

ARTICLES OF ACTUARIAL INTEREST

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LANGLEY, KATHLEEN M. *The distribution of capital in private hands in 1936-38 and 1946-47* (Parts I & II).

This paper is of interest to actuaries, both for the statistics it provides of the distribution of capital and for the use made of mortality rates in producing the estimates.

The technique, which has been employed several times before, consists in using the dead as a random sample of the living. Mortality rates are applied to 'gross-up' the sample distribution of wealth provided by Estate Duty returns, thus furnishing an estimate of the distribution for the country as a whole. A number of awkward problems arise, for example, in the choice of a suitable mortality basis and in the weighting of q_x for individual ages so as to produce an average mortality rate applicable to the ten-year age-groups for which financial data are available (the distribution within the Estate Duty sample differs from that of the general population).

It is clear that the final results are subject to an unknown error which may well be large. The broad conclusion drawn is that capital is still very unequally distributed, but that there has been a very great increase in the number owning more than £100 over the last thirty-five years.

September 1951

PRESTON, E. *Personal savings through institutional channels.*

In the September 1950 issue of the *Bulletin*, an article by Mrs Preston (noticed in *J.I.A.* LXXVII, 473) gave some figures for personal savings through three main channels, namely, national savings, registered provident societies (including building societies), and life assurance companies, for the period 1937-49. The present article extends these figures in the light of more recent information now available, and attempts a rather more detailed analysis of the data, including that relating to ordinary life assurance and annuities.

LYDALL, H. F. *A pilot survey of incomes and savings.*

A comprehensive account of the purposes, methods and principal results of a pilot survey of personal incomes and savings carried out in the City of Oxford in 1950. The purpose of the survey was primarily to test the technique employed; a team of investigators, after a limited amount of training, interviewed the heads of some 600 'spending units', and tried to elicit the information required by asking for the respondents' co-operation in the construction of a personal balance sheet at the time of interview and for a date one year earlier.

An analysis was made of the standard errors of three methods of sampling, namely, random sampling, stratified sampling with the uniform sampling fractions, and stratified sampling with varying sampling fractions. Three strata were used, and in the last case the sampling fractions were $1/120$, $1/45$ and $2/45$. The rate of successful response was tabulated and the causes of failure analysed.

The results summarized in this paper include information regarding the level and main sources of income, amounts of liquid assets (analysed into categories), and amount of net saving during the previous year. The data on saving suggest that Keynes's law, that the proportion saved increases as incomes increase, still holds. One of the components of net saving, namely 'contractual saving', is further analysed into insurance premiums, superannuation contributions, and mortgage principal repayments.

Fuller details of the results are to be given in subsequent articles.

ROYAL ECONOMIC SOCIETY

Economic Journal, March 1951

CLAYTON, G. *The role of the British life assurance companies in the capital market*

The author discusses the sources of life assurance funds and the manner of their investment. The general principles of investment policy are then considered, and the effects on the financial system of decisions taken by offices. Attempts are made, first, to relate the net contributions received by life assurance funds to the volume of net personal savings as stated in the annual White Papers, and next to estimate the rate at which the increase in these funds is invested. For the latter, the author compares cash holdings with the 'annual increase in funds' (obtained by differencing the balance-sheet values of assets in successive years) over the period 1923-37, and he concludes that 'the rate at which companies transmitted their funds to investment varied significantly and produced inflationary and deflationary effects'.

The selection of investments is criticized as unduly conservative when considered from the point of view of national interest, and the defects are ascribed to the life assurance companies' foundation of their investment policy on Bailey's Canons. It is suggested that if offices were to concentrate on with-profit business with premiums based on a zero rate of interest, they would invest more freely in equities and thus make a better contribution to the needs of the capital market.

ECONOMETRIC SOCIETY

Econometrica

April 1951

ROBINSON, JOAN. *The rate of interest.*

Mrs Robinson's approach elaborates that of Keynes (*General theory of employment interest and money*, Ch. 15 et seq.). The treatment is made more realistic by a separate consideration of the rates of interest on three main classes of security exemplified by three months' bills, irredeemable bonds and ordinary shares. The advantages and disadvantages of holding

assets rather than money are considered in relation to the needs of investors, for example, their preference for capital-certainty over income-certainty, or the reverse.

It is argued that there are two distinct types of influence which play upon the pattern of interest rates, namely, the state of expectations and the supply of money. They are considered in the context of three economic situations: a period of a rising rate of investment, a period during which thriftiness increases and a period of 'cheap money' policy. The argument assumes *laissez-faire* conditions except in the final section on 'cheap money' when it is necessary to postulate a monetary authority taking deliberate action to reduce interest rates and to maintain them at a low level.

October 1951

ARROW, K. J. *Alternative approaches to the theory of choice in risk-taking situations.*

In the author's own words 'this paper seeks to survey the literature in economics, philosophy, mathematics and statistics on the subject of choice among alternatives the consequences of which are not certain. Attention is centred on the suggested modes of describing uncertainty and on the theories of rational and actual behaviour of individuals in making choices.'

The paper will be of particular interest to those who have studied the foundations of the theory of probability and the possibility of using probability theory in explaining investment and other economic decisions. In particular, gambling and insurance are touched upon.

The author pays most attention to the following recent works:

VON NEUMANN, J. and MORGENSTERN, O.: *Theory of games and economic behaviour.*

NEYMAN, J. and PEARSON, E. S.: *The testing of statistical hypotheses in relation to probabilities a priori.*

WALD, A.: *Statistical decision functions.*

SHACKLE, G. L. S.: *Expectation in economics.*

He argues that the works of these authors give hopes of a much clearer understanding of the subject. He considers that von Neumann and Morgenstern have developed a theory in which the behaviour postulates are reasonable whether the definition of probability is based on logic, frequency, or degree of belief.