

F-25: Investigation of the mortality experience of a Sri Lankan Life Insurance Company

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Fundamentally the structure of life insurance depends upon 4 elements, namely mortality, interest expenses and lapses. In calculating premium rates for various life insurance plans, assumptions will have to be made in respect of each of these elements. Therefore, the soundness of these assumptions will have to be tested from time to time to see whether there are any major deviations. This paper presents the results of a mortality investigation carried out to examine the adequacy and/or suitability of the mortality table used by a leading insurance

company and also to explore the possibility of introducing an optimum table for the company.

A series of descriptive and inferential statistical methods are used to critically evaluate the mortality tables tried in pursuit of an optimum table. In addition, the mortality experienced by the company in the case of male and female lives are compared in order to ascertain whether any distinction can be made by sex in setting premium rates. Finally, an analysis of the accident mortality experienced by the company is carried out with the prime objective of ascertaining whether there is a chance of enhancing profits by increasing the retention limits for reinsurance.

The results show that neither the table currently being used by the company to price new products nor the table used earlier, properly describe the current mortality experience. Unfortunately, all the other tables tried in this study also failed in this regard. This study also finds sufficient grounds for distinguishing between sexes in setting premium rates and also reviewing retention limits for reinsurance in the case of the accident rider.