

Introduction to Actuarial Models

Assignment - 1

Q1
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I will take following steps while building the model.

- 1] I will first set the objectives which are change in regulatory capital requirement such that there is less than 0.5% chances of liabilities exceeding after 1 year.
- 2] I will plan modelling and validation process of the model
- 3] Collect and analyze necessary data
- 4] Define parameters and consider appropriate parameter values
- 5] Involve the experts on real world system
- 6] Decide whether a simulation package or general purpose language is appropriate for the implementation of the model

Q2
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I will consider issues such as regulations, taxations and cancellation terms also future events affecting investment returns inflation new businesses lapses mortality and expenses.

1. Developing a well defined set of objectives
 - a. Planning the modelling and validation process
 - b. Collecting and analysing necessary data
 - c. Defining parameters and introducing appropriate parameter values
2. By ensuring that any relevant professional guidelines are complied with
 - The UK's professional regulatory council has issued a technical advisory standard on the principles for technical advisory work (TAS, 199) which includes guidance for models used in technical advisory work
 - Communicate and document the results and models
3. When producing the output of model and parameters it is important to consider the following for example:
 - a. The model may not be very accurate and it is difficult to create the most accurate model
 - b. The model is used to create a model that will be used to make decisions on the basis of the model

- Q3
- 1] Developing a well defined set of objectives
 - 2] Planning the modelling and validation process
 - 3] Collecting and analyzing necessary data
 - 4] Defining parameters and considering appropriate parameter values

5]

- Q4
- By ensuring that any relevant professional guidance has been compiled with

For eg: The financial reporting council has issued a technical actuarial standard on the principles for technical actuarial work (TAS, 100) which includes principles for models used in technical actuarial work

Communicate and document the results and models.

- Q5
- Before finalising the choice of model and parameters it is important to consider the objectives for creation and use of the model for example: In many cases there may not be a desire to create the most accurate model but instead to create a model that will not understand costs or other risks that may be involved.