

REVIEWS

Une méthode pour calculer une ristourne adéquate pour années sans sinistre par F. BICHEL, ASTIN Bulletin, Vol. I, part. III.

L'auteur déduit dans les pages 109-110 une formule pour la probabilité qu'il y ait k sinistres pendant le laps de temps $t' + t$ sous condition qu'il n'y ait point de sinistres pendant t' en arrivant à la formule (5), p. 110 de ce rapport.

La formule considérée est un cas particulier d'une formule très générale déduite par Lundberg (Ove Lundberg, *On Random Processes and Their Application to Sickness and Accidents Statistics*, Inaug. Diss, Uppsala 1940, p. 91). L'application de cette formule générale à un processus basé sur la fonction structurelle indiquée sous (2) du rapport de Bichsel est facilement trouvée si on utilise les développements des pages 96-97 du livre de Lundberg. Bichsel aurait pu en conséquence éliminer le passage de son rapport à partir du mot „Soit” à la page 109 jusqu'à la section de la page 110, qui commence „Il s'en suit . . .”, et remplacer la démonstration de cette section par un renvoi à la page 97 du livre de Lundberg.

C. P.

Three R's of Insurance—Risk, Retention and Reinsurance by R. E. BEARD. Journal of the Institute of Actuaries Student's Society, March 1959.

In 1954 Mr. Beard presented a paper to the same society entitled “Some Statistical Aspects of Non-Life Insurance”. The purpose of this paper was to show the very wide scope that exists for applying statistical methods to non-life insurance. The author showed that functions from the basic theory of risk, e.g. a log-normal distribution, gave a reasonable representation of the actual number of fire claims, based on statistics for the United States of America published by the National Board of Fire Underwriters. Interesting tables, summarising the most important results, gave a good lead for drawing important conclusions.

In this later paper, the author continues the reporting of his, as he calls it, experimental work. The purpose of his second paper is to provide an elementary approach to the three related topics of retention, reinsurance and risk. We must thank Mr. Beard that he also tries and undoubtedly succeeds in stimulating interest in a largely unexplored field.

Starting with a very general treatment of the principles on which a policy should be based, the author gradually improves his deterministic model and brings it nearer to the practical conditions that an insurer has to meet.

In an Appendix a brief outline of the various types of reinsurance arrangements is given.

Furthermore the author does not fail to mention ASTIN and the scientific problems it is involved in. He also referred to the paper by Depoid and Finetti read to ASTIN in New York.

In both papers Mr. Beard does not try to develop a theory about non-life insurance. His task consisted mainly in arousing interest in a field which

for many people does not seem to lend itself to precise mathematical formulation and which seems to them to lie still in the realms of personal and experimental judgement. This paper provides evidence that the public opinion about non-life insurance is unfounded and that calculations, e.g. premiums, can be derived from well known statistical methods.

M. D.