

ACTUARIAL RESEARCHES AND STUDIES

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ACTUARIAL EDUCATION IN WEST AFRICA

Proposed content of the lectures

The content of the lectures are presented in an abridged form for a preliminary consideration. If approved, a more detailed text will be worked out. The final text will contain mathematical formulae, whose level will depend on the degree of knowledge of the participants. It is, then, essential to know as soon as possible what are the requirements to participate to the seminar and the scheduled dates.

3. Non- Life Insurance lectures

The involvement of actuaries in non-life insurance fields is not yet fully regulated: very few legislations (e.g. the Italian regulation) provide the intervention of an actuary in auditing insurance companies and of an appointed actuary in particular branches (i.e. Motor Insurance). However, actuarial techniques are highly developed.

Actuarial techniques in non-life insurance are based on the study of the loss process, which includes the analysis of the frequency and severity of claims. The separation of those two components has several advantages because it consents adjustments of the past experience according to time dependent factors or treatments of separate source of information. Loss models may be dealt with by analysing the distributions used and showing their application in practice.

Loss process models are used in rate-making where other techniques have been studied to measure the so-called tariff variables, that is the influence of an a-priori classification of the insurable risks into categories. The main tariff models may be explained and references given for working out a tariff structure. In dealing this topic attention may be given to the concepts of the "risk premium" and tariff premium. An overview of the theoretical approaches of rate-making process will enhance the participant ability in understanding the risk theory.

In Motor insurance a particular model has been introduced to determine the bonus- malus premiums. The model may be illustrated by examples and the relevant operational criteria offered to the attention of the participants.

Reserving calculation is a typical field of the actuarial activity: the knowledge of methods which may be applied in projecting claims to an ultimate level is crucial for actuarial training. Hence, the subject may be dealt with by means of practical examples.

Actuaries should be aware of solvency requirements and reinsurance arrangements. The topic would deserve a large exposition. However, the main concepts may be dealt with and references offered.

Main references

- *Klugman S.A., Panjer H.H., Willmot G.E. (1997) "Loss Models" – Wiley series in probability and statistics*
- *Straub E. (1997) "Non-Life Insurance Mathematics" – Springer Verlag*

Roma, September, 2006