements of Actuarial Opinion

Issued by the Society of Actuaries in Ireland, 26[th]November 2014.

Disclaimer

This Information and Assistance Note is intended as an aid to Signing Actuaries preparing Statements of Actuarial Opinion in respect of non-life (re)insurance business.

Signing Actuaries are not obliged to carry out the particular data checks set out in this note. Signing Actuaries are encouraged to consider the sample data questions set out but will need to exercise judgement as to their suitability, relevance and sufficiency in the context of the particular firm(s) for which they act.

The Society does not accept responsibility or liability for any loss to any person or body as a result of any decision or action taken on foot of information, opinions or suggestions set out in this note.

Background

A sub-committee of the Society of Actuaries in Ireland General Insurance Committee was asked to consider what, if any, explicit questions could a Signing Actuary ask to help him/her to form a view that the data used for the purposes of providing a Statement of Actuarial Opinion[1] is sufficiently accurate, complete and appropriate.

The list of questions suggested below is neither intended to be wholly complete nor to form a minimum or maximum set of questions that a Signing Actuary may be expected to ask. The list is provided only for information and education purposes.

There are likely to be exceptions and circumstances where many but not all of the questions below are appropriate for individual companies. There may also be circumstances where questions beyond those listed below would be appropriate.

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[1] Pursuant to the "Reserving Requirements for Non-Life Insurers and Non-Life and Life Reinsurers", first published by the Central Bank of Ireland in May 2014

The role of Signing Actuary applies to companies where there may or may not be a separate Pre-Approval Controlled Function (PCF) responsible for overseeing the preparation of the data to be provided by the company to the Signing Actuary and providing the Signing Actuary with a statement affirming the accuracy and completeness of the data[1]. This PCF support may influence the level of additional interrogation that a Signing Actuary need perform; however, it does not absolve him or her from responsibility to carry out comprehensive checks to confirm the accuracy, completeness and appropriateness of the data.

An additional useful source for explicit questions is the paper from GIRO 2006 entitled "A Change Agenda for Reserving". The current (November 2014) link to this paper is:

http://www.actuaries.org.uk/system/files/documents/pdf/sm20060327.pdf

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[1] See paragraph 25.f. of the above Reserving Requirements.

Possible Explicit Questions

#	Type of Check	Category	Question	Segment	Comments	Aim of Check
1	Specific - By Class Consistency	Triangles	Is the paid/incurred ratio consistent?	All	Check on the amounts weighted closure rate - a negative here may call into question the robustness of either the paid or the incurred projections.	Appropriateness
2	Specific - By Class Consistency	Triangles	Is the numbers settled/numbers reported ratio consistent across development and origin periods?	Direct	Check on the numbers weighted closure rate - a negative here may call into question the robustness of either the paid or the incurred projections.	Appropriateness
3	Specific - By Class Consistency	Triangles	If triangles are projected in aggregate, are the proportions of component parts consistent (homogenous)?	Direct	Where claims are not projected by peril, there is a need to check that the proportion of perils is consistent across development and origin periods.	Completeness
4	Specific - By Class Consistency	Triangles	Is the percentage of nil claims consistent?	Direct	Has the claims team focussed on increasing settlement rates by focussing on smaller value claims, leading to a distortion in the claims pattern?	Appropriateness
5	Specific - By Class Consistency	Triangles	Has there been material exposure growth or shrinkage in the portfolio?	All	The basic chain ladder tends to under-project for growth portfolios and over-project for shrinking portfolios.	Appropriateness
6	Specific - By Class Consistency	Premium	Has there been material exposure growth in the portfolio?	All	In the year of growth, the premium tends to earn quicker than claims are notified, leading to a lower loss ratio than in a stable state. This may need to be allowed for in the Unearned Premium Reserve.	Appropriateness

#	Type of Check	Category	Question	Segment	Comments	Aim of Check
7	Specific - By Class Consistency	Assumptions	Is the data consistent with the assumptions of your chosen methodology?	All		Appropriateness
8	Specific - By Class Consistency	Triangles	Is the average cost per outstanding claim consistent over development and origin periods?	Direct	A check that the claims reserving practice is consistent over development and origin periods (preferably done by peril)	Accuracy
9	Specific - By Class Consistency	Triangles	Is the average cost per incurred claims over open claims consistent over development and origin periods?	Direct	A check that the claims reserving practice is consistent over development and origin periods (preferably done by peril)	Appropriateness
10	Specific - By Class Consistency	Triangles	Is the average cost per paid claim consistent over development and origin periods?	Direct	A check that the claims settlement practice or severity assumption is consistent over development and origin periods	Accuracy
11	General	Premium	Consideration of the ratio of the balance sheet premiums receivable vs latest accident year earned premium over time	All	Checks premium estimation changes	Completeness, Accuracy
12	Specific - By Class Consistency	Premium	Check average premium using various exposure measures and compare against reported rate change	All	Checks the robustness of the rate change metrics - potentially used in developing a priori assumptions.	Accuracy

#	Type of Check	Category	Question	Segment	Comments	Aim of Check
13	General - Data Collation	General	Have there been any Claims or Underwriting system changes? Has this affected categorisation of policies / claims? Level of administration? Caused a delay in processing due to training / familiarisation?	All	Has the impact of the changes been allowed for in the projections?	Appropriateness Accuracy
14	General - Changes	General	Any changes in claims or underwriting procedures?	All	Consider and comment on what impact this could have on data.	Appropriateness Accuracy
15	General - Changes	General	Any changes in accounting rules or application of them?	All	Changes may affect the values against which the data is reconciled.	Appropriateness Accuracy
16	Specific - By Class Consistency	General	Is data sufficiently granular to allow the analysis of homogenous risk groups and identification of trends?	All	Check for completeness.	Completeness
17	Specific - By Class Consistency	General	Is there a sufficient volume of historical information to derive statistically credible results, for example is the run-off triangle of a sufficiently large size compared to the duration of the liabilities?	All	Check for completeness.	Completeness
18	Specific - By Class Consistency	General	Can claims data be segmented by attritional / large losses?	All	Check for completeness.	Completeness

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19		General	Are riskiness indices / pricing and underwriting changes available for personal lines / commercial lines?	All	Check for completeness.	Completeness
20	General - Data Collation	General	Is the data free from material mistakes errors and omissions?	All	Data flow chart?	Accuracy
21	General - Data Collation	General	Are there any likely mistakes caused by human error or IT failures?	All	Check for accuracy.	Accuracy
22	General - Data Collation	General	Does data pass through or is it collected from multiple different systems and are system interfaces automated?	All	Description of the data flow and where issues are likely.	Accuracy
23	General - Data Collation	General	Is data subject to multiple manual manipulation steps?	All	Check for accuracy.	Accuracy
24	General - Data Collation	General	What level of expert judgement is required to produce or change the data item?	All	Identify where expert judgement goes into compilation	Accuracy
25	By Class of Business	General	Request the largest 10 (say) cheque payments for the recent accident years and reconcile them to the opening estimates at the start of the relevant year.	Direct	Are large claims consistent over time and with the case estimation philosophy	Accuracy

#	Type of Check	Category	Question	Segment	Comments	Aim of Check
26	Specific - By Class Consistency	Triangles	Is the implied development percentage for incurred, paid, average cost, reported numbers, settled numbers by homogeneous risk group consistent with expectations for the most recent accident years?	All	Mandatory where data is available. Should show where the development percentage of any of the data items is inconsistent with historic values.	Completeness
27	Specific - By Class Consistency	General	Compare the bootstrap ultimates with the selected ultimates and justify the differences	All	Where bootstrap models are available and appropriate.	Appropriateness
28	General - Changes	General	Ask for relevant Internal Audit reports over past year?	All	May need to follow up on specifics	Completeness, Accuracy
29	General - Data Collation	General	What is the foreign exchange treatment of the figures?	All	If substantially in one currency then not relevant	Accuracy
30	General - Data Collation	General	If Binder or MGA business then have you analysed the basis of the data that is collected?	All	Data could be at different dates; third party claims adjusters may have been used; definitions of data may be different.	Completeness, Accuracy
31	Specific - By Class Consistency	Premiums	Is the premium Net and Gross of acquisition costs stable over time and cause a reconsideration of the use of gross premiums to project?	All		Appropriateness

#	Type of Check	Category	Question	Segment	Comments	Aim of Check
32	Specific - By Class Consistency	General	Are the Net to Gross ratios of reinsurance costs for premium and claims consistent with the historical buying trend?	All	Not relevant if reinsurance program is simplistic (e.g. a quota share for full classes each year) or if there is little purchase.	Accuracy, Appropriateness
33	Specific - High Level Reconciliation	Triangles	Have the paid, incurred and outstanding claims triangles been reconciled back to the bank control accounts?	Direct	Diagnostics can only work where the data is complete	Completeness, Accuracy
34	Specific - High Level Reconciliation	Reconciliation	Has the written premium been reconciled to the premium control account?	Direct	Diagnostics can only work where the data is complete	Completeness, Accuracy