

Introduction to Actuarial Models

(Assignment - 1)

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- Q1)
- Check if the model needs ~~scheta~~ stochastic modelling.
 - Include factors that test the model for validation.
 - Check past ~~data~~ data for any losses.
 - Software used for modelling.
 - Debug or code programs as per expected results or to check how the model behaves.
 - Sensitivity Testing.
 - Run the model on past data as well to compare with previous observations.
- Q2)
- Model can be more sensitive on parameters.
 - Legal ~~conditions~~ ^{changes} that may affect the policy.

- Coding errors are hard to verify.
- Model relies on input data, if that is flawed the output can be inaccurate.

~~Q3~~

Q3) Firstly question for ourselves, why ~~the~~ government wants a forecast of mortality.

- Review existing models.
- Collect data like past mortality graphs.
- Differentiate the mortality on the basis of age and cause.
- Run different values through model like expectations.

• ~~Analyse~~ Analyse output.

• Purpose and objective of the model.

4) • Performing ~~the~~ tests for validation.

• Check if model is stochastic or Deterministic.

• Go through research papers and discuss.

~~or~~ ~~Prop~~

• How adaptive ~~or~~ and sensitive model can be.

• ~~Analyse~~ Analyse whole ~~data~~ model and conclude outputs.

Q5) Disadvantages:

- Past trends in consumption by age may not be a good guide to future trends.
- Consumption of a particular good may be affected depending upon the economy.
- Factors other than age may be important in determining consumption.
- Consumption may be sensitive to pricing, which may change in the future.
- A rapid increase in consumption rates is unlikely to be sustained for a long period as there is likely to be an upper limit to the amount of Scrummy Bags a person eat.

Advantages

- Model is simple to understand and to communicate.
- Model takes account of one major source of variation in consumption rates. (~~Age~~ (eg- Age))
- Model is cheap.
- Past data on age of consumption rates likely accurate.
- Model is adaptable.

Q6) Difference between the two runs may have been incorrect as, for example, the second trainee may not have been fully aware of the set-up.

Expectation of the model was not sensitive to this parameter could have been incorrect.

Q7) • Models are adaptive ~~so~~, which allows to reduce variance without affecting mean values.

• Parameters can be sensitively tested by a model.



• Model development requires a lot of time and expertise.

• May need to be run several times.

• They are expensive.

• Model can look fancy but can direct the user towards false security.

• Heavily relying on input-data, output can be ~~manipulated~~ manipulated or flawed.