

## NOTES ON FOREIGN ACTUARIAL JOURNALS

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## HOLLAND

AT the meeting of the Institute held on 25 February 1946, the President (Mr R. C. Simmonds) welcomed as visitors the President (Jhr G. M. M. Alting von Geusau), the Treasurer (Drs J. van Wijk), and the Secretary (Ir J. N. Smit) of the Vereeniging voor Levensverzekeringswiskunde. Jhr von Geusau presented to the President copies of the issues of *Het Verzekerings-Archief* which had been published during the war. Notes on these issues will appear in due course in the *Journal*.

There have also been presented to the Institute two memoranda entitled *Social insurance in Holland during the occupation* and *Some data concerning the business of life assurance in the Netherlands during the German occupation*. These have been placed in the Institute Library.

## SCANDINAVIA

*Skandinavisk Aktuarietidskrift*, 1941, Parts I and II

J. F. STEFFENSEN. *On the Coefficient of Correlation for Continuous Distributions.*

Legitimate applications of the coefficient of correlation extend much beyond the field of normal correlation. The expression

$$f(x_1y) = Kf_1(a_1x + b_1y)f_2(a_2x + b_2y)$$

can represent degrees of dependence ranging from independence to functional dependence, and the practical significance of the coefficient of correlation is the same as for normal correlation. (There is in the next number a correction of one statement.)

J. F. STEFFENSEN. *On the  $\omega$  Test of Dependence between Statistical Variables.*

Discusses applicability to continuous distributions and gives a table of relative values of  $\omega$  and the coefficient of correlation.

H. CRAMÉR. *Deux conférences sur le théorie des probabilités.* (1) On the central limit theorem, (2) on the problem of ruin in games of chance or, by implication, in insurance.

F. MALMQUIST. *Abfindung beim Rücktritt vom Lebensversicherungsvertrag.*

Algebraic discussion of the effect of a fall in the rate of interest on insurance contracts: to what extent does the granting of surrender values at the old rate set off the loss arising from valuing at a lower rate of interest (a constant rate of withdrawal independent of age is assumed)?

P. KOBBERNAGEL. *On the Mortality in Danish Burial Societies.* Mainly working-class population. The material is subdivided into quinquennial periods from 1904 to 1923, and districts (i.e. Copenhagen, country towns and rural districts) and to a certain extent into occupations. Causes of death are also discussed. An interesting statistical study.

1941, Parts III and IV

- K.-G. HAGSTROEM. *The General Life Assurance*. A policy is said to be in one of many possible phases characterized by the composition of the group of assured lives under consideration at a given moment. Corresponding to each phase the author defines one function, the prospective reserve, and gives a system of differential equations. Finally, he proposes a modulus of a life assurance policy to measure the real content of insurance protection eliminating altogether the investment part which is contained in the contract.
- J. THURMANN-MOE. *The Mortality among Norwegian Assured Lives, 1925-35*. A continuation of work already noticed in the *Journal*. The mortality in 1930-35 is much lighter than in the two previous quinquennia. The ultimate mortality (after 5 years) has been consistently about 85 % of that of the general population. Causes of death are discussed—tuberculosis is the largest group.
- L. GÅRDING. *The Distributions of the First and Second Order Moments, the Partial Correlation Coefficients and the Multiple Correlation Coefficient in Samples from a Normal Multivariate Population*.
- W. ANDERSSON. *The Binomial Type of Gram's Series*. Derives series already known when the weights are given by binomial.
- M. FRÉCHET. *Sur une loi de probabilité considérée par J. F. Steffensen*. Comment on Steffensen's first paper in 1941, Parts I and II.

1942, Parts I and II

- S. TÄCKLIND. *Sur le risque de ruine dans des jeux inéquitables*. Algebraical study of risk of ruin where  $A$  has an initial capital  $x$  and  $B$  has an infinite capital.  $A$  may be an insurer and  $B$  the general public.  
(Ruin from claims would be more likely to occur in non-life rather than in life insurance. But for a new company or in catastrophe, mortality losses might be ruinous.)
- C.-O. SEGERDAHL. *Über einige risiko theoretische Fragestellungen*.
- K. HULTMAN. *Einige numerische Untersuchungen auf Grund der kollektiven Risikotheorie*. These papers deal with the collective-risk theory first discussed by Lundberg. The first paper extends Cramér's *Skandia Festskrift* treatment to cover negative sums at risk. Some of the results are generalized in answer to Ottavini's criticisms in the *Journal of the Italian Institute of Actuaries*. The second paper, which is contained in 1942, Part II, applies the collective theory to the positive sums at risk in the Thule life office during 1929-31. It is argued that the results of the risk premium method of reinsurance, when the sum reassured is changed only if a further policy is effected, lie between those obtained by assuming (1) continuous revision of the sum reassured to comply with a fixed maximum retention on any one life and (2) no revision of sum reassured. The latter leads to simple expressions for the probability of ruin as a function of the present risk graduation fund, the maximum retention and the risk-loading. Interesting tables and graphs are given.