

REVIEWS

Population Statistics: A Review of Sources. By BERNARD BENJAMIN. Gower Publishing Company, 1989.

Professor Benjamin shows his wide knowledge in the contents of this book, and provides the fruits of a long experience as an author in the good sense combined with reasonable conciseness with which that knowledge is conveyed. In a field which has for long been, and still is, one of steady change, he shows himself well up-to-date, and is able to point out that while the book 'sets out the position that obtained at the end of 1986' the text incorporates some 'important revisions since that date'. (A necessary exception, given the timing, is the omission of references to AIDS.)

The 350 or so pages are divided more or less equally between the three main groups of census material; registration of births, deaths and marriages and related information; and health and sickness statistics. There are briefer references to migration, longitudinal studies, population projections and Local Authority data.

While there are allusions in the text to analytical techniques, and to the errors and quality limitations that are liable to occur, and there is also a short chapter on 'desirable improvements', one does not—and probably should not—find a fully comprehensive treatment of these features. A review of sources is not the place for too much detail on such matters. At the end of each chapter there is a good modern set of references for those wishing to pursue any particular subject further.

P. R. COX

Non-Life Insurance Mathematics. By ERWIN STRAUB. (Springer-Verlag.)

In his preface Professor Straub draws attention to what he perceives to be imperfections in his book. He goes on to comment that all perfection is 'deadly boring'. This tends to disarm criticism and also encourages the reader (who may find advanced mathematics difficult) to persevere with his reading.

The book is based on lecture notes written between 1975 and 1985 and actuaries who completed their studies more than a few years ago are likely to require some rapid revision to secure a full understanding! Additionally, Professor Straub comments that the book is designed to 'stir up the readers' mind.' This will almost certainly be the case for actuaries who have become, or are becoming, more involved with general insurance business.

There are interesting chapters on Experience Rating, Reinsurance, Retentions and Reserves. In the latter case the book provides an example of a suitable software package involving an exercise (and solution) for reserve estimation.

Three examples of probabilistic models for calculating 'Incurred But Not Reported' reserves are based on S. Benjamin and L. M. Eagles' paper, 'Reserves in Lloyds and the London market' (*J.I.A.* 113, 197, 1986).

In general the book interestingly and usefully mixes theory with practical problems. It also demonstrates that the inclusion of the theory of General Insurance in the Institute's actuarial training has followed a trend which is common to the profession both in the U.K. and on the continent of Europe.

R. W. SCADDEN

Phoenix Assurance and the Development of British Assurance, Vol. 1. 1782-1870. By CLIVE TREBILCOCK. Cambridge University Press, 1985. (ISBN 0-521-25414-0.)

The study of business history has undergone a metamorphosis in the last twenty years. Previously, company biographies tended to be inward-looking and descriptive, but now economic historians attempt to explain past failures and successes by the application of modern tests of efficiency.

Businesses are recognized as institutions forming part of the fabric of civilization. In particular long-lived concerns have important lessons to teach us in managing change. The Phoenix Assurance Company, that master of the merger, finally fell to the Sun Alliance and London group in 1984.

Dr Trebilcock has used the remarkably complete archive of the Phoenix to good effect, both in words and figures, setting the company's achievements into an industry-wide perspective. There was a similarity of cause in the setting up of the Phoenix and the old Equitable. The sugar-refining trade in England was sorely battered in the late eighteenth century by war and import taxation, and the existing chartered insurance companies were loth to insure the dangerous trade of boiling sugar in open pans, a high risk industry concentrated in wharveside areas like Blackfriars and Whitechapel. So the refiners themselves, commanding as they did substantial amounts of capital, set up their own mutual scheme, naming it not from the mythical bird but from *phoenix dactylifera*, the date palm, which was the first commercial source of sugar. The London scheme derived from one set up by Bristol refiners in 1769: I would like to have read more about these West Country pioneers.

Unlike contemporary assurers, the Phoenix was owned and managed by merchants and manufacturers who had intimate knowledge of industrial practices. The equity was closely controlled, and financiers did not predominate on the board for many years. Revolving committees of the shareholders met daily to run the business. The Phoenix offered the novelty of paying 100% of claims and of absorbing the tax on policies. It rapidly moved into the insurance of other manufacturing and commercial property, using small traders as agents to help the London managers to assess local risk conditions. Arsonists were prosecuted vigorously, and the Phoenix required a churchwarden's certificate before paying out. The international nature of the sugar trade led to an expansion into Europe (Hamburg became almost a satellite company) and, when the French wars closed off Europe, Phoenix made a market in the Americas, particularly the Caribbean. Overseas fire business was free of policy tax, and Phoenix even considered writing all business 'offshore' in the Channel Islands. Another loophole the company found was that the marine insurance monopoly granted to the older chartered companies did not extend to ships berthed or at anchor.

The Phoenix was nearly overwhelmed by their losses from the Ratcliffe Highway fire in London in 1794 and that in the Caribbean island of St. Thomas in 1806. The committee of management adopted the practice of sending a senior official on a tour of inspection to 'purge the books' by reducing the overconcentration of risks which occurred because London was unaware of insurances written by their local agencies. Because the Phoenix was untrammelled by charter restrictions, it was able both to pioneer overseas and by way of reinsurance to bid for larger risks much earlier than previous histories have recognized. Its major competitor was the highly-capitalized Alliance, whose policy was to track or undercut the Phoenix rates, using the novelty of with-profit terms to assist it in gaining a market share. Both companies would then agree a tariff for their mutual advantage.

In 1797 the Phoenix set up a life office primarily as a separate investment vehicle to speculate in Government stock and latterly in the wrongly-priced Government annuities. The Pelican Life Office's innovation was the annuity loan, where the borrower paid interest and repaid the capital upon survival only. Because of the gambling element (reduced by limiting the term and specifying good lives as the criterion), such loans could be made at more than the 5% limit then permitted by the Usury Laws. No records of valuations of the Pelican's business before 1861 survive, and the author is rightly cautious in his presentation of claim ratios, the only available performance index. Bad debts killed the annuity loan business, and Charles Ansell found the experience to be the reverse of that expected, largely through poor selection. The author gives a good account of this overhaul in the 1840s, but implies that previously actuarial advice had been but a minor part of the secretary's duties. There is a good vignette of the 'Ansell' period and contemporary actuarial practice, with margins of 30-40% over net premiums. There were occasional entrepreneurial flashes: the Pelican advertised on the W. H. Smith newsgent billboards on 1,500 railway stations, and insured the lives of Mr Thomas Cook's travel groups to the Mediterranean. Its story might have been different had it embraced with-profit business more quickly, or had the merger with the Eagle been consummated. But the overriding objective of investment, in a narrow range of gilts, personal loans and mortgages (originally agricultural, moving to those of local authorities and eventually to the rising middle classes) made caution paramount.

The volume contains useful statistics, well presented, with biographies of the key managers and

proprietors. Firefighting organization and the development of the refining industry, particularly the reduction of risk from the invention of the steam vacuum process, are summarized, but the remark that a temperature of 240°/250°F. 'would not disgrace metal founding' seems wrong. There are accounts of the competition and co-operation between fire offices, and of the Phoenix' policy of merger, culminating in the absorption of the Protector in 1837. But the Phoenix, as a pioneer, was to suffer the 'third generation' syndrome before others, with the injection of institutional money and the 'gentrification' of its proprietors. Reliance on traditional trade centres led to its overlooking the industrialization of the northern United States after the south was ruined by the American Civil War. Phoenix hardly touched heavy engineering, and its over-reaction to individual disasters often led to new competition arising. An example is the Tooley Street fire of 1861. In the words of Dr Trebilcock: "The first response of the London underwriters was to panic. Unfortunately it was also their second response." The rates were increased between three- and fivefold, so the disgruntled waterfront set up the Mercantile Insurance and the Commercial Union.

This volume breaks off at 1870, sensible both to economic changes in general and to the Phoenix story in particular. The effect of the 1870 Life Assurance Act (arising from the collapse of the Albert and the European companies) on the Pelican will no doubt be dealt with in the next volume. Although nearly 800 pages long, it is so well written and organized that individual chapters can be read almost in isolation from each other. It is an important book for insurance history, and the quality of its production matches the value of its contents.

DEREK RENN