

## ARTICLES AND PAPERS OF ACTUARIAL INTEREST

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LYDALL, H. F. *National Survey of Personal Income and Savings.*

This survey, which has been published in four parts, namely,

Part I. Introduction and General Findings,

Part II. The Distribution of Personal Incomes,

Part III. The Ownership of Liquid and Non-Liquid Assets,

Part IV. Personal Saving and Consumption Expenditure,

is the first of its kind to be made in this country and is based on a sample of nearly 2600 'income units' taken in 1952.

Actuaries will probably be particularly interested in Parts III and IV, which analyse liquid asset holding, savings and spending on durable consumption goods. Savings are classified according to contractual saving (life assurance premiums, friendly society contributions, superannuation contributions and mortgage repayments), changes in liquid assets and miscellaneous saving (mainly profits ploughed back into private businesses). Each of these items is again classified by income group, occupation of the head of the unit, age of the head of the unit and sex of the head of the unit. Finally, a comparison is made with the results of a similar investigation made in the U.S.A.

## THE TIMES

*Review of Industry*, August 1953

REDDAWAY, W. B. *Defects in Economic Statistics.*

A concise review of published economic statistics. The more serious gaps are considered and they are classified into those which could be filled if the Government would analyse information which it already possesses and those which can be filled only if industry and consumers supply the basic data—for example, data on orders, stocks, capital expenditure, hire-purchase, liquid assets held by consumers, consumers' spending intentions. These statistics are essential if future economic developments are to be assessed.

The review further recommends that the Central Statistical Office should ensure the maximum of real comparability between different sets of statistics; it points out that the user would be assisted by the periodical publication of reviews of the main statistics on a given subject irrespective of source and of special articles relating the results of censuses to the statistics in the same field collected at more frequent intervals.

## ROYAL ECONOMIC SOCIETY

*Journal*

Vol. 63, No. 251, September 1953

WILSON, T. *Professor Robertson on Effective Demand and the Trade Cycle.*

Prof. Robertson has been a persistent and constructive critic of Keynesian economics and in this article Prof. Wilson surveys the relevant literature. He discusses the main points of conflict, showing that some are due to basic differences of opinion, while others arise only from differences in terminology, and shows how much these two economists had in common. By drawing on the results of recent researches, the article, in effect, provides a valuable assessment of the so-called 'New Economics'.

## NATIONAL INSTITUTE OF ECONOMIC AND SOCIAL RESEARCH

*Accounting Research*

Vol. 4, No. 4, October 1953

LUBOFF, A. *The Finance of Public Companies. An Exploratory Study of Two Industries.*

The National Institute of Economic and Social Research is conducting an inquiry on a large scale into the sources and uses of funds of public companies during the period 1947-51. This paper is based on a pilot investigation into the accounts of companies in two industries, namely, Paper (26 companies) and Hosiery (28 companies), made in order to determine the nature of the conclusions that can be drawn from such material.

The accounts of the companies have been summarized in a standard form, and composite balance sheets have been drawn up for the two industries. The article explains in detail how the investigators have dealt with such items as depreciation, taxation and new long-term capital.

The main conclusion is that the general financial experience has been a large monetary expansion in assets; a very moderate distribution policy has made it possible to finance this expansion largely from retained profits. It is suggested that there are some dangers involved in this self-financing policy, particularly when the purchase of operating assets is being financed from sums set aside in the account for future taxation. In a period of falling profits, holdings of liquid assets are likely to prove inadequate to cover future tax requirements.

## MIND ASSOCIATION

*Mind*

Vol. 62, No. 248, October 1953

WILLIAMS, D. C. *On the Direct Probability of Inductions.*

The author defends himself against some of the critics of his recent book *The Ground of Induction*.

Prof. Williams rejects the traditional Bayes approach which sets up an array of fictitious populations and obtains by an inverse procedure the

probability that a sample was drawn from a specified population. His basic principle is that for every population  $A$  and for every property  $B$ , no matter what the proportion  $p$  of  $A$  having the property  $B$ , at least 95% of the sample sets of  $n$  taken from  $A$  must contain members having the property  $B$  in a proportion  $p'$  which is in the range  $p \pm 1/\sqrt{n}$ . This principle is an analytic truth and purely formal in that it contains nothing but variables and logical constants.

The author now argues that  $p' = p \pm 1/\sqrt{n}$  can be rewritten as  $p = p' \pm 1/\sqrt{n}$ , and that this proposition has the same probability as the original one, since all propositions deductively equivalent to one another must have exactly the same probability in relation to any body of evidence. There is no inversion here, either illicit or otherwise. The conclusion of the inductive probability is a relational proposition, and therefore the proposition 'This sample matches that population within the margin  $\pm 1/\sqrt{n}$ ' is equivalent to its relational converse 'That population is matched by this sample...'; further, since its relation is symmetrical, it is convertible with 'That population matches this sample within the margin  $\pm 1/\sqrt{n}$ '.

Prof. Williams also gives his reasons for rejecting the argument that there is in fact a sample giving the sample value of  $p$ , and that this value like the value of  $n$  is relevant when formulating the probability.

#### *The Lancet*

Vol. 265, Nos. 6795 and 6796, November 1953

MORRIS, J. N., HEADY, J. A., RAFFLE, P. A. B., ROBERTS, C. G. and PARKS, J. W.  
*Coronary Heart-Disease and Physical Activity of Work.*

#### BRITISH MEDICAL ASSOCIATION *Journal of Industrial Medicine*

Vol. 10, No. 4, October 1953

MORRIS, J. N. and HEADY, J. A. *Mortality in Relation to the Physical Activity of Work.*

The two papers in the *Lancet* are primarily concerned with the occurrence of coronary heart-disease among transport workers, postal workers and Civil Service executive officers and clerks. It is shown that men in physically active jobs have a lower incidence of coronary heart-disease in middle age than have men in physically inactive jobs, and that the disease is not so severe in physically active workers. An investigation is also made into the Registrar General's occupational mortality data for 1930-32 which show the same feature.

The article in the *British Journal of Industrial Medicine* continues the investigation into the Registrar General's data and comparisons are made for other diseases. The authors show that in seven diseases, namely, coronary heart-disease, cancer of the lung, appendicitis, disease of the prostate, duodenal ulcer, diabetes and cirrhosis of the liver, the mortality of middle-aged men engaged in light work was heavier than that among those engaged in heavy work; they do not attribute this excess to the transfer of men from heavy work to light work on account of the diseases

concerned. It is pointed out that these diseases form a particularly interesting group because several of them are among the 'new' diseases of increasing importance as health problems.

*British Medical Journal*

No. 4849, December 1953

WHITE, COLIN. *Sampling in Medical Research.*

The author quotes some examples from medical research where the conclusions are vitiated by bias in the sampling methods used. He follows this by a brief account of the available schemes of sampling, and finally suggests possible sources of bias in hospital statistics, post-mortem statistics and the statistics of 'interesting cases'.